

AMERICAN PUBLIC HEALTH ASSOCIATION

and

THE NATIONAL ACADEMY OF MEDICINE

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RESPONDING TO COVID-19: A SCIENCE-BASED APPROACH

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WEBINAR #12: MANAGING ONGOING SURGES
-LESSONS FROM THE FRONT LINES

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WEDNESDAY
JULY 29, 2020

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The webinar convened at 5:00 p.m. Eastern Daylight Time, Rochelle Walensky, Moderator, presiding.

PRESENT

ROCHELLE WALENSKY, MD, MPH, Harvard Medical School and Massachusetts General Hospital, Moderator

JONATHAN LEWIN, MD, Emory University and Emory Healthcare

GREG ADAMS, Kaiser Foundation Health Plan, Inc. and Hospitals

HOWARD ZUCKER, MD, JD, New York State Health Commissioner

ALSO PRESENT

GEORGES C. BENJAMIN, Executive Director, American Public Health Administration

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5:00 p.m.

DR. BENJAMIN: Good evening. I'm Dr. Georges Benjamin. And welcome to the 12th webinar in the COVID-19 Conversations Series brought to you by the American Public Health Association and the National Academy of Medicine.

Today's webinar is entitled Managing Ongoing Surges: Lessons from the Front Lines. Today's webinar has been approved for one and half hours continuing education credits for CHES, CME, CNE, and CPH.

None of the speakers has any relevant financial relationship to disclose. Please note, that if you want continuing education credit, you should have registered with your first and last name.

Now, everyone who wants credit, must have their own registration, and watch today's event in its entirety. All the participants today will received an email within a few days from CPD@confex.com. That's CPD@confex.com, with information on claiming credits.

All online evaluations must be submitted by September 9, 2020 to receive continuing education credit.

Now, if you have any questions or topics you'd like us to address today or in future webinars, please enter them in the Q and A Box, or mail us at apha@apha.org. That's putting them in the Q and A Box, or emailing us at apha@apha.org.

Now, if you experience technical difficulties during the webinar, please enter your questions in the Q and A. Please pay attention to the chat for announcements on how to troubleshoot this will be in there from time to time.

Now, this webinar will be recorded. And the recording and transcript will be available at Covid19Conversations.org. Now, more information in the series and recordings of past webinars are also available at this link.

Now, I'd like to introduce our moderator for today, Dr. Rochelle Walensky. Dr. Walensky is the Chief of the Division of Infectious Diseases, and a practicing Infectious Disease Physician at the Massachusetts General Hospital.

Her primary research interests focus on model-based analysis of the cost effectiveness of HIV testing, care, and prevention strategies to inform HIV/AIDS policy internationally as well as domestically.

In addition to leading to her infectious disease faculty on the front line of the COVID-19 pandemic, she's published COVID-19 related editorials and original science. Dr. Walensky has been instrumental in advising local, national, and international leaders on testing methodologies and implementation strategies as it translates to developing public health policies and guidelines.

Dr. Walensky, it's all yours. Thank you.

DR. WALENSKY: Thank you so much, Dr. Georges. What a pleasure to be here. Today's webinar will focus on what lessons we can apply today to slow the ongoing transmission and increase in hospitalization, address the shortages of PPE, and prevent our healthcare and public health systems from becoming overwhelmed.

We will hear from large hospital and

healthcare provider systems, as well as public health leaders who have been on the front lines of the response and prevention of COVID-19.

We are currently experiencing the highest levels of new cases daily as the virus surges in new communities around the country. Our panelists can give us a first hand look at their experiences in dealing with the pandemic and share the lessons they have learned from their various perspectives.

I thought I would give you a few minutes to just take a look at mine. Great. So, this is a graph that we had, that we looked at every day in our incident command in Mass, at Mass General during our surge.

It's a graph that looks at our entire system, which you can see by the dark line. As well as that at MGH specifically. Our system has 12 hospitals, MGH and the Brighams are two of them, as well smaller community hospitals.

Well, let's just look at MGH. And this was our daily graph, which you can see in gold. And you can see between March 12, and April 16,

we had zero patients.

And we escalated to 367 -- patients with COVID-19 in just a month period of time.

What we also did is we could map that on the, we could map that surge. But we also used data from Italy and other places to project what we might be expecting.

And that's sort of the hazy lines. We used mathematical models to do that. To anticipate what we might expect.

