Center for American Progress Holds Discussion on Coronavirus

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Center For American Progress Holds Discussion On Coronavirus

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CENTER FOR AMERICAN PROGRESS EXECUTIVE POLICY VICE PRESIDENT MARA RUDMAN

[*]TANDEN: Good morning, everyone. My name is Neera Tanden, and I am pleased to welcome you to--to the Center for--Center for American Progress. I am so glad you could join us for this critically important conversation.

The death toll from the coronavirus now exceeds 3200 people, with more than 200 cases confirmed inside the United States. As health officials warned that the coronavirus will ultimately become widespread in the United States, serious questions have emerged about how the federal government is responding. Around the world, countries are beginning to take significant measures, including restricting travel, closing schools, postponing religious pilgrimages, and imposing quarantines.

Critics say the Trump Administration has been slow to address this impending crisis. The president and his team have set to downplay the risk saying last week that everything would work out fine because the virus quote will go away by April contradicting the CDC guidance itself. And most importantly, in a crisis like this, we need to be able to trust the information we get from the government a trust that the Trump Administration has exhausted years ago.

There is no question that the president and his administration are mismanaging this response, unfortunately. President Trump's personal frustration has paralyzed this administration within the action in the critical early days, and poor planning polarized politics and a lack of clear comm--communication has undermined public confidence.

The public continues to receive mixed messages with few daily briefings and with public of health officials often prohibited from making public announcements.

So where do we go from here? The Trump Administration's missteps should not actually stop us from coming up with solutions. That is why we are so--we find this discussion today so important. We are joined by a distinguished panel of experts who will discuss how to prepare the country and the world to f--fight this potentially devastating outbreak and now it gives me great pleasure to turn the conversation over to CAP's new Executive Vice President for Policy Mara Rudman. Mara?

(APPLAUSE)

Thank you, Neera. I am going to--I am very glad to be here, and as Neera said very glad to be having this conversation with all of you because of the--because of the terrific experts that we have here today. I'm going to be introducing them one by one and asking them to take their seats--to--to take their seats here and then we will go right into the questions that--that we have for them.

First, Dr. Zeke Emanuel, who is a senior fellow here at Center for American Progress but also Vice Provost for Global Initiatives and Chair of the Department of Medical Ethics and Health Policy at the University of Pennsylvania and was Senior Health Advisor as well in President Obama's administration.

Ron Klain, former United States Ebola Response Coordinator and earlier Chief of Staff to two vice presidents and numerous other experiences at senior levels of government as well.

Lisa Monaco former White House Homeland Security Advisor, currently distinguished senior fellow at the--at NYU Law School and again years of experience at the Justice Department in various senior roles. And Dr. Jennifer Nuzzo, a professor at Johns Hopkins University, an epidemiologist whose work focuses on global health security, bio surveillance, infectious disease diagnostics, operational research to improve outbreak preparedness and response. Can't think of a group that is better suited to help us understand and get to basic facts and science in explanations about what to do with the situation we are facing today.

I should also note that Dr. Rachel Levine(SP) very much wanted to be with us today, but because of the current challenges she is facing in Pennsylvania and the immediate issues there today she was, unfortunately, able to--to join us but is following us closely. So with that.

Let's start. Let's--is this on now? (INAUDIBLE) start with you, Dr. Nuzzo, Jennifer, if we could. I'm going to ask you, given your in-depth science background to if you could lay out some of the--the basics for us. We've heard a lot in a lot of places some science maybe some less than science. So what is--I am being generous; what is COVID-19? How does it transmit to and between humans? Can you help us understand the words pandemic, isolation, quarantine, and a little bit more about how to interpret the severity of this crisis, things like mortality rates, issues like that?

NUZZO: Okay, sure. So COVID-19 is the disease that is caused by a new--newly recognized human coronavirus. Coronaviruses are viruses that circulate the planet, but this is a new one for which it is not thought the world has immunity. All best virologic analysis and genetic analysis of the virus suggested that it started in bats and jumped at some point to humans possibly through some other animal, likely a mammal but we don't know what that animal is. It is a respiratory virus, and with possibly some exceptions it is thought that is largely driven through droplet transmission meaning when someone is sick they cough or sneeze, they expel virus from their body in large droplets that fall to the ground or just surfaces generally in a distance of about 3 feet just to stress because I often get questions you know can I get the virus when I go running? It doesn't just hang in the air like other viruses like and--and diseases like tuberculosis are known to do.

Where we are now is a situation where we have approaching 100,000 cases being reported worldwide. These are largely confirmed laboratory-confirmed cases. Let's see I actually looked up last night how many countries because it changes literally by the hour, 85 countries as of now are reporting cases and we have very imperfect surveillance going on so just because a country hasn't yet reported cases doesn't mean it doesn't have them. In the United

States, we have over 200 cases that are--have been reported, and more than half of them are occurring in people who have not traveled so likely as a result of local transmission.

When we have a situation like that where we have cases on so--in so many countries where we have local transmission in multiple countries, it is not possible for me as an epidemiologist not to call that a pandemic. I know there's been some debate over the use of the word. The World Health Organization is particularly reticent to use it. The word comes with a lot of baggage, particularly if it is misinterpreted to be a signifier of how severe the virus is. From an epidemiologic standpoint, I am merely referring to geographic spread when I use the word pandemic, so we are very much in a pandemic.

This virus has shown itself capable of sprinting very quickly and somewhat silently particularly as surveillance systems kind of struggled to catch up, so that is where we are now and in my belief, we are in a situation where the idea of fully stopping the spread I don't think is a realistic goal, and I think we are more at a point where we are trying to mitigate the impacts of the virus in our communities.

RUDMAN: Thank you very much. I--I have just been told that I need to hold the mic closer to my mouth, so I am not sure what that meant for others but just as a warning on that.

NUZZO: I didn't talk about your isolation and quarantine. I just thought I'd let you know.

RUDMAN: I--I'm going to give you the opportunity--I'm going to give you the opportunity on that maybe as you also describe a little bit more about what kind of surveillance we are currently using and the we I guess is both United States and then some of those 85 other countries, and I am guessing there are differences between and among but what--what kind of surveillance we're using to attack--to track and test and learn more and what impact does that have because I assume that also follows you used the word mitigate as opposed to contain. Does that also follow from the type of survey--surveillance, sorry?

NUZZO: Yeah, so I would say globally surveillance is imperfect, but some countries are better off than others, and part of the reason why it's been imperfect, I mean, first of all, let's just pause that this is very hard. We have--the fact that we have 85 countries reporting cases, the fact that 85 countries have been able to implement testing for a never before seen virus is something that we should celebrate. There's few opportunities to say that there is something good happening, but there is that I want to give credit to that.

That said for many countries for a very long time surveillance, and testing was contingent on travel from China and until essentially last week that was the case in the United States where you could only be tested unless you were a contact of a known case, you could only be tested if you had a lower respiratory infection and you traveled to--to Wuhan or if you had a lower respiratory infection and you were sick enough to be hospitalized, and you had traveled to broader China. As the number of other countries were already showing local transmission, we didn't update that case definition to reflect the fact that now more countries--the virus could have been coming in from those other countries and so our approach in thinking about surveillance in my view has been constrained without a view to looking forward to what was likely to come.

So if you are only testing people who have traveled to China and you, in fact, reduce people traveling from China, of course, you are not going to find many cases because you just don't have people in that category to test as much as you could before and so this comes up a lot when we talk about you know we bought ourself time with these measures and etc. It--it is possible that we did reduce the number of people coming in with the virus, but I--we--we absolutely have no way of assessing that from our testing and many other countries were like that.

