

## Interest Group 1: COVID-19's Lessons for U.S. Policy and Health Equity

**Georges C. Benjamin:** Well hello everyone. I'm Dr Georges Benjamin. I'm the Executive Director at the American Public Health Association and a member of the National Academy of Medicine. I have the honor of serving as a coordinator, of one two coordinators for this section today. First of all, I'd like to thank our two program chairs, Sara Rosenbaum and Dr Neil Powe for their work with our committee to pull this conversation together for us today.

We basically have four panels for you. Our speakers will address key areas to talk about this issue of COVID lessons for US policy and health equity. I remind everyone this is a public session, but the members that are involved here will be able to engage each other primarily through the chat box. At the end of those four targeted presentations with panel members, Dr Neil Powe will pull together conversation at the end for us to talk about the things that we've heard and to engage in this.

With that that brief introduction, let me turn this over to the first moderator, which Risa Lavizzo-Mourey. Risa?

**Risa Lavizzo-Mourey:** Thank you Georges.

I'm Risa Lavizzo-Mourey, and I want to welcome our first panelists, Elisabeth Rosenthal. Welcome, thank you for joining us.

Anyone who has read your work and followed your Tweets knows that you have been critically assessing how our nation has done with the pandemic since the early days. In fact, you were at the epicenter when this first started. So, I'm wondering if you would just reflect a bit on the things that you observed in those early days?

**Elisabeth Rosenthal:** Sure. Thanks for having me, and I think there are a lot of challenges.

I wrote a piece very early on in the pandemic saying that this was a stress test for a health system, and we got an F. I still think that, and I think we are continuing to do so.

I actually live in DC but I am a New Yorker, so I was very familiar. My mom died of COVID in an assisted living facility there at the very beginning of the pandemic. I think what we saw and what strikes me most is that we have trusted a mostly private and siloed medical system to deal with a public health emergency, and it did a terrible job.

One little example is people were always coming to me at the beginning of the pandemic saying, "Why don't these hospitals have ventilators?" and I'm like, "Well, they don't make any money by having a storeroom full of ventilators in the basement that they never have to use or that they hope never to have to use." They fundraise for new cancer wings and a new atrium, but they don't fundraise for ventilators. I think one of the things the pandemics exposed very early on, is that we have neither and an intrahospital or a national system for dealing with those kinds of problems.

What's the solution? We have cruise liners—we say you have to have lifeboats and life vests, even though you hope never to sink. One of the solutions is we say as part of all the Medicare money you get, you have to be prepared in this way, for this bad thing you hope will never happen; or we have to have a genuine national stockpile. That's just one tiny example.

I know you mentioned that New York and how bad it was there in the early months, but I actually think, and Elmhurst Hospital was in crisis for... But I actually think we were incredibly lucky in some ways that it started in New York, because New York actually is one of the few cities that still has a robust public hospital system that was, through HHC, transferring patients between and among hospitals, that even took on... One of my former med-school classmates, Mitch Katz, now runs that system, even took some of the patients from the smaller privates that weren't part of a big system, or were part of a big system but the mothership wasn't willing or able to take patients from its satellite hospitals. I now live in Washington DC. If that had hit here where there's essentially no public hospital at the moment, it would have been an even greater disaster. I think that's the first challenge.

**Risa Lavizzo-Mourey:** So let me get you to reflect a little bit more on what you've observed over the course of this nearly 2 years. We've had vaccines come into play; we've had testing kind of wax and wane; lots of different hotspots. You've mentioned some of the observations about what goes on in other parts of the country, but as we tee things up for this larger discussion, what are some of your other observations about what's happened over the course of the pandemic and in different places?

**Elisabeth Rosenthal:** Well, I think two different things. There are major flaws we've seen. *AP* did a wonderful series, which just won a big award on Friday I have to say for investigation and data work, called “Underfunded and Under Threat,” and it looked at the hollowing out of public health systems in this country post 911, when we turned much of our attention to international terrorism and took money away from things like public health. These health departments were really underresourced and under attack. What we found was that 248 top health officials in 42 states quit during the pandemic because they just didn't have the resources to do the basic things we know need to be done.

I know the CDC is the gold standard of public health in the world and stuff like that, but I think we've discovered that it's really good at the science but not—that doesn't translate into on-the-ground public health. That's one bucket of lessons.

The other bucket, I think for me, was we have again and again trusted the market to give us what we need, and the market has been slow and very expensive to do that. You look at testing, which is my prime example—other countries had... The University of Washington had a test very early on, but we had no way to expand that to a national testing system. It took us way, way, way too long to get tests out there. I know everyone focuses on the reagent at the CDC that was flawed, but it's much bigger than that. It's that, what did they do in South Korea? They went to the private sector and said, we will pay for this test; if you make it, will prebuy it. And it worked! And these companies made tests.

What we did is, we kind of muddled around; we tried to do it through the CDC, then we opened it up to other labs that had good tests—they were perfectly good tests—but then they had to go through procedures. And then when we had a test, I think the most telling thing is Medicare said “We'll pay,” I

think initially, I can't remember the exact number, \$100, and the lab said, "Oh, that's not enough." So we didn't have enough tests.

And then we didn't have enough turnaround time, because we have some degree of "the big labs capture the business" like Labcorp and Quest that know how to go through the FDA hoops. So, even though smaller labs could be doing it with quicker turnaround, Labcorp and Quest, which had contracts with many of the big hospital systems so those systems were required to send their PCR tests to Labcorp and Quest, then we had, you know, these ridiculous 12- to 14-day turnaround times. We failed there in trusting that the market would respond or by relying on the normal market incentives and procedures to get us what we need.

I think we're seeing that again with rapid tests now, which is so distressing to me because, I think it's great that the President allocated a billion dollars to rapid testing; I think it's great that we're now seeing a few more coming on the market. Go on Amazon, you cannot buy them for use at home, and these are the home test kits. And we're all celebrating that this is coming down the pike. Kids who were at University in England at Oxford last Christmas got at-home tests to take home with them so they could test themselves before they came back to university in January. We need a better way to do this, and it's going to require a big structural change in the way we think about public health.

**Risa Lavizzo-Mourey:** So that's a perfect lead into the next question I wanted to ask, because you've in both these comments and other things you've written highlighted some of the ways in which the public health system is wanting, and a lot of it comes down to not having an appropriate surge capacity, which was really obvious in these last few months. I thought we were supposed to have fixed that. We have a panel that's going to deal with it, but what went wrong? Give us your perspective.

**Elisabeth Rosenthal:** I think there are processes in normal times, which were enacted for very good reasons, and we just kind of went through those in not normal times; and they take a long time. Like I said, I moved from New York, from the *New York Times* 5 years ago down to DC. From New York, I was like, "Why does this stuff takes so long? This is an emergency; why can't Congress do this? Why can't the FDA do this? The CDC?" There are deliberative processes that were put in place, often 100 years ago, for really good reasons, but we need a way to kind of go around them when there's an emergency. I think that's one observation.

I think the other thing is the Obama Administration rightly spent, I think, God, billions of public money developing an electronic health record system; yet the CDC was still faxing paper records back and forth, and governors who needed ventilators were—you know, it was like a bazaar—calling different companies, seeing if they could find a ventilator. Then here's the market going again. Even if they could find one, it was a question of, could you pay the price? Are you a rich governor from a rich state that can pay triple the normal price for a ventilator, or can't you? The market is a terrible way to respond to a public health emergency.

Now the one place it worked, and I'm reluctant to say it this way because I think in some respects we overpaid, was Operation Warp Speed, where we said, we are going to buy these vaccines if you make them. And we bought from everyone, and anyone, so we now have excess capacity of vaccine. But we

did get some really good vaccines out of that. That is a model, I would argue, it should be model, it could be a model that didn't require the amount of money spent. I'm somewhat dismayed as someone who is not in the corporate world that saving the country or winning a Nobel Prize isn't enough incentive anymore for some folks to step up to the plate and do what's needed. I think we need to decide what's a reasonable incentive and not be bartering or bargaining when we're in the midst of a public health emergency, which is what we were left to do.

**Risa Lavizzo-Mourey:** Well, of course, this lays bare a bigger set of issues that you've written about quite a lot, which is the ways in which our financing of health care and the incentives that it provides is part of the problem. You've spoken a little bit about that now, but give us a little bit more of your thoughts in this area.

**Elisabeth Rosenthal:** Well, I you know personally, I think we should be asking a lot more of hospitals for the money that the federal government gives them and be more specific about what we want, particularly from not-for-profit hospitals, in the way of community benefit and charity care. What we saw in New York during the early pandemic, which I think was really horrifying and I'd be, because of my work, I'd become the repository of everything people in in health care see that bothers them, is that if you were part of a big hospital system that often had a flagship hospital and satellite hospitals that dealt with the underserved, you got really much, much better care at the flagship hospital and much, much worse care at the community hospital. That, in theory, that hospital is part of its network; it gets great benefits because it sends residents there for training. But it really is a two-, if not more-than-two-tiered system. I think that's really a problem. That's one area where I think. We shouldn't just say we expect community benefit and list what you're doing on a 990 form. We should say, well, what do we actually want you to do? What do we think is real community benefit for our communities, I think some of that is—like the lifeboat example. We don't give cruise ships the option of, do you prefer to upgrade your dining hall or have lifeboats; we say you need to have lifeboats.

**Risa Lavizzo-Mourey:** Exactly. You've talked about some of these inequities, particularly between the community hospital and the mothership, so to speak. The pandemic has laid bare a lot of other inequity that we've long known existed, but what's been different is the real-world and real-time window into these inequities. We're going to talk a fair amount about that over the course of this panel.