And we looked at data from Italy, which was about two weeks ahead of us, to specifically model. Next slide, please.

We also looked, and this is, I think, is really important, at our ventilator use. And this was something we kept a close eye on.

What you can see, and this is Mass General specifically. What you can see is that dotted red line across the, across at 43 ventilator use, 43 patients on ventilators.

That is our standard average of patients on ventilators at Massachusetts General Hospital.

During our peak on April 19, April 18, we had 187

patients who were ventilated at a given time.

So, more than fourfold our standard ventilator use. Almost all of them, of course, had COVID-19 or were CoV risk.

And we still had numerous patients who were -- who had -- who were ventilated for other reasons. Next slide.

So, what I thought I would do is just give you a sense of some of the lessons that we learned in our first wave. First, it was February 24, I remember it vividly where I sat in the microbiology lab, and we said, do we develop a test?

We didn't know how big this was going to be. There were a few scattered cases in Seattle.

And maybe one or two in California. We had no idea of what was coming.

And we had to make a big executive decision as to whether we were going to divert some of our resources, not do certain labs that we were normally doing, and really put all hands on deck to create a test. We decided to go ahead and do so.

And this was probably the best decision,

or one of the best decisions we made during our epidemic. We were ultimately testing the second largest number of patients in all of Massachusetts.

The next thing as a division that we did, is we -- remember, this is early March. We decided to convene a group that would create overall treatment guidance.

What were we going to do when patients came in the door? And how were we going to treat them?

This was a team that looked through med archive and all the best available data all the time, to ensure that we were giving the patients the best standard of care that we could based on the, the combing the literature that was out there.

We also created a team for crisis standards of care. This was really sobering. It's the first time I've ever seen documents like this in this country, where we talked about who would get ventilators?

Who would get dialysis machines? How would we distribute remdesivir during these critical times, if and when it came to a point where we did

not have enough of all of these critical resources?

And then a really fun thing that came from this actually, and really helpful and informative, was a group that we called our CHANT team. Which is still quite active, COVID Here and Now.

This is a team that met daily for over 75 days in a row by Zoom. And went over what we knew, and patient discussions.

There were many people who were working with patients, who were seeing patients on the front lines, and didn't know how to manage them.

And it was a group -- and I think by the, you know, in our peak we had 90 people, a multi-disciplinary team on the phone, to help people manage patients.

More now often we are hearing talks from other services, from -- non-infectious disease, such as surgery or hematology, or cardiology, about what they've learned in their specific fields, dermatology.

And so this has really been a multi-disciplinary team where we not only looked

at patient care, but also looked at talks and from people on the front lines.

We developed a clinical trials team where it became very clear as we were scaling up clinical trials, that we ultimately might have more trials than all the patients that would be available to enroll in them.

And that we needed to have some sort of strategy as to which patients were eligible for which trials. And how we would prioritize who would be enrolled in which.

I became part of a group of citywide ID Chiefs, where we met weekly to strategize and discuss things that were happening across the city and across the state to see if there was coordination across the state that would help us.

And then it became very clear that our teams in the hospital needed infection control support. And that was not just to support our infection control team, but that as, especially in March, as everyday people were discussing what is an aerosolizing generating procedure?

Who needs an N95? Who can get away with

a surgical mask? Were surgical masks needed for everyone?

There was a lot of infection control support that was needed in the hospital, on the front lines, on general medical floors, to just make sure that people were following the right protocols and understanding the reasons behind them.

It was a time of great confusion.

We had, as everybody is feeling, discussions about vulnerable populations. At one point over 40 percent of our patients with COVID in the hospital were Spanish only speaking.

This of course was a real challenge. They did not have a lot of support. They were -- you know, we were wearing a lot of PPE. Their family members were not with them.

And we convened a group of physicians and care providers from across the hospital who spoke Spanish so that they could always be around for these patients.

Communication has been key through all of this. I started full division-wide meetings early on. And had division-wide meetings every

other day for all of our surge while our incident command was active.

And I've gotten a lot of feedback about how many times I said, I don't know the answer to that. But, it was very helpful for, I think, people to hear what we knew and what we were learning.

And just to have a forum for people, a forum for people to be able to talk. I think early on especially, and I would say still now, we had to maintain a huge amount of humility.

On March 20 we made the decision as a healthcare system to go all masks for all personnel in the hospital at all times. This was a huge decision.