I just wanted because it will probably come up in the course of the other conversation just to define isolation and quarantine. Isolation is something we do all of the time in medicine and public health. It means if somebody is sick, you put them somewhere so that they can't spread the disease to others. In the context of this response, it is going to be critically important that people who are sick self-isolate themselves, stay at home unless they require hospitalization, but otherwise, we should reserve hospitals for the sickest people. And--and that above all will be the most important thing we can do in responding to this virus and reducing its impact on the community. We--this is where we should be putting the most attention.

Now there's a lot of attention lately on quarantines, and this means separating from society, somehow restricting the movement of people who are well, they don't have any symptoms, but you think maybe they have been exposed. This is not something we routinely do in public health, but the degree to which it is happening now is unprecedented, and I don't think we have fully examined the consequences and in particular, when we do things like quarantine well healthcare workers who may have been exposed to a patient we are going to find ourselves without sufficient resources to respond if we continue to just sort of indiscriminately apply quarantines.

RUDMAN: Thank you. I think that maybe natural lead to--to Ron. You have managed whole of government response to contain and mitigate the spread of Ebola. You have been less than positive about the White House's attempt to control communications on a variety of issues but specifically by public health--public health officials and you have noted publicly that an effective pandemic response requires trust in government.

Can you describe a little bit why trust in government is--is so important on these kinds of issues specifically and address the issue of whether this administration has the--the issues with credibility I would say in this administration right now on--on this issue with the American people and with our foreign partners and how that affects an effective--how that impacts an effective response?

KLAIN: Yeah, thanks, Mara. So I think we are seeing both the failure of competence and a failure of confidence and second on the competence part of this you know as Dr. Nuzzo alluded to we are far behind other countries in testing people for this virus. When we hear that the virus is in X states but not Y states that is largely because we haven't tested in Y states and the same thing for the global map. When we hear that there are no cases of coronavirus in sub-Saharan Africa that is not because there are no cases of coronavirus in sub-Saharan Africa, it is because we haven't tested and here at home that lack of competence is causing us to be completely blind as to where this virus is, how extensive it is, so on so forth.

If I were back in my old job at the White House now I did some back of the envelope math I would be pushing to have us do 30 million tests to test people in nursing homes, to test people with unexplained respiratory illness, to test the people who regularly visit nursing homes to--to test people who--test healthcare workers. There will be long lines of people we should test. The administration thinks they are going to hit 75,000 tests by the end of today maybe, maybe. Maybe a million next week. That is a huge gap and I think the second competence gap is around hospital preparedness so we can talk about what needs to be done to get that system ready to deal with the kinds of challenges that Dr. Nuzzo was referring to.

Now on the confidence side, the communication side the Trump administration seems to be doing everything exactly wrong and by that I mean the obvious things which is having the president go out there and say things that are untrue, that fall into the categories of both misleading and deliberately unhelpful. When he told everyone to go to work with coronavirus that is not only a bad communication but really like a very bad communication. And--and--and what we are seeing really is even if you accept and I don't that President Trump's singular goal here is trying to keep the stock market up during the coronavirus thing him saying things that are erratic and irresponsible is actually not reassuring people but making people more anxious.

I mean, his efforts to just kind of tweet the virus away is actually making public anxiety about the virus worse, not better. So what should he do? What he should do is let the public health experts be the voice of the response. The idea that they told Dr. Tony Fauci, who served six presidents who is probably the nation's leading, probably the world's leading infectious disease expert that he shouldn't go on television unless some staff flunky in Mike Pence's office says it's okay is ridiculous. The idea that they have sidelined senior officials at the Centers for Disease Control is ridiculous.

That is who the public should hear from both to get accurate information and to lower the level of anxiety about the disease, and to at least you know get it right. And so I think that is the biggest problem we have right now on the communication side, but if they don't fix the competence problems, all of the confidence problems will just get worse and worse.

RUDMAN: Thanks, Ron. Could you just follow up a little bit more your point you mentioned the president and the stock market but how--how do you think right now we should be thinking about some of the economic challenges we are facing, supply chain issues as well as issues beyond the stock market on this?

KLAIN: Yeah, I mean look I think we are already seeing ripple effects from the anxiety about the coronavirus in the economy. I'm not just talking about the market. You know, in the hospitality industry, cancellations of travel and cancellations of conferences are going to start to ripple through the economy. We're going to start to see other sectors hit by this, and I think it is important for us to focus on who are really going to be hurt by this economically, and that is as with all things sadly the--the least among us, right?

It is going to be the hourly wage workers in the hospitality industry, for example, in other industries who lose their jobs, right? We are talking about school closures all over the country already some school closures and presumably more. That affects obviously the people who work in schools. It affects the children who many--many of these areas who their source of nutrition for breakfast and lunch is the schools. If we close these schools how are we going to feed those children? People who are laid off from work for weeks or months at a time what is going to happen to their income.

So what this is going to expose is a lot of weaknesses in our economy already on the lower rungs in particular. What is really interesting as--as Jennifer alluded to a pandemic suggest something that is global and worldwide and this is but like a lot of things that are global and worldwide it affects all of us but it affects all of us differently, and I think we need to be really aware of the fact that there will be some people who from the economic impacts are going to be most severe.

RUDMAN: Thanks very much. Lisa, let me turn to you. For a number of different reasons including the fact that in 2018 you pressingly sounded the alarm about the fail to--failures to prepare adequately for emerging infectious diseases in an article that I'm curious about whether you came up with that title or someone else did but for all who are interested in the title was the Next Pandemic Will be Arriving Shortly.

You argued that the United States needs to treat pandemic diseases with urgency, with the same urgency that it applies to other transnational threats. What should we be doing? What should the United States be doing to improve how we treat pandemic diseases like the one that, according to Jennifer, we are facing now we will call it that as a national security priority that it should be?

MONACO: So, thanks, Mara. So first on your question, I did not come up with the op-ed title I think and--and I should say I was not alone by any stretch of the imagination. I think every person on this panel and you know legions of experts behind us used 2018 and the you know 100th anniversary of the Spanish flu pandemic to sound the alarm, right about the dangers posed by pandemic disease. But no, I didn't--I didn't come up with the title and normally op-ed writers kind of decry those who put alarmist and inaccurate titles of their pieces. Unfortunately, not so, couldn't make that criticism here.

So what do I think we should do first? I think we should recognize pandemic disease as a national security threat, as a transnational threat like we do other things like terrorism, like cyber threats, and you know first let me anticipate some concern with that framing. I imagine folks some folks may say here we go again everything is a security issue we are going to securitize pandemic disease, and that is the last thing we should be doing.

Let me--let me kind of allay those fears. When I say we should approach this as a national security threat that it is I mean we should apply a whole of government approach of the kind Ron just talked about just to that threat, just like we do other transnational threats and by that I mean diplomacy, intelligence-driven approaches obviously public health and domestic preparedness issues. I should, and I would lean on the diplomacy piece of this.

Ron knows very, very well the significant piece that diplomacy played across the administration up to the presidential level to really help us get our arms around the Ebola epidemic so I mean when I say national security threat I mean we need to apply a whole of government approach to this and we have to name it, we have to organize ourselves around it. Okay? So what does that mean?

It means identifying and approaching--identifying it first as a national security threat and then approaching us--approaching it in organizing our government from that perspective. We did that post-Ebola on Ron's excellent recommendation. As you heard, Ron was dubbed the U.S. Ebola response coordinator. I remember quite clearly that his last recommendation to President Obama, I'm not displaying any kind of internal deliberation state secrets here his last recommendation on his way out the door in that role was you should never ever have to appoint, and the government and no future president should have to appoint a disease-specific czar. President Obama took that recommendation, the president--the president's national security team as a whole took on that recommendation and what did we do?