What I'd like you to do is set the stage and give us your perspective on some of those inequities, and then we'll turn to maybe what we can do about some of them.

**Elisabeth Rosenthal:** Initially, if you were underserved, underinsured, uninsured—those people in our world today are afraid to interact with the health care system. If you're getting sick with COVID or getting sick with anything, you wait too long because it hasn't served you well for decades now. I do think that comes into vaccine hesitancy as well. In a KFF survey recently the biggest predictor of not getting vaccinated was if you are uninsured, even though the vaccines are free. I think that's because

people who are underinsured or uninsured don't trust our medical system—and they shouldn't because it hasn't served them well. I think there's that aspect. Even when testing, which was a good thing at no cost to patients—that made it widely available—but what we see now is even that's politicized. The places that don't want to know how much COVID is around don't make testing very available. In New York you can get tested—like, you would go into a convenience store and buy a bottle of water, there are vans every few blocks, and it's no cost. I think there's just this great—

Do we need a national health system? That's a political decision; I'm a journalist—if I want to keep working as one I can't say anything about it. But I do think we need national standards at least of what a health system should be, what a public health department should do, and much better communication between them and the Center. Every little public health department was out there doing its thing mightily, and these were often really the unsung heroes because they were underresourced and often being threatened for what they were doing.

Then there's the diverse communities that often got different care. It largely had to do with what hospital you had access to. Did you have a primary care physician? What have your past interactions been with this system? That was all magnified as people got sick, got scared, and decided whether to get vaccinated or tested. It's still going on—that's the thing that shocks me—almost two years later, it's the same story playing out again and again.

**Risa Lavizzo-Mourey:** So last question as we prepare to turn this over to the next panel.

You're a journalist and I understand you're not going to tell what policies might be enacted, or should be enacted, but what are the things that you're going to be watching over the next 6 months to a year that you think would be policy innovations or solutions that could help us be better prepared the next time we're facing something like this? Hopefully it won't be of the magnitude we faced in the last couple of years. What are you going to be watching and reporting on over the next few months?

**Elisabeth Rosenthal:** Well, I think one thing that is—there's the things that I think should of course happen but politically now I understand they never will, or maybe never will, and a true national medical record system where the CDC, and hospitals, and nursing homes, and labs all communicate with each other. One of the problems with nursing homes is many of those patients were plugged into different hospital EHRs, which are siloed; that is a crime. It's a crime that when I got an MRI this year, I had to get a floppy disk from one hospital and take it to another—that shouldn't happen. So that's a simple thing where you can track disease better; you can coordinate better.

I do think I would like to see us, as I have said way before the pandemic, think about the price we pay for things. Make sure that—yes, a reward can be an incentive for new drug development or a test development, but it should be commensurate with the benefit we're getting and it shouldn't be limitless. I really think we need to rethink the FDA processes and our patent processes for much of what we do.

Then I think the big thing is we need to get people plugged into a medical system—so many people aren't, and that includes both diverse, underserved, and relatively well-off patients now. My kids who

are in their 20s, they're like, we can just go to Urgent Care and I'm like, no, you need a primary care doctor. You need a system that you're plugged into and that serves you well, that treats you—you know, not everyone needs a private room and a designer gown, but everyone needs to get good health care. When people talk to me about, is this a right or a privilege, I just always say that's the wrong discussion; it's something you need. It's something you need like water, like heat. If you're 9 months pregnant, you need to deliver; if you have crushing chest pain, you need a place to go that you trust. I think we need a minimum standard of health care for everyone in this country, whether that's through Medicare For All, through expanding Medicaid, through demanding it of our hospital systems, but I think that what the pandemic has shown me is that we need to get people to trust and to be integrated into health care in our country. I think that's why you see in other countries, whether it's a public health system or not. Look at Israel, the European countries who— European countries who got vaccines after us, but their vaccination rates are much higher. I think it's because they trust that their health system, public or private, is doing the right thing for them because that's been their experience; and that's not been our experience for many people.

**Risa Lavizzo-Mourey:** Thank you. You've covered a lot, and given the panels that are going to follow, a lot to jump off on. Thank you again.

With that, I'll turn it back to you Georges for the next panel.

**Georges C. Benjamin:** Thank you, doctors. I appreciate it. That was a great conversation.

Now I'm going to turn it over to our second panel. We have two co-moderators, Dr Rebekah Gee and Dr David Asch. Rebecca, David it's all yours.

**Rebekah Gee:** Georges, it's so great to be with you, and Elisabeth and Risa, thanks for that wonderful panel.

I am now CEO of LSU Healthcare Services but formerly Secretary of Health for Louisiana where I led the Medicaid expansion and had the opportunity to travel the state and see inequity in all of its forms, unfortunately. I had things said to me like, well, we got rid of our Medicaid Day because we didn't like how our waiting room looked with those patients in it, and their children especially, with their McDonald's dipping sauces. As I traveled Louisiana and saw that, I saw the segregation of care, historical systems that were segregated, I became even more emboldened to try to tackle inequities and that's what the nature of this panel is. We're going to talk about what happened in hospitals in particular during COVID. What were the inequitable areas that we all witnessed and how we have addressed them? Where are those bright spots that we have all seen? What are the positive deviations in our health systems we've seen that have really moved forward as a catalyst because of COVID?

I wanted to start off with this wonderful panel. Not to take too much time but to say when I founded the Office of Health Equity at the health department in 2018, it was the first one in the Deep South in a health department; it was an unpopular thing to do. I was told at that time, maybe it wasn't good politics, maybe it wasn't needed. As Risa so well mentioned, COVID has given us a real-world window

into inequities. What's been, I think, a silver lining of COVID is that it's no longer confusing to the majority of people that inequities exist or that they need to be addressed.

As part of our work here at LSU I helped co-chair the Task Force on Disparities in Health Equity that the governor then created. We mentioned that out of this work there were two really tangible suggestions. One, it gets to what something that Elisabeth said, is that community-benefit dollars really need to be held accountable. There needs to be metrics for them; there needs to be a framework for them; we need to figure out how to use them to reduce inequities. Those are a big opportunity post COVID to think about how we improve the health and lives of lower-income Americans and improve community health.

But we also looked at crisis standards of care. As was mentioned by Elisabeth as well, it was shocking to see this eBay-type environment where the highest bidder won and there was complete confusion about who would get lifesaving treatment, who would get lifesaving masks, how would you get a ventilator? It was appalling and things were so confusing and so inequitable. And we continue to see inequitable care; we continue to see, in Alaska most recently, crisis standards of care being unutilized. What we realized was that these crisis standards of care are not being practiced even if they're in place. And so what happens is that people get inequitable access. I think that's another opportunity for us to address going forward. By the way, we should have addressed it by now; we're already way behind the times in terms of how do we respond to the data failures, to the inequities, and to making sure that when someone goes to a hospital they get what they need when they need it.

I'm going to move next to Leo Seoane. Leo is the Senior Vice President and Chief Academic Officer for Ochsner Health. He's also a pulmonary critical care doc.

We were, after New York State and Washington, in Louisiana, the third state to really get hit hard. We had at one point the highest rates of COVID rise in the world, and we were extremely concerned that we would run out of resources. Ochsner really has been at the center of this. Ochsner has led much of the work in terms of providing vaccines, including to our own clinical staff here before we could get them ourselves.

You and your research team found a difference in COVID death rates between individuals who are Black and White in Louisiana. These were explained in part by preexisting disease, which I think are also explained by inequitable access to social and other services. I wanted you, Leo, to talk about the chronic diseases that you identified that have so much to do with poverty. And then what has Ochsner done during the pandemic to fight the drivers of poor health in communities of color? And what do you plan on doing going forward?

It's great to have you with us, Leo.

**Leonardo Seoane:** Thank you, Dr Gee. I appreciate the panel having me talk about our journey and our story. As Dr Gee pointed out, unfortunately—I live in Louisiana, I grew up in Louisiana—and Louisiana traditionally has had one of the worst health outcomes of all 50 states.

Even before the pandemic, Oschner, as an anchor institution in the state, as the largest health care provider in the state of Louisiana with over 40 hospitals and clinics, as a million unique patients we care

for in the state of Louisiana, and also the largest private employer in the state of Louisiana with over 35,000 employees, we had pledged to improve the health of Louisiana from the traditional rankings of 50th to 40th in this decade. That was work that we had started before the pandemic. As Dr Gee pointed out, New Orleans was one of the original epicenters, along with New York and Seattle, because Mardi Gras that took place in February of 2020 became an incredible super spreader event. Our hospital system started admitting 50 patients an evening during that rapid rise.

One of the early observations we made was this was a disproportionate amount of Black patients that were being admitted with COVID-19. That led to our retrospective cohort study where we looked at the first 3,500 patients in the state of Louisiana that tested positive for COVID within the Ochsner Health system. As one of our previous speakers had pointed out, the CDC did not have testing. It was completely inadequate testing, so Ochsner, as a health system, we developed our own testing. We actually had our own PCR lab up and running a week after our first patient was admitted, because we could not rely on the CDC for testing. That allowed us to be the front runners of the testing in the state Louisiana, which allowed us to do this retrospective cohort study.

What we found was that of those first 3,500 patients that tested positive, 70% were Black, although the state of Louisiana's demographics show that 30% of those state's population is Black. We also found that 77% of the patients hospitalized in the first wave were Black. Although not only is just 30% of the population and in Louisiana Black, the patients in our health system that we care for, about 31% of the patients we cared for were Black. Obviously, a disproportionate number there.