It was not entirely clear that those were needed at the time. It was not -- there was some literature at the time suggesting, or some editorial suggesting we were going overboard.

But, if you saw the most recent JAMA paper that showed that actually this is exactly when our transmission rates to healthcare workers started to decline.

This was really a function of seeing

a lot of our healthcare workers get infected. And it was a very scary time.

I want to just remind people that the care givers need help too. Need to be cared for as well.

This has been extraordinarily stressful. Many people asking, while I'm on clinical service, should I even go home?

And it's really just been a very stressful time. And we really need to remember not just to take care of our patients, but to take care of one another.

And then finally, I will say, there have been gifts in this, in this pandemic. They're sometimes hard to find.

But there have been extraordinary gifts.

I would say one of the biggest gifts that I understand from this, or that I have felt from this, is my ability and new network that I've found.

My -- it's been a potential -- it's been a possibility to cross disciplines, to work with people I had never even known.

To work with our supply chain folks.

And with people in higher education. And really, it's been an opportunity for me to meet new people and to create new relationships.

And that I will take with me and value from this extraordinarily stressful, difficult, and very sad time.

So, with that, those few comments, maybe what I will do, is say, I'm very excited about the line up that we have ahead.

We are going to hear about, from these other systems about public -- about how we can help public health. About how we can be better prepared. About what we are seeing, and what we can expect.

Certainly there are places across the country that experiencing surges. There are other places that are in a lull.

And potentially just watching many outbreaks. Worried about for those surges to come.

So, what I would like to do now is introduce my three esteemed presenters. First, Dr. Jonathan Lewin.

Dr. Jonathan Lewin is currently the Executive Vice President for Health Affairs at Emory

University. Executive Director of the Woodruff Health Sciences Center, and President, CEO and Chairman of the Board of Emory Healthcare.

He also serves as a Professor of Radiology and Imaging Sciences, and Professor of Biomedical Engineering in the Emory School of Medicine. And Professor of Health Policy and Management in the Rollins School of Public Health.

Lewin is a national leader in academic medicine strategy and integrated healthcare delivery. And an international scientific leader in interventional and intraoperative MRI.

Prior to his employment at Emory, Dr. Lewin served as a Martin Donner Professor and Chairman of the Russell H. Morgan Department of Radiology and Radiological Sciences at Johns Hopkins University, and the Radiological Science -- Radiologist in Chief at Johns Hopkins Hospital from 2004 to 2016, with secondary appointments as a Professor of Oncology, Neurosurgery, and Biomedical Engineering.

From 2012 to 2016 he also served as the Co-Chair for Strategic Planning. And from 2013

to 2016 as Senior Vice President for Integrated Healthcare Delivery for Johns Hopkins Medicine.

Before joining the faculty of Johns Hopkins, Dr. Lewin was the Director of the Division of Magnetic Resonance Imaging at University Hospitals of Cleveland. And Professor and Vice Chairman for Research and Academic Affairs in the Department of Radiology at Case Western Reserve University.

Our second speaker will be Mr. Greg Adams.

Mr. Adams is nationally recognized and a champion of healthcare transformation, improving access and advocating for better health outcomes.

Mr. Adams since his -- since his time with Kaiser Permanente has been driving the comprehensive work focused on growing the organization's membership, improving affordability for members, and transforming and expanding access to care.

Mr. Adams has 30 years of leadership experience as a Senior Healthcare Executive. And has played an integral role in leading the transformation and improvement of patient care

outcomes at Kaiser Permanente.

In addition, Mr. Adams has been a key leader in driving Kaiser Permanente's mission of providing healthcare quality and coverage for its 12.4 million members.

Mr. Adams is a Board of -- is a member of the Board of Directors of America's Health Insurance Plans, and a Board of Trustees of the American Nurses Foundation.

He is also both a Governor and steward within the, in the healthcare community at the World Economic Forum.

Additionally, Mr. Adams is a member of the National Association of Health Services Executives and the Executive Leadership Council.

And also serves on the Board of Directors for the Los Angeles Philharmonic Association.

He is past member of the California Chamber of Commerce Board of Directors and the California Hospital Association's Board of Trustees.

And last but not least, Dr. Howard Zucker is Commissioner of Health for New York State. As

the State's Chief Physician, Dr. Zucker leads initiatives to combat the opioid crisis, strengthen environmental health, and end the AIDS epidemic in New York.