We created a global health security and pandemic preparedness directorate within the National Security Council to work alongside the other dedicated units within the National Security Council that are assigned to and dedicated to other transnational threats. So in a world in which experts and you know non-alarmist people like Bill Gates have said that pandemic disease is likely to kill the most people in the shortest period of time over the next 10 years and that is how he has described pandemic disease in that kind of world I think we ought to have and by the way when our intelligence community and the world and its annual worldwide threat assessment puts pandemic disease and emerging infectious disease as amongst the top threats that we face as a nation I think it is not crazy to say we ought to have a dedicated unit of professionals within subject matter experts, I'm not talking political folks, subject matter experts working day in and day out in the National Security Council just like we have a

counterterrorism directorate or a cyber threat directorate. So that seems kind of an elementary approach, and so we did it, and it made a lot of sense. Unfortunately, in 2018, the Trump Administration inexplicably dismantled that unit and it's--

RUDMAN: Or after your op-ed.

MONACO: Good question. I haven't done that--I haven't done those forensics. They dismantled the unit, and its expert well-regarded career official was reassigned. So it--it is that kind of reinventing of the wheel, and now, of course, we have witnessed over the last several weeks not one, not to, but three re-definitions and attempts to organize the government around our pandemic response. This isn't just kind of bureaucratic, you know moving things around on an org chart.

How you organize your cells and prepare before it is an emergency and before it's a crisis can make all of the difference in the world in how you are able to approach this and you know I think if we had had a unit and dedicated professionals looking at this issue gaming out scenarios well before you know the last week we might have identified some of these testing issues. We might have said there--there would have been folks sounding the alarm in December when we saw this coming out of China. Hey, what do we need to be doing here in this country to address it?

So you know in addition to organizing and I could reference the erasure and sidelining of my own were own former role at Homeland Security advisor you know in addition to organizing around it, building capacity both locally and in our own public health departments to identify and address some of the gaps that Jennifer talked about and importantly raising global capacity and doing what I have called defending forward and we can talk about that a little bit more.

RUDMAN: Thanks. Dr. Emanuel, Zeke, let me go to you. In the and following up on what Lisa has said, the director-general of the W--of the World Health Organization just this morning had said this is a time for pulling out all of the stops, calling on international leaders for action. You have said that an American should not panic at this point, and that said the number of confirmed cases; deaths continue to rise. You also have been vocal about the current administration's response and the nature of it.

What would you say at this point are both the things we still don't know about the coronavirus that may bear on how widely it will spread, how dangerous it will be and what do you think that the government should be doing right now, our government to address the--to address the threat and to keep people from panicking or should we be panicking at this point? Have you changed your view?

EMANUEL: No, no, panic is never good. Even when you have a very serious situation panic is not going to be good because you were not going to have an organized response that can mitigate the problem and I think again to echo what has been said you know when we have the president making a series of either unhelpful or blatantly false claims you know this definitely going away, there's going to be a miracle vaccine in three or four months I mean that doesn't help, and it doesn't help people as Ron said, calm down.

So the first thing I think I would agree with Jennifer, you know we have no idea what the prevalence of this thing is in the population, and we need to be able to have that test Ron said 30 million. I have it on the back of the envelope calculation, but in addition to very specific groups, we need to a population survey in you know a place like Seattle where you've had a big outbreak and some places where we haven't had a big outbreak to see what our--what the rate is out there and follow it so that we can see how it is spreading and--and the time course of that spread. That is critical for knowing what to do.

There are a whole series of things I--I laid out some of them in the Washington Post article, but you know one of the things that I am particularly worried about is surge capacity in our healthcare system both physical stuff kind of do we have beds and has already been mentioned the healthcare worker number.

So let me just lay out a scenario for you, which I think is not far from reality. 20 million people in this country somehow get the virus 20 million, right? That is less than 10 percent of the population; it is about 6.5 percent of the population get this virus it is less than get the flu, we have the flu with an annual vaccine that about half the population takes but the death rate is .5 percent which is you know (INAUDIBLE) guess but it's only a guess (INAUDIBLE) deaths that is (INAUDIBLE) isolated in a healthcare facility.

For those of you who don't know eat and breathe this stuff, our healthcare system is we have less than 1 million beds all throughout (INAUDIBLE) 1 million beds, right? That would be 5 percent of the 20 million people who get it, and we have less than 100,000 intensive care unit beds and that is all intensive care units, NICU, neonatal intensive care unit beds, burn beds, etc. and we only have about 65,000 ventilators so we are under-resourced already just out of the get-go and we are not talking about the big spread. We are talking about a moderate estimate here and then we talk about the healthcare workers. Well, if healthcare workers get exposed and they are on quarantine for two weeks, we are way under-resourced. We only have a quarter-million intensive care unit nurses in this country. So this is a big problem. We need a very serious surge capacity problem.

I think another issue, and again this has been alluded to when is it appropriate to close schools? When is it not appropriate to close schools? When is it appropriate to stop sporting events? When is it not? Political rallies, etc.? We need a uniform policy or a uniform way of suggesting what the criteria are to state and localities out there. Ron has already suggested what is a whole of government approach? It's a nice phrase; what does it mean? Well you can't ignore the Department of Agriculture, and you know all of those school lunches and food stamps and other things, can't ignore it. They have got to be part of the conversation, no evidence they are a part of the conversation as of now.

The Department of Education you are closing schools around the country they have got to be involved. How are we going to educate these kids? Are we canceling out a whole year because we are going to close schools two months early? I can tell you I'm at the University of Pennsylvania having a hard time convincing my colleagues we have to think if we have to close early--we went on spring--we are going on spring vacation in about five hours, right? We have got a week or nine days. We have got to think about what happens if you know God forbid they close the public schools in Philadelphia it's hard for the University of Pennsylvania to continue with public schools are closed. What are we going to do? What are we going to do online? What are we going to do, you know in terms of finals? We have to begin planning all of that.

The Department of Education has to be part and parcel you know obviously Defense, Health, and Human Services, Homeland Security, I mean we have got a big, big group. I would say we also need to begin developing other tests, serology tests. Who was infected? Because we are not going to have real testing. There are going to be a lot of people who got infected don't know it and are going to continue, and we need to know who those people are and deploy them. The list goes on.

RUDMAN: Zeke while I have got you let me ask you one other planning question that is maybe tangentially linked but could become very real. This week the Supreme Court announced that it will hear the healthcare repeal lawsuit sometime this fall that could rule the entire Affordable Care Act, including the laws Medicaid expansion unconstitutional. You mentioned 20 million people earlier when you are throwing out a number; this case could result in 20 million people losing health insurance coverage. How would the lawsuit undermine our ability to--to respond?

EMANUEL: There is nothing like a communicable disease to reveal the problems of a healthcare system because you know not only do we have to get healthcare we have to worry but everyone else getting healthcare because they could spread the disease around especially in a situation where we have--you know we can all wash our hands, but we can't--there is no vaccine to protect us and so we--this is a very good example of why we really need universal coverage and everyone to be able to get coverage.

They don't--they cannot be dissuaded from getting attached because of the cost, they can't be dissuaded if they are very sick from going to the hospital because the cost is going to be too high. So these high deductible plans you know we did do something on the vaccine set, preventative treatment no deductible no co-pay, so it will be quote free to people that is just the start, that doesn't mean the test would be free, we have to make that happen. You have to be able to go to the doctor or the hospital to be able to go treatment if you are very seriously ill. So we clearly need a not only like the ACA unconstitutional get from 90 percent coverage to 100 percent coverage urgently.