When we dug a little deeper to look at what was driving these inequities, it was just a classic example of the social determinants of health and these long-existing health inequities in the state of Louisiana. We found that Blacks disproportionately had higher rates of comorbidities and chronic disease, like hypertension and diabetes and chronic kidney disease, all known well before COVID, just highlighted more in COVID. We found that, along with the Black race being a significant risk factor for being admitted to the hospital, other factors like if you are on public insurance, you had increased risk of being hospitalized; if you lived in lower-socioeconomic areas you had increased risk of being hospitalized; as well as the more traditional ones, which were the comorbidity risks for being hospitalized, including obesity.

What have we done? What has this data done for an anchor institution like Ochsner? Well, I think it has accelerated our efforts to try to address health inequities. Again, we had already launched this Healthy State Initiative to improve the health and wellness of the citizens that we serve, and so this just really kind of became a catalyst and ultra-focused us on health inequities.

So, we have launched the Ochsner Xavier Institute for Health Equity and Research that's in partnership with Xavier University of New Orleans, which is a historically Black university. It has a long history of working in this area, in this field, and a lot of expertise. Through that we've launched the Equitable Vaccine Task Force. I'm proud to say that when we look at the percentage of patients that we as a house system has vaccinated it's 30% are Black and about 5% Hispanic, which now mirrors the population of Louisiana; but that's not by accident. That is because we've done a lot of community engagement and community partnerships and worked through this Equitable Vaccine Task Force.



We had an Equitable Research Task Force to make sure we had equitable representation in our research trials before COVID, but this has, again, reinforced and reinvigorated our work in that area, in our partnership with our communities.

We've launched 13—committed to, we've now started three—committed to starting 13 community clinics in communities. We chose those communities specifically by looking at, where were the patients that were visiting our emergency rooms that did not have a primary care physician? I don't think it would be a surprise to those on this webinar to know that those tended to be in areas of lower socioeconomic communities. Like I said, we have three launched today with a commitment to launch 10 more throughout the state of Louisiana.

Those community clinics are in partnership with the community. We've been on listening tours, and partnering with them, and really sticking to the “nothing about us without us” and making sure that those community clinics are true partnerships.

The last thing I wanted to just point out that we've tried to focus on is really leveraging some of the digital capabilities that we've developed. We've developed digital capabilities to manage chronic diseases like hypertension and diabetes. And we have a Connected MOM [Connected Maternity Online Monitoring] program. There's been good data on this in our Medicare population and in our private sector, so now we've launched this in the Medicaid population with early, really good success to improve health. These are just innovative, novel ways to approach long-standing health-access issues for certain populations.

That's just an example of what our observations, what we've done, and what an integrated health system and, listening to the previous panel, of what an integrated health system on electronic platform can really leverage and bring in a health system that's committed to being an anchor institution. I thank you for your time.

**Rebekah Gee:** Leo, thank you. I think your efforts were impressive and you have been a phenomenal leader, but also, it's been wonderful to see that a doctor understands that income, and housing, and the economic realities of life predict health. You've been involved in a lot of training programs and efforts with Xavier, and I'm very excited to see the outcomes of that. Thanks for joining.

Your study really found a difference, not in quality, because you looked at Ochsner's system, but you found a difference in outcomes for Black and White individuals.

David, you're going to join us for a second and talk about what you found in your study. David, you've been a mentor to me, my professor. You have done phenomenal work that's outlined answers to a number of problems.

This work that you've recently published had some different findings than that of Ochsner's because you focused on differential health systems. You looked at systems that were well-funded and systems that were not. You concluded that perhaps the main reason that Black patients tend to have worse outcomes than White patients is because they go to hospitals that provide worse care for all.

David, can you describe what you found? But also, what solutions would you propose to address these inequities going forward, and the differences in quality of care that lower-income Americans experience from higher-income Americans?

**David Asch:** Sure. Thanks Rebekah. Leo, I really enjoyed your remarks, and I think that your work, really, it has been so seminal in helping to identify the social determinants that have sort of played out here, the social determinants of health.

Last year has really stimulated an immense amount of research on race and on COVID and the connections between the two. Elisabeth Rosenthal's comments about, in some respects, this being the same story also resonates with me. On a very general level, we have learned a ton but there has not been a lot new of a very general format that we've learned. Over the past 20 months we've observed, I think, the same kinds of interactions between race, and health, and health care that we've seen before. But there have, of course, has been a lot more focus on this. Pretty much every scientist has turned his or her attention to COVID, or to race, or both. Of course, the public has been very primed to be receptive to those issues.

In the first few months after the pandemic was declared, as Leo mentioned, we began to see observations about the differential burden of COVID-19 by race—how it's acquired, how it's identified, how it's treated, what happens to individual patients or to communities. Along with some colleagues, as Rebeka noted, some colleagues at the University of Pennsylvania and also the United Health Group, we took a look at a more national sample of what was going on at the level of hospitals. We looked at, I guess examined about 40,000 patients at about 1,000 different hospitals in just the first few months of the pandemic. We looked at 30-day inpatient mortality or referral to hospice, which in the context of COVID is sort of like a mortality equivalent. We were able to look at much more general trends across the nation.

I'll give you just a couple of highlights of what we found. First up, the overall chance of death following inpatient admission, so these are sicker patients, for COVID was around 12% up through June of 2020, so just the first few months of the pandemic. But there was a huge hospital-to-hospital variability in this outcome, even adjusting for many patient characteristics.

If you divide the 1,000 hospitals that we looked at into quintiles, the best-performing hospitals had a mortality rate of around 9% and the worst-performing hospitals had a mortality rate of around 15%. That difference between 9% and 15% is just an absolutely huge difference.

Although pretty much all hospitals got better over time, still your chances of surviving COVID, if you were hospitalized for it, depended considerably on what hospital you went to. Your age and your comorbidities of course mattered, but the hospital that you went to mattered a lot. Hospital mortality wasn't associated with what you might think. It wasn't associated with hospital size or academic affiliation; instead, the single factor that was most associated with higher hospital mortality was a high case rate of COVID in the community. Maybe that's related to hospital strain, which is quite plausible, but the overall message is that the important outcome of mortality varied considerably by community, by hospital, and that outcome seemed to be most associated with what's going on in the county surrounding it. That echoes a lot of the social determinants of health stories that we heard even before

COVID. It's also something that we've seen in cardiovascular disease; it's something we've seen in cancer—it's not unique to COVID; it's not really new. It just came out louder in the context and people could hear it more.

Then we looked, sort of relevant for this panel, we looked at the effects on race. Here we looked at about 45,000 patients at about 1,200 hospitals and again looked at 30-day inpatient mortality. What we found, looking nationally, is that Black patients in general were much less likely to survive than White patients, but the size of that difference depended considerably on what else you were going to adjust for statistically. When you adjust just for age and sex, the White patients had a mortality rate of about 12.8% and the Black patients had a mortality rate of 14.8%—that's 2 percentage points higher.

The higher rate of comorbidities in the Black population explains some of the mortality difference. Leo already mentioned the timing differences; Black patients were much more likely to be admitted in the early days of the pandemic when in fact care was not as good. That certainly contributed to some of the racial disparities we see.

But the factor that contributed the most was, as Rebeka mentioned, was that Black patients tended to be admitted to hospitals with higher mortality rates for all patients regardless of race. Our results are consistent with the conclusion that Black patients did worse largely because they went to worse hospitals. If Black patients were admitted to the same hospitals where the White patients were admitted, in the same distribution, our modeling suggests that they would have had roughly equivalent mortality rates.

We've seen patterns like that way before COVID. This is a very tangled web, but if I had to point my finger at it, which potentially points to some solutions, it would really be the combination of this: First, the way hospitals are financed and funded and resourced depends considerably on the wealth and resources of their surrounding communities. Surrounding wealth affects the payer mix of hospitals and other resources like the education of staff. Second, in this nation we have enormous racial residential segregation, and the mortality differences we see were easy to anticipate because that's pretty much how it always is. People go to hospitals that are close to them. This is the same circumstance we have with public education. Schools are largely funded by property taxes and other correlates of local wealth, and so the schools where people are wealthier are better resourced than the schools where people are poor. This is fundamentally unfair.

Moving money around isn't going to make everything equal, but at least it might relieve some existing barriers to equality—the way we finance health care and the way we support education, frankly.

I know my time is up, so I'm going to conclude with something that I think will tee up what at Edmondo and Madeline will say, which is that hospitals can do something proactively, in the way that Leo mentioned as well. Just because community effects are powerful doesn't mean that hospital leaders are powerless. There are things that they can do; it's not entirely out of their hands.

And so, I'll stop there because I'm eager to hear what Edmondo and Madeline will say but thank you.

**Rebekah Gee:** Thanks, David and to your team at Penn that did such fantastic work.

Next is Edmondo Robinson, who is a physician and the head of Moffitt Cancer Center's digital enterprise and the digital ecosystem. He works on consumer-oriented real-world solutions for clinical practice, research, education, and administrative processes.

Edmondo, you've been a leader in the digital space in so many areas. COVID has led to a renaissance in digital innovation. Have you seen digital innovations worsen disparities? If so, how? And then, what are areas where you think digital innovation and this bold new frontier can help level the playing field—can change some of the things that David just discussed? What are your hopes for digital innovation in creating a better system, a more equitable system?

**Edmondo Robinson:** I have so many hopes. Thanks, Rebekah for teeing that up, David and Leo as well.

What really happened with COVID vis-a-vis digital health is that it really accelerated the implementation of digital tools and technology, probably by years if I'm being honest, probably by years in a in a very short matter of time. Now, why were we taking so long to get these in place? There's a lot of reasons for that, but at the end of the day, it was a pretty significant acceleration.