We have some stopgaps that are going to be important in terms of getting the vaccine to everyone and getting testing to everyone, but those are stopgaps. Let me pick up on something again hinted at. We want people to stay home if they are sick. We don't want them working as the president suggested. That would be a disaster that would spread it to more people, especially if their job involves you know interacting, touching people say at a supermarket or a restaurant. They can only do that if they have paid time off, but in a gig economy, we don't have paid time off for many, many people. We need to solve that gig economy gap. We need to have employers and not just temporarily, but for long-term we need to have employers contribute to some pool that the government runs for these people to give them paid time off in proportion to the amount that they work.

A stopgap is good but it is not a solution and let me remind the audience just the frequency of these communicable diseases. Right? 2009 we had H1N1, could have exploded thankfully not that serious, right? We had SARS that was in 2003, 2004, we had MERS 2013, 2015. We have had Ebola two episodes West Africa Congo right? Now we have Corona. About every 2 to 3 years, we are having these episodes, right? Stopgap measures are--they are stopgap bad name, but they are not the same as a structural change that really puts us in a stronger position to address the next one and don't fool yourself we are going to have a next one. I don't know what it is you know Jennifer doesn't know what it is, Ron doesn't know what it is, but it's out there. It's going to come, and we need to be better prepared socially, medically and politically for this.

RUDMAN: I think Jennifer might have an idea what it is. I'm going to turn the next question to you, Jennifer, if I can. Thanks, Zeke. And that goes following up on some of Zeke's points about affordability issues and questions and thoughts. Can you comment at all about--comment on issues on how we should be thinking about our government and others ought to be thinking about affordability of vaccines or treatments that would ultimately develop--be developed and how important the question of affordability is in ensuring accessibility for all Americans?

NUZZO: I mean, I know this has come up in the context of the vaccine, and quite obviously, cost should not be a barrier to getting vaccinated. We depend on people getting vaccinated, so we just have to take that off the table. I do think though that the conversation is a bit premature because we don't yet have a vaccine and it is not a good signal to send to the companies on whom we will depend to make a vaccine at this point who may be looking ahead and trying to figure out if it's worth it for themselves. In 2009, the federal government, you know bought a lot of vaccine, so I anticipate that would have to happen were we to what to find ourselves in a situation of a vaccine.

But there's been a lot of conversation about vaccines and therapeutics and what we have specifically for this virus, which is an important one to have because we need to prioritize the research and development process. You have

heard the timeline at least for a vaccine that it might be you know a year to 18 months that is provided all of the science of lives and works out as we want that we will get to a point where we have something that is deemed to be safe and effective.

But then we have to produce it, and this isn't just something that you can like flip a switch and a flu vaccine plan and suddenly asserts cranking out coronavirus vaccine. I mean you have to have facilities that are specifically geared toward this so even thinking about creating a vaccine in the quantities for which we would likely need it assuming estimates of 40 percent to 60 percent of the globe potentially affected I mean that is an extraordinary commercial endeavor that requires enormous amounts of planning that could take years, I mean absolutely years.

In 2009, we had, you know, when we discovered the pandemic virus, we had a network, we had companies that were already making flu vaccine every year. There were multiple companies making flu vaccine in multiple parts of the world. They had the ability to tweak the vaccine production process so that they could make then pandemic vaccine and we still didn't get it in time to be able to--you know in the U.S. there were lots of different issues, but we didn't get it until largely after our epidemic peaked, but that is with you know a seasonal market where companies have already invested because they know that it's not going to just be a one-time buy, it's going to be something every year and that they already have the infrastructure to not only produce the vaccine at scale, to put it into vials, to ship it around the world to--to the places where it is needed, and this is just all of the planning that needs to happen.

But just putting that aside because there is--this is not something that happened anytime soon there are other medical interventions that we need to be thinking about. When we talk about you know how deadly is this virus that is not purely a function of the virus, it is also a function of our response so if we have the ability to deliver life-saving medical care, supportive care we could alter what the severity of the viruses, the severity of the disease and you know we see this.

Ebola patients treated outside of the epidemic context where they usually happen tend to survive higher percentages than people who are treated in situations where healthcare resources are limited. So I absolutely agree with Zeke's point about the importance of function--of focusing on surge capacity and the point of also ensuring access. And so there are going to be some people for whom they will require hospitalization and if they wait to be hospitalized to the point where they are so severely ill--first of all that puts more burden on the healthcare system because then that person--that patient is incredibly resource-intensive, probably producing a lot of virus that could potentially result in transmission events. So we don't want to have situations where cost is the barrier for which people who would benefit potentially from receiving you know medical care we don't want cost to be the barrier.

RUDMAN: Thanks. So underlying everything that you all have said but certainly, most recently Zeke and Jennifer is a basic foundation about the import of science-based policy decisions. What would you say Jennifer and then I'm interested in hearing based on that reactions from others are the three most important or two, three most important elements that get us to or looking at how we get to science-based policy decisions on this issue obviously carries the assumption that some of us feel that that is not happening currently.

NUZZO: So I study outbreaks, it is one of the things I've been doing for 20 years, and I have always seen that politics enters into the equation, and politics is not by itself a bad thing. I mean, having political leadership and political attention is not only I mean it is essential frankly, but when politics get into the way of an outbreak response, that is when I think we have problems, and it potentially I believe has the potential to exasperate the toll of the outbreak.

I mean, we have the possibility--it is possible for us to do more harm just simply by the decisions that we make, so I believe that the technical experts have to lead in terms of making recommendations for what needs to be done. Ultimately the call for what needs to be done will be a political one, particularly when there is insufficient data, but we have to be honest about the limits of the data or and honest about how the decisions are made in the face of insufficient data. That, I believe, is absolutely important.

I--I just don't see a way around that. I will say though that one thing that happened in 2009 that I thought was really helpful were that a number of agencies convened sort of what they called team B processes where they set up kind of advisor--external advisory groups that they would go to regularly, talk about what they were doing, share what they were doing in their thinking. It was--it was under confidential circumstances because many of it was sort of internal deliberations, but there was some level of openness there with a goal of not only making sure they thought of everything because when you are in the midst of the crisis, and I have enormous you know sort of empathies for the people and government right now who are working on these issues; it is incredibly hard work and I don't want to in any way demean the incredible hard work that is going on because it is very hard when you are in the midst of that, and you know you are just running from putting one fire out to the next to really have the long-range view.

That is why it is absolutely essential for people who have a little bit more bandwidth, and a little bit of a different perspective to be able to weigh in and say have you thought about this, why exactly are you doing this it doesn't quite make sense? Just to make sure that we are on the right course and to raise to the surface any issues that haven't been identified.

I think the issue of how we are going to do surveillance for when the disease is inevitably was found to be spreading in the U.S. could have likely come up in those conversations and thinking about alternatives to the technical glitches that influence our inability to employ diagnostic tests, thinking about what strategies exist outside of a particular agency that could potentially be brought to bear to--to address the gaps that we were seeing.

RUDMAN: Thanks very much and I would be curious Lisa and Ron about your reaction to that both having lived the--the experience and if I could also weave in one additional point as you are thinking about that which is often in national emergencies, too often I would say here in the United States we see people revert to their worst fears and you see actions rooted in racism and fear as a result in terms of kind of reacting to the other in these kinds of context.

So what as as people look to have science-based decision-making and--and deploy the types of things that Jennifer is talking about how do we also--what should public officials be doing to ensure anticipating those issues?

MONACO: So I'll kind of revert to my prior theme of having a prioritized and con-structured approach to this, looking at as a whole of government issue, as a transnational threat. As with other such threats, we are intelligence-driven, right. So, we, the policymakers, who as Jennifer rightly points out, are going to be the ones that have to have to make the hard calls, and that's appropriate.

But in other instances, whether it's terrorism, whether you name it, the policymakers are asking the subject matter experts, the intelligence professionals give me the data, in essence, help me understand the threat, help me prioritize what it is we're looking at. And unless you have a structure in place and you have leadership that says that's how I want to think about this as opposed to kind of on being pulled from pillar to post in terms of responding to new cycles or responding to irrational fears.

If you have a structure in place to have leadership that says I want to be driven by the intelligence. I want to be driven by the data. You've got to send that tone from the top. And frankly, as with other threats. It ought to be.

I like this plan B framing in the intelligence world and the national security world. We call that red teaming, right? You get other experts to say well, let me take the counter view and really test it. But again, you need leadership that is open to that, that is driving a process that says I want the best thinking, the best factual fact-based thinking to help inform a hard policy decision.

And to get to your--to your second question, Mara. That ought to be permeating our response when it comes to ill-informed or bias--bias generated responses, right. So you can imagine a world in our kind of hypothetical scenario where I, as the homeland security advisor, or--or Ron as the disease czar, if you will, is leading a conversation where we say to you know what? We're really concerned that we're going to have an uptick in bias-related hate crime against this particular population who--who are wrongly viewed as, you know, "perpetrators" of said epidemic.

Well, I want my Justice Department, who has a role in addressing civil rights crimes, and I want my attorney general I want a lead and have statements from the very top saying that will not be tolerated. And we're going to deploy our Office of Community Relations, which operates in these--in these scenarios with regard to other bias-related crimes. You have to send the signal from the top that that type of response, A, is not rooted in any facts or in any science and won't be and shouldn't be tolerated.

KLAIN: Yeah. I'll just add three quick points to that. First, I obviously agree with Dr. Nuzzo that politics is inevitably part of this. But the question is. What political choices are political leaders making?

In the Ebola response, President Obama made a decision to have science and evidence-based policies be the default choice. So Lisa and I sat in the situation room, with the president, when we were in a political firestorm of people saying, cut off travel to West Africa. Let the people over there just suffer without U.S. help because we don't want to bring the disease back here. And the president made a decision that the science and the evidence did not support that.

And we sent people to West Africa to respond and save lives. And we allowed them to come home, which was the only way to get them to go with appropriate precautions after they came home based on science and evidence. And so, there's always politics in that. That's absolutely right. But political leaders make choices about what values they put at the center of this, and that's vital, which brings us to the second thing, which is the relationship between this and the testing fiasco we're seeing. There's no question that part, maybe the lion share of this testing fiasco is logistics. Maybe a bad choice by CBC, about to build their own test as opposed to using tests overseas, you know, technical issues.

And as Dr. Nuzzo said, that, you know, this is a firestorm, people are going to make mistakes. I understand that, but I also have no doubt. Part of this fiasco is the president setting as the default bring me no bad news, do nothing to disrupt the economy, don't tell me bad things are happening. I want to minimize the case count. I do want to--I really don't want to know what's happening, okay.

And so, there's--the bureaucracy responds to signals, and when the signal is that if you tell people the truth and it's bad, you're going to lose your job or get sidelined. That's a signal, that's a political choice that has an impact on how the government responds. And I think we've seen that here.

Dr. Nancy Messonnier, who's a career official at CDC, who has saved literally millions of lives around the world, stood up and said, well, any scientist would tell you that the spread of this disease in the U.S. is inevitable. And she went into the panel--president penalty box as a result, okay. So that's not the way you get the bureaucracy, and the professionals and experts to respond.

The last point I just want to make about this issue of discrimination. Lisa is absolutely right. In a good a whole of government response, you have the Justice Department stepping up. You'd have other people stepping up looking for hate crimes. But also, we can all step up, too.

And so, hate crimes are the most extreme example of this. We're seeing already a tremendous drop of business in Chinese American owned businesses. People basically not willing to patronize China--Chinatown, not willing to shop there, not willing to buy meals there.

And like all of us need to be civic leaders, and to say. This disease obviously affects humans. It's not based on your race or your ethnicity. You're no more likely to get it eating a meal in Chinatown then you are eating a meal in little Italy or any other part town. And so, like, we--we need to set an example and lead and help patronize these businesses and try to mitigate some of the negative effects this is having already.

EMANUEL: Can I--I just want to add one thing. The scientists who are critical to this response and to any communicable disease, epidemiologist, biostatistician's, virologist, those people, they're in high demand. And unless the government respects them and gives them jobs and listens to them, they've got plenty of opportunity.

You can't find a biostatistician in the country. They are so scarce, right. But if you tell them, you know, we're not paying attention.

Like Ron said. We're not paying attention to if you've got bad news or you got something, or by the way, your predictions, we're going to ignore them or deep-six them or prevent you from publishing them or prevent you from going to a meeting and presenting them, right. Why do I need government? I've got 27 job offers outside of government, whether they're academia or business or pharmaceutical companies. I'm leaving.

Unless we populate our government with those kinds of people who are super smart and creative and thinking, you know, we're not going have the evidence. And we know that that has been the case. You know, people can also take early retirement.

So I think there's a lot. It's partly how they-- they're received. It's the judgment. But it's also the respect they get and the ability to do their best work regardless of where the chips fall because that is what they do. You know, they're fundamentally scientists committed to getting the truth, not committed to, you know, whitewashing whatever they've got.

MONACO: And on Ron and Zeke's point, I mean if you send the signal that you view this as a border issue as opposed to a science issue or an epidemiology issue, you're sending the wrong signals, and it's going to affect and hurt the response as we're seeing. I think we lost valuable time in addressing the testing debacle by saying oh, we're going to--we are going to just keep this-- "keep this out." The pandemic, any pandemic, and any emerging infectious disease doesn't respect any borders, and it sure as hell doesn't respect any walls.

RUDMAN: (OFF-MIC) Thank you. Thank you. Before we open up to questions, which we will do shortly, one last area that I wanted to drill down just a little bit further, Jennifer, you and--and Zeke and--and Ron, Lisa, you may have mentioned this as well, but in the category of forward planning and--and in understanding that there--we need to have a surge capacity. What would you say either hospitals, states, what should people be doing, and at what levels to--I don't know if triage is the right word, but to be planning to make sure that the--that hospital beds, capacity supplies are reserved for the most sick and that whether you have telemedicine--you know, who does that? How should it happen?

How is it--how is it happening now? How should it be happening? Because that seems to be where we are heading on this. And from where I sit, I don't--I don't get a sense of what the rules of the road are.

NUZZO: So, this is something that I think we should have learned in 2009 that we haven't really incorporated into our thinking or planning. So in 2009--and in part, you know as media attention of the pandemic increased, naturally there were all sorts of additional tensions to the pandemic increase. And what you saw, because we track things like influenza-like illness, was that there were a surge of people going to help facilities, above any kind of historical norms, a surge of people.

And then, when they did the studies after--you know, shortly thereafter, they saw that like only a small percentage of those people are actually diagnosed with flu. So what that meant was a lot of people were showing up for non-flu specific reasons, and they were there for a number of reasons. One, they may have thought they had the flu and, you know, wanted to get tested. Two, they may have had an employer who said oh, I'm sorry you went to Mexico, or you were in this county that's reporting cases. You need to get a doctor's note before you can come back to work.