At Moffitt, we're the only NCI-designated comprehensive cancer center in Florida, and we had to take care of a lot of patients. At the beginning of the pandemic, seeing patients in the clinic just didn't make sense, so we literally had a 7,500% increase in our virtual visits, for example. We basically got everyone working from home; we got everyone who could work from home to work from home, and we did a good chunk of our visits virtually. Some of that's come back down since then, but there's still a higher baseline for both working from home and for the virtual visits. Again, you can make an argument that virtual is not new; we should have been doing virtual visits 5 years ago. But that's where we are now.

We basically have a new baseline in using new digital technology; we have a new baseline around digital health. But what might be the disparities around it? What I'm concerned about, Rebekah, as you teed up that question, is this idea both Leo and David talked about, social determinants of health, but is digital, is a digital divide increasingly a social determinant of health?

You think about access to digital technology—whether it's the device, whether it's broadband access, whatever it might be—you think about health literacy, but do you think about digital health literacy, which is different in how we are addressing, how we are even understanding, measuring, and intervening around that? One thing that's increasingly becoming clear for me as I think about truly implementing some of these digital tools is, really poor design of the tool itself—the software, the hardware—that doesn't really take diversity and equity into account. Whether it's poor design, if it's not inclusive of diverse populations or language, preferences, or whatever it might be, it's not designed for a broad enough population, which again can lead to exacerbating disparities.

The other thing I think that we, I would be remiss if I didn't mention from a digital perspective in terms of disparities is, artificial intelligence machine learning. I think a lot of folks think that we're going to be able to just land on AIML and that's going to be the nirvana. The challenge with AIML is that you're basically training predictive models—it's predictive analysis—you're training these models, and what are the data you're using to train the model? If you're using data that's not from diverse populations, guess what, you're not going to be very predictive in a diverse population. If you're training a model with data that's actually already bias at its core, you've just now codified and built into your infrastructure, your

data and analytics infrastructure, bias without even necessarily knowing it. That's a concern; it's a big concern and I am seeing it increasingly.

I think we have an opportunity, though, to your last part of your question in and tying that up, Rebekah, I think we have an opportunity to be proactive in leveraging digital tools in health care to address disparities as opposed to exacerbating disparities, whether it's measuring digital divide, developing interventions, designing digital tools with equity in mind. Better design is easier, is easier to use, and really could, again, potentially address language barriers, literacy issues. You actually can design around some of those and actually decrease some of the disparities around that.

With AI, I do think, I am cautiously, I will say cautiously optimistic that AIML can help from a bias and inequity perspective. We've got to be very disciplined about how we approach it. We've got to really think about training the model with diverse data. We've got to think about the transparency of the model itself—can't be a black box. When I think about how we approach transparency, you have to think about testing the models for bias, just being proactive about that. And then an ongoing oversight approach to some of these predictive models.

I do think that there's great opportunity here, and if we're proactive and disciplined, I think leveraging digital can really help to decrease bias to really address equity. So again, cautiously optimistic on this front, Rebekah.

**Rebekah Gee:** Thanks, Edmondo. I think as you so well state, you addressed bias by design. What kind of data are you using in your models, but also how do you engage early with communities so that you'd establish that trust, as you have so well done in so many so many aspects of your career, Edmondo. Thank you for sharing.

I know there have been some questions; we're going to address as many as we can at the end. And I've appreciated the wonderful banter in the chat.

Next, we're going to hear from Madeline Bell. She is one of my heroes. Madeline began her career as a pediatric nurse at Children's Hospital in Philadelphia, and now she runs that hospital, one of the top-ranked children's hospitals in the US and best-performing hospitals for kids in the world.

Madeline, you run CHOP, and children in so many ways have been a collateral damage of this pandemic. Early in the pandemic, many had parents who were essential workers and in addition had multi-generational households and lacked proper protection. So many don't have a choice to get vaccinated because we don't have the FDA approval for the children who are younger ages. And then children are often relying on their parents to make those decisions for them, even those who have access now. I would love to hear you talk about how you're seeing disparities play out in your system, and what is CHOP doing to help address disparities in the community and help parents from every background protect their children? Thanks for joining us, Madeline.

**Madeline Bell:** Thanks for having me here.

Because children were not hospitalized at the same level as adults, it allowed us to turn our attention to children in the community, especially underserved children, and one of the things that we recognized really early on is that we needed to give children access to the things that they would be missing because they weren't at school. The first was school lunches, and so the first thing we did was stand up, took the money that we normally use for some of our community programs that needed to be closed down because of the pandemic, and we shifted those resources and those employees to providing school lunches for children in the school district of Philadelphia, which is one of the poorer school districts.

Then we made sure we created testing centers in underserved areas. Like my other colleagues you heard from earlier, we partnered with a program that Comcast stood up to make sure that there was behavioral health, telehealth, psychiatric services for children in underserved areas. Our medical/legal partnership team went into overdrive helping families navigate early on, before some of the protections on rent and housing were put in place.

Once the vaccine was approved, we vaccinated 19,000 Philadelphia school district teachers and daycare workers so that children could get back to school, daycare, and parents could work. I am one of those hospitals that David distinguished as maybe a hospital that has greater resources to say, what could one do as a leader if you were running a hospital that didn't have those resources. I would say the most important service that I think that we provided to the community was knowledge. Our infectious disease physicians, our pediatricians really worked very hard with school districts. Some, I have to say private school districts were the ones that were the noisiest, but we made sure we spent our time in the underserved school districts and daycare centers, helping the daycare centers to stay open. These were daily conversations and I think a really important service. If you don't have the resources to vaccinate 19,000 teachers and daycare workers on using your own resources or doing all the testing in schools, that is something I think that a health system can provide.

And then, even though we went to a minimum wage of \$15 an hour 4 years ago, we certainly have employees that are lower income. Early on in the pandemic we partnered with the YMCA to subsidize daycare for those who didn't have options. They didn't have family members, they didn't have the ability to pay the extra money to put them in a different program, and we created a childcare marketplace to help match people who weren't as busy that might that have been able to help people who needed to be at the bedside and had childcare responsibilities. I think that our goal was trying to ensure that children were back in school learning, getting nutrition, you know, some of the basics throughout the pandemic.

I would say the final thing is that the pandemic has had an outsized impact on children's emotional, behavioral abilities. We are seeing across the country a significant increase of children coming to hospitals with anxiety, depression, and suicidal ideation. And certainly, telehealth has helped that, and partnerships to get telehealth to underserved communities, but it's an area that I am focused on, and I think all the children's hospitals are, especially now, because of what's happened with the pandemic in the last 18 months.

**Rebekah Gee:** Well, thank you so much, Madeline.

I mentioned in the chat we won't have time for questions. We're moving on to a fully-packed schedule. David, Madeline, and Edmondo, and Leo, thank you so much for your leadership, for sharing these incredible stories, and for your dedication to making sure that everyone has the best shot at getting great health care. Thank you for joining us and really appreciated your expertise being shared today.

I think now we're moving back to Georges who will take it from here.

**Georges C. Benjamin:** Hello, everyone. Thank you very much. That was a wonderful conversation. Dr Gee, I appreciate it, you, and your panel.

Now I want to have a conversation with Dr Mandy Cohen who's the North Carolina Department of Health and Human Services Director and, if he gets to join us, Dr Umair Shah, who is from the Washington State Department of Health. He's the Secretary there. I'm not sure he'll be able to join us this morning.

Mandy, can you give us some of your thoughts. Mandy, if you could start; maybe just give us a couple minutes and then let Dr Shah come have some thoughts, and then we'll have a conversation with the two of you.

**Mandy Cohen:** First, good morning, everyone. This has been a great conversation and really important and timely.

I thought I would share a few perspectives from the state level. I've led the COVID response in North Carolina this whole time, and it's been a hard couple of years, and we are still learning lessons from it. I'll try to summarize.

I think the three places that I would leave you with in terms of what are the things I really think we need to do better as we think forward. You've heard it a few times, the first is in our ability to understand what's happening in the world, and that needs data. I will say going into this we were completely blind in data here in North Carolina. I didn't know what was happening. Obviously, the limited testing was an issue, but even when testing did start, we did not have the tools in order to even know what testing was happening, who was getting tested. We've come a long, long, long way from that scary point with no visibility. Having the data systems from the beginning that would give us insight into this. You can't solve inequity issues unless you can see them and measure them, so the first thing for me is about making sure that we have the visibility to these issues that that we need. I will say I think North Carolina has been very successful because we were able to create the data systems quickly and we had the cooperation of many, many different partners.

I want to very early on, give a shout out to our hospital systems in North Carolina. We worked super collaboratively through the last 2 years and I don't think we could have been successful at responding to this. Every hospital—private, public, small, large, rural, urban—everyone really did play a role here, and I was very grateful for their support and how they came to support the public health departments. If we had laid this at the feet of public health alone, it wouldn't, it was not possible. We overwhelmed public health within minutes of this pandemic. So, I was grateful to them.

Then they did things like get to the table with us and, frankly, give us resources and talent to help us build the data systems that we needed to get the visibility we needed. I think data is really, really important. I will say even at this time, I do not have the data I need in terms of understanding really where things are changing moment to moment with this pandemic. Almost 2 years in, and we still feel like we have some big blind spots.