And then, they would try to find no contact with there, you know, primary care provider who said oh, you want to come see me for flu, go to the emergency room. We--our office is not equipped to handle an influx of flu patients. We don't want to expose everybody else. And then, there may be people who just went because--simply because they were concerned, and they wanted to get information.

So this puts an enormous strain on health facilities and particularly given the numbers Zeke mentioned and just in terms of, you know, anticipated numbers of people who will require medical attention. It is not a good idea for

people to show up. It's a good idea, anyway. Because if they're sick, they could expose others. If they're not sick, you know, they can--they can get sick.

But, nonetheless, we can't put this burden on emergency rooms. And so, part of the unfortunate aspects of our, you know, wanting to expand and--and improve the diagnostic side is that I think we are also inadvertently sending the message that it's absolutely critical that everybody gets tested. And people here that and think okay, now I have to go and get--and get tested.

This is something that we should know and plan for. I mean, I know that individual health facilities and health systems are thinking about how they can triage patients because they're deeply worried about patients showing up at the ER, showing up at the clinics unannounced. Even the people who may benefit from an evaluation, they don't just want them to show--them up unannounced. But it's really difficult for this to be done for individual health facilities.

From--from a patient perspective, there should be one number to call to figure out what you should do in your situation, and this is something that I think is ultimately a function of government. So many people are--are seeking information. Any of us who have ever spoken on this are probably being deluged with frantic emails from people who just simply want information, and it's because there's no information to be found. I mean, the government websites on this are just utterly abysmal.

We need to--you know, the New York Times I think is doing a better job of tracking the--the pandemic in the United States than any health agency I've seen in the U.S. Singapore is doing an extraordinary job. For a model, I suggest to really look at the Singapore Ministry of Health website. Incredible transparency, incredible amount of data available in near to real-time, really, I think. Kudos to them.

But this is absolutely something we need to think about. I' m-- I'm glad to hear that health systems are--are trying to take this on, and--and they're forward-looking. But again, you know, it's--I just don't think it's-- it's a great idea for there to be 27 numbers to call, nobody knows where to go. There should be one portal for people to understand how to connect.

And it's not just patients who need this. Providers need this. They need to be readied for being able to, you know, to--so that they feel comfortable seeing patients, particularly patients who don't require hospitalization. They're part of this.

They can't just put a sign on their door that says if you have these symptoms don't come here because we will be crippled if that's the case. And similarly, I think there are other health assets out there that we should also try to work into our response. Like, you know, large employers that have occupational health services. There're many things out there, but again, this requires planning and coordination.

And in particular, as we are thinking of expanding the amount of places who get testing, I am deeply worried that we have no plan for understanding who is getting tested where. And so, we're going to a situation where different states are reporting different numbers. We're not going to know what to make of it because it could simply be that they're just testing different populations, and nobody is tracking that.

First of all, that's not even happening on the global level. I mean, just trying to make sense of one countries number versus another, you have to really do, you know epidemiologic forensics in order to figure out how they got to those numbers. But certainly, in the U.S., we should allow flexibility, but at very least know what strategies states are going to be using. I don't think frankly they've even developed the strategies, but when--when they have, we should be able to--to track it and understand it.

EMANUEL: Yeah, but part--part of that is we've cut back to CDC. And you know, for those of you who don't know, the CDC does a lot of funding of state and local public health responsibilities by giving out grants to them, and if you don't give out grants, if you cutback your sort of pandemic preparedness and you don't give out those grants, they're not ready with this and creating a, you know, modern database so that you can do exactly what Jennifer suggested, I think is critical.

You know, there are a lot of facilities that do have disaster plans, but there are a lot of hospitals that don't have--just haven't developed them. And again, this is a place where we can anticipate. We can circulate best practices out there and just have not done it.

Let me say. At the University of Pennsylvania Health System, we've actually gone to a moderate rationing policy. Medical students don't gown and don't examine those patients. You don't have multiple people going into these isolation rooms fully gowning and masks that we used to do in the old days. Because we've got to conserve the number of mass, the number of gowns that we have because that supply is not unlimited in the country and anticipating serious short--shortages as we get more testing and more people to come into the system.

So you're already seeing a lot of judgments being made at various systems in anticipation of there are going to be shortages and how do we prevent us running low on N95 masks, the full, you know, the full gowns, the gloves, etc. That's a bad place to be at the start of an epidemic, very bad.

MONACO: You know, we're in Washington. We all have extensive experience at the federal level. I think it cannot be overstated just how much this is about state and local response, right? State and local public health officials, all the people that Jennifer described, they are the first responders.

I'll--again, I'm going back to my, you know, terminology from a national security perspective, from a homeland security perspective, they are the state--they are the first responders. The job of the federal government is to support their response, to provide assistance, to--to help with best practices, to be a, you know, standard-setter if needed, right. We--the federal government should be in the place--in the role of supporting a robust state and local response just as we've done to other threats, you know, and--and providing that assistance.

So, I'd love to see the type of state and local grant, and public health preparedness plans and grant programs that we provided in the wake of 9/11 to help all of the states, and local and municipalities raise their level of preparedness for other types of disasters and other types of threats. We need to do the same thing when it comes to public health.

And then, the other role of the federal government is to work with our partners around the globe to raise their capacity, right? So with the Global Health Security Agenda that was started in 2014, a network of a multinational approach to raising global health capacity around the world to keep those diseases at bay before they get to our shores. There--it is a lot more economic and forward-thinking to do that then wait to do all of the types of things we're talking about here.

RUDMAN: Thank you. Why don't we go ahead and to make and turn to the folks out there? Let's go here first.

QUESTION: Thank you--thank you so much. Thank you for doing this. (INAUDIBLE) with Radio Free Asia. My question is about China's approach in terms of containing the epidemic. We have seen that some countries like Italy, locking down several cities. I'm just wondering. Is the same necessary approach? Are we going to see some--something similar in the United States? And are there any approach that the United States or other country may learn or co-pay--copy from China in terms of stopping the outbreak of COVID-19? Thank you.

NUZZO: So, as we think about what measures to take in response to this virus, I think it's important for us to evaluate not only what we think the health impacts are going to be, and that's not just looking at case numbers, but also what the broader social and economic impacts are. And we need to hold all of those things in balance. Because I do believe it is possible to take measures that do more harm than good.

And so, I think that we have seen in China is a result of a situation that got very much out of control, where there was a very limited understanding of what was going on. And I'm sure that a lot of the uncertainty fueled some of those very aggressive actions. I also think the fact that we have not fully acknowledged that this virus, I do not believe, is amenable to containment. It is just spreading too quickly and too fast. It is not like Ebola. It is not even like flu, though no one would even attempt that with flu.

So there-- there's been a lot of celebration, I guess, over the recent decline in case of numbers in China as a result of extraordinary, unprecedented actions. And although I remain somewhat skeptical about the case numbers, just because I haven't fully understood how their testing and looking for it, not to imply any to make, I'm not suggesting that they're not being honest. That's not what I'm trying to say here. I do believe that there have been other impacts that we haven't fully accounted for such as the fact that people who are sick with other things like cancer and HIV have been unable to receive care from a response that has been so focused on driving the number of cases down to zero.

I also don't believe that we are fully accounting for the social and economic impacts. And any decline in incidents that we're seeing now if it's, in fact, true is temporary. Because as people to get back to work as we absolutely need them to do, unless we run out of essential medicines and personal protective equipment and all the other things that we know are going to need, the virus is still circulating on the planet.