The second I would mention is about what I call “last mile execution.” For me, this goes back to who's in charge. What is the rule? Who is in charge of all of this, particularly when you're in a crisis? Very early on, you know, they didn't feel like anyone was in charge, and so we at the state level said, okay, we are going to take the reins here. Whether it was we're going to run down and buy whatever ventilators we have, or we're going to work with LabCorp that actually is housed here in North Carolina and we're going to partner deeply with them on testing. We are going to run this at the state level. We were very lucky, I think, in that we were structured in a way where I'm not just the Public Health Director, and I think that was important, I'm the Secretary of Health and Human Services, which means I have public health, but I also have Medicaid, mental health, economic services. By having that broad reach across many parts of Health and Human Services, that really benefited us. The thing that did not benefit us was our completely decentralized system, or both the way our health care system is incredibly fractured and siloed and the fact that we have 83 local health departments in a state of 10 million people—that is way too many.

And while we had good coordination, I will not say that I think it was optimal in terms of how we distributed resources and how we responded to this pandemic. We, for example, matured to a place where we could have ZIP Code-level race and ethnicity data so we knew where we wanted to target testing or vaccines, but not everyone wanted to always play nice in the sandbox, to say, that I wanted to target resources in the same way that we wanted to.

That, I think, slowed us down in being able to use our race and ethnicity data to respond at certain times. I think, largely we were able to make a lot of strides, but I think governance in terms of executing on that last mile... Are you going to put a testing center in this ZIP Code or that? Are you going to go to the local church, or are you going to stay at the public health department and have people come to you? I think it's really, really important to think through. I know we all have an instinct to say, absolutely, the public health system is underfunded, but I think we really have to examine who do we want to execute on the things that to provide response as we go forward. Make sure that we are resourcing those folks, and that when we have a crisis, that those resources can be deployed in a coordinated way. I really don't think that was possible.

The last point I'll make is about communication and trust. It is not lack of vaccines, it is not lack of data that is keeping us at a lower vaccine rate here in North Carolina; it is trust. Different communities have distrust for different reasons.

Here in North Carolina, I'm really proud that our vaccine rates in our African American community is higher than our White community. And that took a lot of focused effort, and time, and making sure that we're partnering deeply, and building trust with our Black African American community, with our Latino community. I would say our Latino community is well outpacing both the African American and White communities here in North Carolina in terms of vaccination. That was deep amounts of engagement and trust over this pandemic to get there. But we see distrust in all different parts of our communities for different reasons. I don't have all the answers for that, but I think we have a lot of work to do both to



connect people to a health system that can deliver for them in and out of crisis. But I think it's also, how do we build up trust in science, in the media, in government institutions—it's all across the board. All of that that—that's going to be important as we go forward.

I'll stop there. Thank you, Georges.

**Georges C. Benjamin:** Thank you.

Secretary Shah.

**Umair A. Shah:** Great, thank you. Thank you, Georges. It's always great to be a part of something with you, and thank you, Mandy, for the wonderful comments.

It's great to be here this morning, and I wish I was going prior to Mandy because I think she actually highlighted a quite significant number of things that I was going to bring into the mix. But let me provide some perspective.

Just as background, I am new to the state of Washington. For those of you who may know me, I was previously the Executive Director of Local Health Authority at Harris County Public Health, which was the county jurisdiction over Houston and third-largest county in the US. After 25 years in Texas, I made this transition in December of 2020 when Governor Inslee asked me to be the Secretary of Health for the great state of Washington. I arrived just at the week that vaccines arrived in the state of Washington. So, I will tell you, it was an incredibly challenging time to transition from what is called a so-called red state to a blue state, from local to state, and also from well across from hurricanes and heat-humidity to wet weather and mountains and all sorts of other things.

The approach that I brought was very similar to what I had in Harris County were the three cornerstone values of equity, innovation, and engagement. Almost everything we've been doing has been around these three principles of equity, innovation, and engagement. I think Mandy just really highlighted a lot of that in terms of both equity, innovation, but also have why engagement is so critical.

I think one thing that we have to be thinking about. When we think of Washington, we always think about Seattle; we always think about King County; we always think about a community that actually, by the way, is one of the most pro-vaccine. In fact, it's one of the most vaccinated communities in the nation. And yet, when you go right, actually just a little bit outside the jurisdictional lines of King County or you go over the mountains into east or central Washington where Spokane and Walla Walla and Yakima, you start to see this incredible divide of how people approach the world.

This has been a real challenge when, as you just heard about trust, and you hear about how the public sector needs to work together to really ensure that we have the data systems, we have the right data that we're looking at, but certainly in communications and building the trust, the trusted messenger is not just the right message as we move forward.

I do think there is this real challenge that we have in Washington. We're closing in on 80% of our population has received at least—eligible population—has received at least one dose of vaccine, and

we're well over 70% of our eligible population that is fully vaccinated. it's represents 9.5 million doses. That does not happen without an incredible amount of effort, energy, and true partnership.

We do believe very strongly that it is very much about harnessing two things. One is this private sector partnership, which I do want to focus on for just a moment. Very early on, we brought together what we call the VACCS Center which was VACCS, Vaccine Action Command and Control System Center. The VACCS Center was public/private partnership, it was nationally recognized. What we realized is that the private sector was very interested in helping with the vaccine process, but we did not have all the, what's the word, input opportunities. We did not really have a good way to get the private sector plugged into what we were trying to do, so we created the VACCS Center.

The VACCS Center then brought the incredible leadership, as you can imagine, of the Pacific Northwest. We're talking the Costcos, and the Starbucks, and the Amazons, and the Googles, and all sorts of other folks that came together. It was really about, when we had, for example, a long call center line, a queue, Amazon helped us work through what those data systems needed to be to get a digital response so we could get those callers answered. When we had a mass vaccination site setup for the mass vaccination sites across Washington, Starbucks showed up and they said, well if we can get a latte in your hands 20% or 30% more efficiently, guess what, we can also help you get your mass vaccination sites 20% to 30% more effective, more efficient; and they did. Those are two examples of how we have really partnered with the private sector. The other, of course, is Microsoft. Microsoft has been with us from day 1 with data systems and analytics and really helping us with all sorts of other things.

As we moved along we realized it wasn't just the VACCS Center, but it was also what I call the VICS, the VICS, the Vaccine Implementation Collaborative, which is very much about dialogue with communities that have been disproportionately impacted by COVID-19 to really make sure no matter who you were, where you live, where you are from, and what you look like in the state of Washington, you had access to vaccines. And that was that equity-driven community conversations to bring that element of voice to what the private sector was bringing. It really has allowed us to, and what I would say, is to be successful on the vaccine front. But we have a lot of challenges that come ahead of us here. As you know, with the former Institute of Medicine, National Academy of Medicine's crisis standards of care, the trigger was pulled in Idaho, the trigger was pulled in Alaska. So here we are in Washington right at—again, thinking about Spokane, which is right across the border from Idaho—you had a lot of pressure from our health care institutions saying, we need a full crisis standards of care in the state of Washington.

Fortunately, I was on the IOM committee back in 2009 that developed those standards and said, "Hey guys, we're not there." Just this week we've issued protocols for crisis standards of care. But I will tell you, the number one tenant of those protocols is to never have to implement them in the first place. We're doing everything we can, even the middle of a Delta surge, to really support our health care system and work very closely with our health care system to make sure it's a public and public health and health care system partnership.

The last thing that I would say is that we need to be really thinking about the investment in public health. I know you've heard that over the last few sessions. This underinvestment over the decades has really come to fruition in the midst of a pandemic that has unearthed all of those inequities, unearthed all those antiquated data systems, unearthed those lack of partnerships, unearthed all the challenges when it comes to the investment in our workforce. We have to be thinking what I say is that it should not be fighting this pandemic is transactional in nature—one and done; you fought it, you beat it, and

you're done, and you move on, and let's go to the next shiny object or the next headline—but it should be transformational. We really need to be thinking about how those investments for the future, today starting, that are sustainable, strategic, and certainly scalable are really going to allow us to build those systems so that we can transform health; so, it's not just beating COVID, but it's utilizing COVID as an opportunity for the future.

With that, thank you so much, and I hope this is helpful. Georges, I'll turn it back.

**Georges C. Benjamin:** Yeah well, thank you, thank you both. I'm going to bring the two of you up, and let's talk about where we go from here.

Umair, you talked a lot about the importance of trying to build the public health system, and I would argue that we actually know what we need to build the question is how do we keep the emphasis on this and actually try to build it.

Amanda, you talked about the data systems. Earlier, one of the panelists on another panel talked about the fair amount of money that was put into the data systems, reminding everyone that it was all put into the health care side of the data system; it was not put into the public health side of the data system.

So, what do we need to do? Let's start with data. I want to talk about leadership data testing and then that old familiar contact-tracing, because that's a manpower workforce issue that really hasn't been talked about a lot.

What do you want to do about leadership? In the future, how do we do this? This is not going to be the last pandemic. In fact, this is not going to be the last health threat that interests the community. Before we were doing COVID, we were doing opioids; before opioids we were doing scattered measles outbreaks. So, what do we do? Leadership.

**Mandy Cohen:** Maybe, let me start with, I think there are a couple of things before you even get to the probably billions of dollars that are needed in terms of infrastructure investments, I think there's some easy—nothing is ever easy, so let me say that—but I think there are things we could do before we get to, even like, what do we build next?

I think there's a couple things, particularly because this conversation has been focused on equity. I want to see leadership from the federal level and, frankly, from every state level, to say every program that we have from now on, you're going to get money from the federal government, from the state government, from grants, but you got to collect race and ethnicity data and you got to make that data transparent. You don't need to build a new system to do that; you have to say, you have to ask all the time.

You can always allow the patient, the consumer, whomever to say I'm not comfortable sharing and have that as an option, but, for example in North Carolina, you cannot log a vaccine in North Carolina unless you ask about race and ethnicity data. If the patient wants to not answer, totally fine. Again, it doesn't keep them from getting the vaccine, but you can do it. there's like will thing on the equity data that I think we need to get through. That's one.

Second is the boring non-sexy thing around standards. Even before we build a system, let's all just decide on what the definition is of someone being hospitalized with COVID and what their vaccination status is. That's a question I have right now that my team has answered for North Carolina. I don't know what Missouri is and Washington State, and so I don't know if we're even comparing apples to apples when we're doing these things. I think there's some unsexy standardization definitional things that we can do as well as set standards for how we want to make this data interoperable that folks have been working on for a long time. So those are the things.

And then, there are smarter people on this, including, I know I saw John Lumpkin from Blue Cross of North Carolina Foundation on here who's done a ton of work on electronic case records and how we start to think about building a system that can capture actual clinical data that is going to be relevant for our ability to track and detect the next pandemic before it becomes.

**Georges C. Benjamin:** Good point, good point.

One of the questions in the chat is someone brought up the issue of trying to standardize a better understanding of crisis standards of care. Again, that doesn't cost any money; that's about simply creating some general understanding, so people don't get overtreated or undertreated or, frankly, not treated at all.

**Umair A. Shah:** Yeah, absolutely. My colleagues Dan Hanfling and John Hick have been just incredible when it comes to crisis standards of care work, as well as James Hodge at Arizona State University from the legal side.

I will tell you that the one thing that was really, that the pressure that we had received, was that hospitals, or institutions, or localities, or communities, or regions wanted to go it alone. And what they wanted to do was to pull the trigger on crisis standards of care of themselves. I made it very clear that we would go as a state, which is a principle that we've had since 2012 and 2015 in the state of Washington; I'm so proud of the work that's been done here. But, in the midst of crisis, people sort of forget that work. And so, even though, theoretically, that's what we all agreed to, when you're in the middle of a crisis and things are really bad in a health care system, a hospital might say, look, we're about to pull crisis standards of care. What we said is be very careful of nomenclature; that crisis standards of care is very different than providing care in the midst of a crisis. That is not the same thing. So, let's not get to that other aspect of pulling the trigger, for example, rationing a ventilator because you don't have enough because of life-saving or life-threatening therapeutics that are really in the midst.

That was a real challenge, and that, Georges, I think gets back to leadership because ultimately, I think I could have seen—obviously I had some experience because of the Academies about crisis standards of care—but I could have seen a situation where people would have said, well, the East side of the state, the rural side of the state, the site that doesn't have as many of those resources, perhaps we can pull those triggers. No, no, we said; they are going to be pulled together as a statewide system. That I think gets to that you have to be systematic about the approach to anything that happens, but we should also be sharing across the state.

One of the very neat things around crisis standards of care. Back in 2009 with the letter report to the Obama Administration and Nicki Lurie Nikki Lori and all sorts of other players at that time, and then certainly in 2012, and then later on in 2013 with the subsequent reports, was that they were sharing what was going to be happening across the system. That sharing has to be reenergized because we need to have opportunities where Mandy is doing something and I can learn from it, I'm doing something and Mandy can learn from it. APHA does an incredible job with that, so does NAACHO by the way from a local standpoint.

But we have to have an opportunity to how do we bring those together. Georges, when APHA convenes people as you do, and you're doing coming up, that is an opportunity like that and you've done a fantastic job doing that. We need to see more of that, because we're in the middle of a crisis, when everybody has their heads down.

**Georges C. Benjamin:** Oh, absolutely, absolutely.

Thank you. Mandy talked about data, and then there's the ability to actually capture that data so you have an IT system that actually works. And yes, we had health departments faxing things around because they're mode of communication was fax machines. Right after 9/11, we had health departments that couldn't share information because they had to first get off of rotary telephones. We really, quite frankly, haven't—we're getting off of rotary telephones I believe in most places in the country—but we've not really done that, you know, create the data infrastructure that someone who is trying to get a car, Uber, or get some food at 2 o'clock in the morning can get, or as somebody said earlier, getting their radiology information from one hospital to another. How do we build that system, and how do we convince people that that's important? You would think that we'd know that after this this pandemic, but I'm not so sure.

**Mandy Cohen:** Well, I do want to bring up the idea that the technology exists. We know how to build the pipes, we know how to share—it's not a "can we do this." But I will remind you that it's not just the cost of the implementation of the system, it is you actually have to change the way in which you do business when you have a new way of sharing data. That is scary to a lot of people. I will say that there's been a lot of resistance to changing the way in which we all do our work. I think we need to address the culture piece as well as that we really need to rethink we're going to be doing our work differently with an underlying, different way of capturing data.

I think we all want to go there, but then when the reality hits of, "ooh, this is hard and I actually have to retrain on this." Anyone who's been through an EHR implementation in their health system will know it's dramatic, traumatic for folks. These systems feel out of date, but the moment you put them in because things are changing so much. How do we also make sure that whatever we're building can be modular, flexible, built for the future.

Look, I will share honestly. I run a number of health care facilities in the state of North Carolina, state-run psychiatric hospitals. We do not have electronic health records in those hospitals, so talk about... that's just even the health system getting to our public health system. The reason we haven't done it is, one, funding, so I think that's number one, but second is also the talent that is needed to implement

these systems on the ground. Once we buy a thing, do we have the talent needed to do it? That's been a hard thing to manage at the state level with the kind of resources we have.

**Georges C. Benjamin:** Yeah, and then the training on top of that. Clearly one of the things we have to think about is how do we build these systems sustainable in the future, because this yo-yo funding where if something bad happens they throw a lot of money at it, and then the problem goes away, the money goes away, the infrastructure and the capacity goes away; and then we're all mad and concerned about what had happened. We know it's happened; every 10 years or so it happens. Every time we have one of these.

**Umair A. Shah:** Georges, I think what I would also say is that one of the challenges we have is really these barriers that are at all levels, whether their barriers that are cultural, or linguistic, or technology-driven, or social elements such as housing or transportation. We absolutely need to make sure that the very systems that are capturing all the health and the health care and public health data are also capturing those social data systems and social elements that come into the mix. It's not... Unfortunately, in this country we've de-linked health and social; and it's bringing health and social back into the system.

And then, if you talk to many of our communities, for example, state of Washington has 29 tribal nations, and they are very concerned about this aggregation of data. Then you look at our Latino communities, and you look at communities across the spectrum, they're very concerned that our data systems across the nation are not robust enough to really allow the careful placement of people in appropriate categories as we're capturing the very data that we need to capture to be able to have people see themselves in the data. We have to have a real community-rooted approach to this that's not just about us top-down putting these data systems together, but that really has an inclusive engagement approach.

The very communities that are disproportionately impacted by this pandemic are also the communities, one, that we don't have good ability to count and have data systems, because our systems are not robust enough. And guess what, they're also the ones that are the targets, and I use that very deliberately, targets of the misinformation and the disinformation. So, here you have communities that are being targeted with that negative information and can't always get what is the right, credible source of information, and at the same time they don't see themselves in the data that are being captured. It becomes a conundrum. We've got to really work through all of those elements as well.

**Georges C. Benjamin:** Drs Shah and Cohen, listen, thank you very much. That was a very, very important conversation. I wish we had all day to talk about this because we, as you know, we could really, really talk about this all day; but we do have to move on. Thank you very, very much.

With that, I'm going to bring on another one of our good friends and colleagues, Dr Sandro Galea. Dr Galea is the Dean of the Boston University School of Public Health. He's going to introduce a very, very important conversation.

Sandro.

**Sandro Galea:** Thank you, Georges, good afternoon. Good afternoon, everybody.

I had the privilege of talking with the CMS administrator, Chiquita Brooks-LaSure Administrator Brooks-LaSure could not make it with us this morning so we taped the conversation about a week ago, and I believe we're going to run the tape.

Now this requires some technical help that's beyond me.

[Move to taped video]

**Sandro Galea:** I'm Sandro Galea. I'm the Dean of the School of Public Health at Boston University, and I'm here with Chiquita Brooks-LaSure, Administrator for the Centers for Medicare and Medicaid Services where she also oversees Medicare, Medicaid, Children's Health Insurance Program (CHIP), and the Healthcare.gov health insurance marketplace.

Administrator Brooks-LaSure, welcome. Thanks for joining.

**Chiquita Brooks-LaSure:** Thank you so much for having me.

**Sandro Galea:** I was wondering, before we get into some specific questions, if you can talk a little bit about the big picture. By big picture, I mean around issues of health equity.

You entered this position, obviously, at a time of enormous turmoil with COVID, everything else in the world around us. How do you see health equity informing what you and your team have started to do and what you will be doing over the coming years?

**Chiquita Brooks-LaSure:** I really appreciate the question about how are we incorporating health equity in our work, and as you alluded to, I think we're in an incredible moment in our country's history of health and certainly, for the health care world. There is a new appreciation for how much our health disparities and health inequities affect not only the people who are affected by disparities but also our country as a whole. We've really seen that over the last year-and-a-half with the COVID pandemic just how systemic some of these issues are and how much they are ingrained in our health care system.

I have the privilege of being at the head of CMS, which has responsibility for over 140 million lives in this country in terms of their health care coverage. We have an incredible role through those programs to advance policies and operational decisions that can affect health equity. One of the things that we've done, certainly the President has really described the role of the government around equity as being a whole-of-government approach. It is a priority at HHS and at CMS, where we've outlined six pillars, and health equity is the first one.