China's a global economy. The disease is--the virus is going to--to continue to circulate and come back. And so, even places like Singapore, which have reduced their cases, and I believe that they have reduced their cases, is acknowledging the fact that the reduction is going to be temporary and will come back because they can't wall themselves off. So that's just my point.

In the United States, I mean, I--I very much want to stress that we need to proceed carefully and not act out of, you know, just because of chaos. And so, I am--top on my mind that I'm particularly worried about is school closures because I don't think we have adequately thought through--well, first of all. I think we have very limited--very limited data to say that they're going to alter the--the trajectory of this pandemic. But I also don't think we have thought through the contingencies, like what it means when healthcare workers can show up to work, what it means for the nutritional needs of children, what it means for the educational and social needs of children.

I mean, I've talked to some reporters who have been under lockdown in--in China, and I mean, just describing their life. You know, one reporter has twin nine-year-olds at home and said, you know, it's just not healthy for them to be inside this house, this tiny apartment for months on end. We have to account for those things in our--in our decision-making.

I mean, I'm an epidemiologist, but I'm telling you. It's not just about the epidemiology. It's-- it's about a broader view. So I'd--I very much want to stress the need to fully evaluate measures before we implement them.

KLAIN: Yeah, I just had two things to add to that. One, Zeke alluded to this earlier before, the-- it's very easy to say, well, we should just want quarantine all these people. Any healthcare workers who's had any exposure should go home for two weeks and be quarantined. Any of this should be quarantined, or we're going to close the schools, we're going to do all this. And I understand all the--the--kind of the--the surface-level appeal of all that.

But as Dr. Nuzzo said, a lot of those measures are going to make us less healthy, not more healthy, so think about healthcare workers. As Zeke said, we--we already have kind of a shortage of healthcare workers. If we start to quarantines large numbers of healthcare workers, not only will that impact our response to coronavirus, that people are going to show up at the hospital with heart attacks or breached births or all kinds of other things and the systems not going to be able to deal with that, right? And if we just say--you know, and--and so, the precautionary principle, which is so attractive to us as human beings, actually winds up doing more harm than good in these kinds of circumstance. That's the first thing I want to say.

The second thing is, I'd say there's one thing they're doing in China we need to think about, and that's the ability to construct quickly surge healthcare capacity. I think if you are a mayor or governor or a major healthcare system administrator and you don't have a plan to add 500 beds on three days' notice, you aren't ready for this. And--and--you know, and again, whether that's through construction or finding some facilities to equip or whatever, we--there--not everywhere in the country, not every city, whatever, but we're going to find a major city where every ER bed is filled, where every hospital is filled, where this is going to become an outbreak, and we're going to need that surge capacity. And we need to think about where that surge capacity is and how you're going to either construct it or repurpose it or whatever to get that kind of surge capacity.

EMANUEL: I mean, you--you can see this in Seattle where they had to buy a motel for quarantine. You know, that--that is--you know, that's a sign of kind of desperation in the fact that we don't-- haven't thought this through and have a backup plan. You know, it's very expensive to have beds mothballed, and it's very expensive for hospital beds. You know, only 60 percent of them are occupied, and we shouldn't be doing that.

But we should have a plan for surge capacity. And you know, whether it's putting up quick tents, ten hospitals, which you know, the military has a lot of experience in. So--we need that, and you know, it's not clear how much that's being done.

I do have to say, and maybe I'll be a little more forward than Jennifer. There is some doubt I have about the Chinese numbers and whether the numbers have really gone down, whether they've gone because they test--changed their testing protocols, etc. You know, without open transparency with a history of trying to suppress this, one has to be a little skeptical. I think we do need to have a belief. I do think that there are procedures you can adopt, as--as Jennifer says in Singapore, much more believable that you have--sort of, you know, been able to turn a corner.

But this--you know, the Chinese are trying to get their factories back to work. You know, they can't have a, you know, negative economic growth of much less--less than 6 percent economic growth for the country stability and so they are trying to get factories back working, and that may be premature for their situation and provide a focus for much more rapid spread of sick people are going to go to work and spread it around a whole factory. And so, I think that is-- that's got to be a worry, a serious worry in this circumstance.

RUDMAN: Why don't we go to the women here? Sorry, I don't mean to point. Excuse my pointing.

QUESTION: Do we know what the incubation or gestation period is for this virus?

NUZZO: So, just maybe, to define for everybody who doesn't know incubation periods. So it's a term for a period for which you've been infected, exposed in some cases to develop symptoms. The--the best estimates is that somewhere around 3 to 5 days but can range from 2 to--14.

RUDMAN: And also, keep the mic close because we have a bunch of people live streaming also.

NUZZO: All right. Right.

RUDMAN: And we want to make sure that they get to hear every word of this.

NUZZO: And so, you'll hear a lot about 14 because when we do things like quarantine, we--we take the full range of incubation period and that's where we get the 14 days that people get quarantined for. There is some ongoing debates about the incubation period, but--and there have been some questions raised as to whether it could be longer than 14 days, but as of now, that's the--the current thinking.

RUDMAN: (OFF-MIC) How about the gentleman right--right next to the woman we just called on. Thanks.

QUESTION: Since when have you mentioned that there--these part--pandemic seems inevitable. And since we know most of them are caused supposedly by transmission from animals to humans. Is there a way of sort of slowing down that transmission process from the animal to the human basically?

NUZZO: So I'm not a vet, but we should anticipate future spillover events jumping from animals human. In fact, if it feels like we're having more and more emerging infectious disease outbreaks, epidemics, it's because we are, and about two-thirds of them have originated in animals, the challenges we often don't detect when that happens.

But nonetheless, we should be doing more to understand what causes it to happen. And there was a great kind of research program that was being funded by USAID called PREDICT that funded researchers to work in the field to understand not only, you know, kind of vera(ph) logic drivers but also social and behavioral drivers to try to understand like risk areas and hotspots, etc. And it's a little strange, I think that it was a research program funded by USAID. But nonetheless, I think they did some really interesting work, but unfortunately, it was just ended.

KLAIN: And--and there is--there is one more thing we can do to reduce the risk of spread from animals to humans, and that's combat climate change. Climate change is driving this problem to the extent not necessarily about coronavirus specifically, but generally, this problem. Why? Because disease-spreading vectors like mosquitoes have a wider range of habitat.

Now, you know, next time we have Zika in the United States, we're not just going to see it, you know, in the southern part of the U.S., but like the Aedes aegypti mosquito can now live further and further north. That's one effect. Climate change is forcing humans and into closer proximity in places due to habitat destruction, due to the migration patterns. Climate change is also forcing refugees off of places into places where they're very, very vulnerable.

We have an epic--Ebola epidemic, finally, coming under control in Congo, but one of the risk factors there always was right across the border in South Sudan, a million refugees in a camp. That would've been a disaster if it would have spread across the border. So, I mean, this--I mean, climate change has a lot, a lot, a lot of bad effects when we don't think about very often, is its effect is a driver of these epidemics, but it certainly is making this--a risk of this go up as a planet.

MONACO: And all of these things have been mentioned, underscores why we can't view this as something that we can deal with domestically as only an inside our borders issue, right? So increasing the capacity to detect these issues overseas with programs like PREDICT, raising the capacity of other countries to detect when that jump happens, can greatly improve our--our ability to get--to get ahead of it.

And you know, while it is really unfortunate that the original request for an emergency bill and emergency money from the--from the administration to Congress contained no international aid funding, thankfully Congress and a number of really smart thinking committee chairs and ranking member's put about a little over 100 million dollars, I believe in this 8 billion dollars emergency supplemental that just got--that just got past. But we have got to be thinking about this as a global issue that requires programs like PREDICT funding such as the stuff that was just added.

RUDMAN: (OFF-MIC) Why don't we--go--straight--straight back. Let's get to the back of the room a little bit for folks who have been patient back there. Thanks.

QUESTION: I have a question for Ron. I was wondering if you could shed any light on the response structure within the administration. So the lead is still with HHS, but the vice president in charge and Deborah Burke's the coordinator. Can you shed an external light on this? And how does it contrast with the situation when you were SR in the White House.

KLAIN: Yeah, so it's confusing, isn't it? And--and so, I think that early on, in January, I said that they should put some at the White House in charge. As Lisa said, the problem isn't that they don't have a coronavirus coordinator, although maybe now they do or maybe now they don't, but it--it's that in July 2018, when John Bolton took over as head of the National Security Council, he abolished the unit that Lisa set up after I left. And as a result, there was no team there, no really one in charge the coordinate on a pre-existing basis.

Then they went to the structure where they created kind of a committee (INAUDIBLE) that Alex Azar chaired. It was a task force, except it's not clear to me if they were actually tasks (INAUDIBLE) and if they were getting done on the task force. And then, when things got bad, then they put Vice President Pence in charge, though they didn't disband the task force, though Alex Azar still chairs the task force.

And then, a day later they brought in Debbie Burke, so I have a great deal of respect for her as a--working part-time still doing what she's doing in Africa, but part-time working for Vice President Pence. And she's on the task force, but she's I'm in charge of the task force. But she's the coordinator, or whatever. Look, I think the point of this is that what you need in this situation are clear lines of accountability, clear lines of authority, clear lines of coordination. And this is a big, hard problem.

And look, I'll be clear. We didn't get everything right in Ebola, and we were late on many things, and we made some wrong choices, so on so forth. But what we did was we had us a process that everyone in the government understood how it worked. They understood where decisions needed to come to.

They understood where decisions were getting made. They understand how decisions were getting press down through the system. They understood where to bring problems and how to get problems solved.

And a lot of this, it's interesting. It's obviously--it's very heavily led by science and medicine as the guide, but a lot of this is just logistics, okay. A lot of this is about, you know, just making things happen, solving problems, you know.

This test kit thing is partly a science problem, but partly like no one really thought through how you would do this and how many you needed and where they would go and so on so forth. So that still I think is very badly confused in the Trump administration right now. That's why I think a lot of these things still seem like they're moving like molasses.

That's why you could stand on Monday and say we'll have a million tests by Friday. And Friday, say actually, the numbers 75,000, which, you know, is a lot less than 1 million. So, you know, that's--that's--I, you're just seeing the consequences of the lack of accountability, a lack of coordination, a lack of really clear management for this challenge.

EMANUEL: One thing that is clear is that can only in the--in--in what you've heard, it can only happen at the White House. The ability to get all the departments and the agencies to work together and unify, that really has to start at the White House because that's the only place that could oversee the whole thing and create an accountability in each place coming back to the center. And that--that is--you know, I can say that is really critical that the center work--the center--the White House work well and work with all the agencies and that--that is indispensable.

RUDMAN: Okay. I think we have time for one last question. Why don't we go to the woman right here in the back that Billy is very close to anyway. Thank you.

QUESTION: Hi. I'm--my name is Cameron Tall. I'm an intern at the Penn Biden Center, and actually, a student at the University of Pennsylvania. My questions about supply chain disruptions in China, and specifically how that will affect the manufacturing of a potential coronavirus vaccine or, you know, even other really essential drugs that are crucial to our healthcare system? And whether or not the supply chain disruptions will have a long-term impact on, you know, the drug distribution manufacturing process, you know, both in the U.S. but also worldwide?

EMANUEL: Do you want to start and then--I'll--I'm happy to--

NUZZO: I have been deeply worried about this. But one of the things that I've been frustrated by is I don't think we understand the problem at the level that we need to understand it. The supply chain is incredibly complicated, and nobody seems to have a handle on where it is, what the issues are, what the vulnerabilities are.

I don't think that we have truly examined it in the context of not just a hurricane taking out a plant in Puerto Rico that makes medical saline and thinking about where else to sources, but to think of in the context where essentially every country is affected at once. And every country will be clamoring for the same things at once. So, for companies, it's going to be hard to think about. Well, we'll just source our X products in Y country.

I just--and I know that there are folks in the government who are working hard on the issue, but I just don't feel that a small group of people inside a government have the appropriate view on the issue. And I think this is one area where we absolutely need more work and more individuals involved, particularly from the private sector to really think about game out what the issues are, what the problems are. I know from the health care delivery side, they are very worried about this issue, but they have no intelligence on what to expect and what's coming down.

So, you may have heard that FDA was recently announced a critical jug--drug shortage, but they didn't actually identify what the drug was, so it's very hard for help facilities. They hear about supply chains. They're told to

conserve. But then, they're also told that they need to evaluate these patients with airborne precautions, which is an extraordinarily like way to burn through all the supplies that you have.

I just don't think this is one area that we have given enough attention, and I think the attention has to be multisectoral. It has to involve not just the government. It has to involve private sector. I really think that this is an area of critical work.

EMANUEL: So, just think about flu vaccine. We have, I think it's 11 countries that now produce flu vaccine. That's it. Eleven countries out of, you know, 196, whatever the latest number is, and that has to supply the world. So we're going to definitely need capacity built, and it's not like you can just hijack--you know, there's a manufacturing facility. We're going to switch it over. And so, I think that's a critical problem.

On the drug shortage problem, a high proportion of drugs are made in China. But more importantly, the raw materials that go into drug production, it's something like 90 percent, originate in China. We clearly--whoever thought that was a good idea, for, you know, driving prices down, it's a really bad idea to sole-source as it were such a large proportion of the raw inputs.

We need obviously two things. We need to diversify. Those chemicals can be made in lots of places. China does not have a lock on the chemistry. And second of all, we need to diversify the sources, but also diversify the production facilities, especially for generic drugs.

This is going to become a big problem. It's not going to be one of these things that we can wave away. There are 20 drugs on the FDA watchlist. But we already know we had a pre-existing drug shortage problem in many different areas: generics for cancer, which I know fairly well.

So I think we're going to have to diversify, but that's not going to--you know, that's not an overnight problem. It's not even a six-month problem. That's a several year problem. And I think, you know, we have to start now, and we have to make sure that the FDA stays on this problem, doesn't sort of lose track of it.

Because that will affect all of us, whether we have coronavirus or problem is something like I have this generic diabetes drug, but there's no supply for it. That would be a real disaster. But that also just emphasizes that everyone how interconnected, right. It might be coronavirus, but you could be affected if you have cancer or diabetes or something else through, you know, no fault of your own because of the complex--you know, the interconnected on this--interconnectedness of the system.

So I think that's a really good point. And we do have--we have agencies are responsible for this. They just need to stay on it and get the word that they need to solve this problem and--and use a thor--and we might need to create new authorities.

RUDMAN: Well, I want to thank everyone for coming. I want to thank our questioners. Because I think we had some terrific, very thoughtful questions that were also evidence of the terrific panelist that we had here and your incredibly thoughtful answers and comments throughout.

So Zeke, Ron, Lisa, Jennifer, thank you so much for being here. I think in a time and an era and an issue when there is a lack of evidence-based and calm and thoughtful discussion, you helped to make up for that in major part here today by providing what you did. So, thank you very much. I think we're all better prepared as a result of your being here, so thank you. I appreciate it.

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