The way we are approaching it is asking how does this policy, operational issue—everything that comes across our desk—how does this affect, how does it advance, how does it harm health equity and what can we do to address it? I would say just by the action of starting to put a spotlight on all of our

decisions, whether it's on the Medicare program, whether it's thinking about what kind of demonstrations we're doing, it is really opening up eyes and opportunities to think differently.

One of the first places, of course, is collecting data and reporting on that data. Over the last couple of months, we've started to report more and more information about how people are enrolling and faring under the different programs, but really trying to make sure that as we push forward with new efforts, whether it's enrolling people—which has been a huge focus this year of enrolling through Medicaid, CHIP, in the special enrollment periods—of making sure we're reaching underserved populations, putting a particular spotlight on that. We've started to outline our vision on the Innovation Center and what types of proposals we are going to, and kind of demonstrations we're interested in, looking forward to, and promoting—and equity will be at the Center of our focus.

**Sandro Galea:** Can you talk a little bit about how taking a health equity lens might shift your legislative priorities in terms of, how would your relations priorities be formed because of a health equity lens versus how would they not be if one weren't wearing that lens.

**Chiquita Brooks-LaSure:** I would say it's multifold. You asked about a legislation, and the President has outlined in his Build Back Better agenda a robust focus. I would say many of the pieces that are health care—related, home- and community-based services, of really making sure that people can get care in the most appropriate setting.

There are huge disparities in where, in the Medicare-Medicaid marketplace to some extent in terms of where people get care—so behavioral health—and we see huge disparities by racial lines in terms of who ends up being institutionalized, for example. That's just one example of really focusing on making sure that people are getting care in the appropriate setting.

I can't think of anything more of a bigger disparity than the coverage gap, people who are in states who have not expanded the Medicaid program. So, the American Rescue Plan has put additional dollars on the table for states to come in and receive additional federal funding to cover the gap. I was so fortunate to be able to celebrate with people from Missouri on their Medicaid expansion, was in Oklahoma on the eve of and the dawn of their expansion, and hoping that more states take up those additional dollars and that, of course, hoping that if States decide not to expand, that Congress decides to cover the coverage gap and make sure that people all across the country have access to health insurance coverage.

**Sandro Galea:** Let me get to specifics. Thank you. I suspect that there probably is no greater health policy inequity at the moment than that caused by the failure of the dozen or so states to implement ACA Medicaid expansion. I know that legislation to provide a permanent pathway to coverage is part of the pending Human Infrastructure Bill.

I was wondering if you can comment a little bit about that and also about plans the administration might have to try to engage states that continue to reject the 2010 expansion.



**Chiquita Brooks-LaSure:** Well, we continue to, in terms of our role at CMS, we will be ready to implement whatever legislation that Congress passes. We are very focused on following the Congressional discussions and we will be ready, if they do in fact cover the coverage gap and have a federal program, we will implement that.

On the state side, we are constantly in conversations with states about their Medicaid programs. For those states that run their own Marketplaces, strongly urge all states who have not yet expanded to do so, and we have an open door in terms of our dialogue encouraging states to come in.

**Sandro Galea:** So, let's talk about specific states and specific communities some more, because I think one of the lessons from the pandemic is that some health care systems in some communities are thriving while others seem to be on life support. I was wondering if you had any comments on that, about how we, I mean, how can CMS help deploy its resources? How can CMS jump in to help rebalance some of these fundamental systemic inequities?

**Chiquita Brooks-LaSure:** I would say that some of our authority comes from our ability to implement demonstrations and waivers, certainly at the state level. Sometimes states come in with proposals and really thinking about making sure that we are supporting the safety-net providers. I see that as a focus for the Innovation Center, so working with Liz Fowler who's the head of that Center. As we think about the demonstrations, the authority to do something different, we are really focused on making sure that providers in underserved areas are really included as we think about, especially as we move to more value-based care, we need to make sure that the underserved, the providers that serve the underserved—so not just the people but also the providers—are able to take advantage of some of these opportunities. Sometimes it may be that maybe they need more technical assistance or help in terms of making sure they're taking advantage of some of the flexibilities that CMS can offer. That's one particular area.

I would say another area of focus is really around Medicare more generally. A lot of our authority comes directly from Congress, and Congress sets those rules, but to the extent that we have administrative flexibility in terms of really thinking about making sure that the underserved providers are getting the access, whether it's in rural areas or in urban areas where those particular providers are serving the underserved.

**Sandro Galea:** Let me build on that for a second. The scope of programs that you administer is really extraordinary, and in some respects, you have programs that are both serving as insurance, insurers of more than 150 million kids and adults, but also you're driving purchases, purchasers of health care. I was wondering if you could comment about the levers that are particular to those two functions, both as an insurer and driving as a purchaser of health care, and how you can push those levers towards improving health and narrowing health gaps.

**Chiquita Brooks-LaSure:** Such an important question.

I would say we have multiple levers. One, many of the people that are served under programs operating that CMS oversees are in health plans. Whether it's Medicare Advantage, whether it's in Medicaid Managed Care, whether it's in Marketplace coverage, health plans are a huge partner in terms of the lives that are covered. One piece of that is certainly measuring what we care about. So, our quality measures—measuring the things that that we value as a society.

That is, again, one place where we are very focused on making sure we're collecting data so we can inform whether we start to pay differently, whether we see disparities that need to be addressed, whether it's through our different reporting mechanisms or whether it's through our efforts to pay for performance and things along those lines.

And the same on the fee-for-service side. I would say in Medicare in this sense of making sure, and one of our big focuses is on the quality of our reporting, whether it's around vaccinations with COVID-19, whether it's on maternal mortality and maternal health, whether it's on behavioral health—really making sure that we are collecting data and measuring whether there need to be adjustments. And there, we're much more directly measuring with providers what's happening to the populations that are being served.

**Sandro Galea:** Let's talk for a second about the social determinants of health, broadly speaking, that bucket of social terms of health. It's a term that I don't love, but nonetheless it's, we already know what we mean.

A lot of the health equity conversation is around social determinants of health, is around the education and housing and all that. Can you comment a little bit about how CMS is intersecting with a social determinants of health agenda and where you see that going in the coming years?

**Chiquita Brooks-LaSure:** Yes, I would say that there's so much more. There's always been. There's been some discussion about the need to integrate the bigger picture of what is happening with people on the ground when thinking about how to address health care. Part of that, I would say, really comes from us working really closely with our partners, certainly the other agencies at CMS, sorry, at HHS, as well as in the rest of the Administration.

One piece of that is, I would say, really making sure that these various programs are complimentary, and I'll give you an example in just a second. Then more broadly, there is some flexibility within the various programs for there to be some, within some level for Medicaid and for the Medicare program, particularly through Medicare Advantage, to cover some of these, what are these additional social determinants of health—type activities and costs. To draw out a specific example around maternal health, there is flexibility certainly within. This is an area of particular focus for me, for the agency, and for the government as a whole, to really address those issues. The Medicaid program pays for a number of births, in some states 50% of the births are covered by the Medicaid program, and so a huge payer in terms of trying to address those issues. Well, there are also other programs that contribute, like states get grants for maternal health, and can we the government, can we at the federal level, can we at the

state level do more integration of those types of programs to make sure that they are complimentary? For example, doulas and other types of care really made a huge difference in maternal health outcomes and outcomes for children. Can they be better coordinated as those programs are being operated?

**Sandro Galea:** Thank you. Just to add layers of complexity then, let's move now to public health.

Obviously, the moment has taught us many things, but one of the things it has taught is the need to make sure that the public health system and the health delivery system, to call it that, are integrated. Can you just talk a bit about where you see CMS head in that regard, and what do you think is feasibly done to better integrate health care delivery, health care financing, and public health and public health function?

**Chiquita Brooks-LaSure:** This is such an important issue. I think, again, over the last year or so we've had just a different understanding of the impact of these gaps in our health care. One of the things we've all made as a priority in the Administration is thinking about how to better integrate, and some of it is around topic like maternal health, like behavioral health. It's also really trying to end, certainly I should say and around COVID, so making sure that our efforts in the Administration on the CDC and the FDA side are, of course, integrated with what's happening at HRSA, and SAMHSA, and CMS.

I would say part of that also was about learning to speak the same language. We've brought on, in our own team, more expertise in the public health world to really help us at CMS to look for ways that we can better link the financing world, as I often call it, with the public health world.

**Sandro Galea:** Can we, we have only a few minutes left, so I want to ask aspirational for a second.

Can you talk about what will it take for us to head in the right direction on health equity? Meaning, what will it take for us to minimize health gaps as much as possible as a country? Are we, can we get there?

**Chiquita Brooks-LaSure:** Well, I think that we, the only choice is to work towards our goal, and we will need to do that. When we say, how do we get to health equity, there are so many issues that are bigger than the role that we have, I have at CMS.

But we have some pretty powerful levers. We as a health care industry have really powerful levers together if we're moving in the same direction. We didn't even define health equity and it's one of these things where there is a lot of talk about what we need to do in health equity, but do we have a shared perspective on what that means? I think part of it is really getting the health care world to really have a shared vision of where we need to be.

Where I would start was saying that we need to have people in health care coverage. It is not, it is a necessary but not sufficient part of health equity. It's really difficult to talk about truly addressing the differences in care and treatment without really making sure that we have people covered. We have, as you know, a significant gap there, which hopefully will be closed; I call it the unfinished work of the ACA,

the Affordable Care Act. That, to me, is just a baseline part of what we have to do to get to health equity.

Again, that's not enough, so why is a Black woman, in studies, five times more likely to have a bad maternal outcome than a White woman without a high school degree? That's not about coverage; that's not about income, even. That is something different. That is what we need to address for us to truly address health equity.

That is going to take really taking a hard look at what kinds of interventions are happening. Why are the ones that we know to be effective, why are they not happening for certain populations? Are we addressing these underlying conditions?

So, it's an ambitious agenda, but one that I think that we all must commit ourselves to.

**Sandro Galea:** The last question then.

What would you like a forward-looking CMS to be like? What would you like to leave when you when you've made the mark that you want to make on CMS?

**Chiquita Brooks-LaSure:** I would like to leave CMS with the coverage gap filled, with us at record enrollment in all of the programs, and that CMS will be, would be a place where the 3 M's, as I like to say, are integrated; where there is a common vision and even if it looks different in the various programs, that we are moving in a direction across all of them to promote care for people in a way that addresses health equity.

**Sandro Galea:** It seems like a worthwhile vision, indeed. Thank you, Administrator Brooks-LaSure. Thank you for talking and thank you for everything you're doing.

**Chiquita Brooks-LaSure:** Thank you. Have a good rest of your day.

**Sandro Galea:** You, too.

[End taped interview]

**Georges C. Benjamin:** Hi everyone. Let me bring to our phase for, a kind of a summary discussion.

Our Vice Chair, Dr Neil Powe who is at the University of California, San Francisco.

Dr Powe.

**Neil R. Powe:** Thank you, Dr Benjamin. This was a wonderful session. I want to thank our moderators and panelists for their wonderful insights. I'll just summarize a few of the themes that we heard and then perhaps our panelists will answer some additional questions that people put in the chat.

We started out hearing from Elisabeth about the failures and the successes of not only our health care system, but our public health system and what the lessons we might learn from that might be.

Then we you heard from Leo about the atrocious health care disparities that were observed in Louisiana, how the COVID epidemic disproportionately affected African Americans, and how the social determinants of health were really important. He pointed to the, how, though, this has accelerated the efforts to address health inequities in a number of ways in the Ochsner system.

And then we heard from David Asch. David really hammered home the importance of the social determinants of health and that, why is, why are we telling the same old story that we have been talking about for years, and urging us to think about the communities, and the way that our communities are structured, and how that affects the health care system.

We heard from Edmondo about the huge digital divide that not only is the devices but also broadband access, digital literacy, and how we might address or use tools, particularly artificial intelligence, to address them.

And then Madeline told us about the impact of COVID on youth, our children in the community and how CHOP reached out into communities to address things like nutrition, behavioral health, and knowledge support, as she called it.

Then we heard from Mandy about the data vacuum and how that was such a critical piece in North Carolina. How leadership really needs to step in to have agreement about where to put resources and working with the community to deploy those resources.

We heard from Umair about equity in innovation. Part of that is how our community trusts health care and public health professionals. How working in partnership with industry, that great things were achieved in Washington State.

And then, this last interview that Sandro did with Administrator LaSure really addressed very important ways to look forward and try to get hands around health equity. It was wonderful to hear Administrator LaSure say that health equity is one of the six pillars and that they think about it whenever they are thinking about any new or reform of any existing policies. We heard, I think, at the end her recognition of the linkages between public health and health care financing and how that has to be integrated. While CMS can't do it all alone, they're very cognizant of the levers they can put in place to catalyze reform.

So that was a brief summary of our wonderful session. What I think I will do is, I asked some questions that came up in the chat, and maybe address them to groups of people.

We had a question about the conundrum regarding setting standards, say at the state level, and then pulling along the local county systems. How does one deal with that vision in states where public health

perspectives are made secondary to state-level politics? Maybe our health officials could opine about that question.

Anyone?

**Umair A. Shah:** This is a Umair of Washington. Thank you for that, and I'll just maybe make a couple of quick comments and say that, you know, this is where public health is inherently political. I think the challenge that we've had is this real, you know, while we as, let's say practitioners, health care providers, scientists, however you want to label, we oftentimes feel that that should ride the day, that should rule the day. We have found during this pandemic that has been far from that. It has really been about all those other skills that oftentimes we don't learn in our training, that we're not as comfortable with engaging in. That sometimes social media is a very unfortunate place to be, but also a necessary place to be. I think it's really an opportunity for us to be thinking about what do we need to even be teaching us skills for the next generation of leaders that are coming through the system?

I certainly know in medical school and residency, and even during my MPH, and I thought they were all great training grounds, that I didn't learn those skills. Yet, those are the actual skills that really come into play in the midst of a pandemic when, or beyond, when people—and I say pandemic and beyond, because let's look at climate change. It's a very similar concept. There are people that believe and don't believe and there's that whole—so this is not going to stop when COVID-19 ends; this is going to continue. We just have to be markedly more nimble and resourceful but also adept at not just our own skills but also how do we teach those skills to the next generation from an educational standpoint. I just think that that is another key. I know you were asking from a different perspective, but I just thought I should really encapsulate that, because leadership is not just something that you come up with in the middle of a crisis. You have to really help hone it and develop it over time as well.

**Neil R. Powe:** Well, thank you for that.

Let me move to another question that came in the chat that I don't think people addressed today, and that's the posttraumatic stress for paid caregivers. That stress among providers is a downstream effect of the crisis-based decision-making. Without strong leadership, endorsement, and guidance many of the folks watching today that implement support systems and guidance that could heal and change this going forward. Would any of our health care executives or others chime in on this issue of posttraumatic stress among providers, which I think is affecting employment and availability of providers.

**Rebekah Gee:** Neil, Brendan brought this issue up. I just wanted to say our fellows, residents, students, and nurses are traumatized. They had to hold up an iPhone with a family while, to the family, watched that family member die, and they were the only one in the room; and that was unprecedented. To not have the resources; to have to put your mask in a paper bag as my staff had to do, wondering if that actually worked to save your life. To have to go home to family members, wondering if you'd give them COVID.

I really think we need to fundamentally re-engineer how we create resiliency, and that starts with self-care. What are we doing in medical schools, and nursing schools, allied health schools to teach people how to care for themselves? What are we doing after action reviews?

I wrote with Diane Meyer about this. When you have something horrible happen in safety in a community, a mass shooting, we help people; bring them together and say, how do we help you? We don't do that with health care workers. We assume, you're a tough guy or gal and you'll manage it on your own, but I really think this needs to change.

**Neil R. Powe:** Thank you.

So, we have another point, actually, Rebekah, that you brought up, is that COVID should be the 9/11 public health equivalent, and the near-immediate transformation that happened to counter terrorism post 9/11 has not happened with the same force in public health post COVID.

There's needed structural changes, and the availability and content of data as mentioned by many of the panelists. The NAM's, National Academy's Culture of Health program is trying to address those structural issues. I guess the question is, how can we best share practices more readily so we can catalyze change more effectively?

**Lee Fleisher:** Neil, can I make a comment? This is Lee Fleisher, Chief Medical Officer at CMS.

We actually did start to analyze what systems did really well and what systems did poorly in the pandemic. Those that were connected better, particularly the small systems to the larger systems, had a very profound difference in those outcomes. I think as we look at the system, and we're trying to work closely with the CDC on this, how do we reconnect the system?

Several people brought up the difference in resources. How do we make sure the resource-intensive places are able to help the resource-less intensive places post pandemic? We're thinking about this at least at a federal level, and I look forward to hearing how others think about it. Thank you.

**Rebekah Gee:** Neil, and Lee, thanks. Elisabeth brought up a beautiful point, a corollary earlier, which is you don't tell a cruise ship, well why don't you get safety boats just because you'll make a decision if you want to do that or upgrade your dining room. No, you have to have safety boats. Similarly, we should have a national informatics system now that when the next virus comes, we're able to identify it, have action teams that cross pollinate across the country, when there are best practices they need to be shared—those things have not happened. There are people, like Charity Dean, who started the Public Health Company hoping the private sector will do it. But I really think we, as members of the National Academy, need to get together to say, look, how do we change this going forward? What is the immediate solution? Because it's unacceptable that Mandy Cohen still doesn't have her data. That's the truth. That was the truth when I was Health Secretary; years later, post COVID, it's even more unacceptable now.

**Neil R. Powe:** Thank you.

So, I don't think Madeline is still with us, but if she is there, there was a question that came up, or comment, that I think hasn't been addressed.

There's deep concern for children who have lost parents, and those numbers are staggering and generation-shifting. Are there any thoughts on more robust bereavement services? Since this has affected minority communities more, what are the effects of that on generations to come? Any comments, if Madeline's here, or others?

No one wants to take that one?

**Elisabeth Rosenthal:** I can express something that is of concern to me that relates to this and relates to virtual medicine, something we're seeing a lot of at *KHN*.

I really worry about a lot of online mental health services, as if they are as meaningful as sitting in a room. I think we really need to think about, you know, it's about getting people better connected into a system so when a parent dies, or both parents die, or because vaccine hesitancy and non-masking are prominent in certain communities, it's often—it could be both parents and a grandparent, and you know, a bunch of people—and I think just having kids and parents plugged into a system that they think cares about them. It really worries me, and I think there are many underexploited areas of virtual medicine and telemedicine, but I really feel like that personal connection to a provider is the key to all of this, or to a system where a family trusts, a kid can trust—it's just, getting a video call is not the same thing.

**Neil R. Powe:** Well, thank you Elisabeth for opening and closing with your last comment.

I just, again, want to thank all the moderators, panelists, and then our commentators for this session on health policy and health care systems. We will end now.

We will have a short break and remember that the next round of interest group sessions will begin at 1:45 p.m. Eastern.

So, thanks everybody, and I hope you really enjoyed this session. I certainly did.