Since his arrival at the helm of the New York State Department of Health, he has established a network of hospitals equipped to treat Ebola, implemented programs to address the threat of Zika, and spearheaded efforts to combat antimicrobial resistance and the recent measles outbreak.

Dr. Zucker oversaw the launch of the State's medical marijuana program. And continues to update the program to accommodate its evolving need.

He developed numerous campaigns to address major public health issues, including lead contamination, legionella, breast cancer screening, and vaping associated illnesses.

His extensive review of scientific literature led the State to reject hydrofracking in its borders.

As Commissioner, Dr. Zucker presides

over the State's Medicaid Program, the New York State Public Health and Health Planning Council, and the Wadsworth Center, New York's premier public health lab.

He also oversees the entire healthcare workforce, as well as healthcare facilities, including hospitals, long term care, and nursing homes.

In his previous role as First Deputy Commissioner, Dr. Zucker worked on the State Department of Health Preparedness and Response Initiative in natural disasters and emergencies.

He collaborated closely with the New York City Department of Health and Mental Hygiene, and other health related entities in the City.

A native of the Bronx, Dr. Zucker earned his MD from George Washington University School of Medicine at the age of 22, becoming one of America's youngest doctors.

He is board certified in six specialties and sub-specialties, and trained in pediatrics at Johns Hopkins Hospital, anesthesia at the Hospital of the University of Pennsylvania, pediatric

critical care medicine and pediatric anesthesiology at the Children's Hospital of Philadelphia, and pediatric cardiology at Children's Hospital Boston, Harvard Medical School.

Dr. Zucker also holds a JD from Fordham University School of Law, Law School, and LLM from Columbia Law School, and a postgraduate diploma from the London School of Hygiene and Tropical Medicine.

So, it is my great pleasure to introduce these three panelists for you. And with that, I will head it over to Dr. Lewin. Please take it away.

DR. LEWIN: Great. Thank you, Dr. Walensky, for that introduction. And it's a pleasure to be here, and thank you for the opportunity to join you all today.

I've been asked to share some of Emory Healthcare's lessons learned so far. Because of course when it comes to COVID-19, we're still learning every day.

I'd like to think of the analogy that we're building the airplane as we fly. As we look

at, think through our pandemic response. Could I have next slide, please.

Well, if you take the airplane analogy, as we took off, there was clearly some very turbulent air. The chart on the left is our persons under investigation, tests pending, presumed COVID, plus the confirmed COVIDs.

And as you can see, we started with our first COVID, right -- first COVID admission right around March 9 or so. By March 12 we had 14.

And in two days, we went from 14 to 119. And over the next four days, we went from 119 to over 200.

So, it really started to look at the -- in mid-March like we were following the trajectory of Italy, as we'd had a very rapid increase.

So, it really caused us, by the beginning of March to think, look at all hands on deck. To think, how could we as a system, really work towards addressing what was clearly going to be the crisis of the generation for Emory Healthcare as we move forward. Next slide, please.

Well, we were fortunate to build on a

base of the last four years or so, where we had been implementing a lean operating system and lean executive management culture.

So, we had already implemented around one thousand front line daily huddles, 7:00 a.m., 7:30 a.m., which rolled up through a series of four other tiers to a tier five huddle in our C Suite at 9:45 every day.

So those communication muscles from the front line to the C Suite, were already very strongly built when we started this out.

So, when we needed to address this very quickly, we created an incident command center structure, activated our incident command center structure. Which included a breadth of interdisciplinary experts and stakeholder and 12 initial workgroups, including very strong physician engagement.

And these included many of the similar groups that Dr. Walensky mentioned. A group on operations, infection prevention, communication, data analytics, really across the board, everything we thought we would touch, we had represented.

We started off having three Zoom incident command center group meetings, each an hour long, along with one or two each weekend day, with strict templates to try to run through these 12 work groups efficiently and effectively.

Then in addition, we had two daily leadership meetings where I would lead, meet with the five other incident commanders each day for two hours.

So, we could look at what was working and what wasn't working. And make adjustments in real time.

We pretty much tried to measure anything that could be measured. To have a very data driven decision process.

We created broadly available dashboards, which were transparent across the organization. And we also, like Mass General, very early developed an ethics triage committee to start to deal with what would happen if we needed to in fact start rationing care because of lack of ventilators, remdesivir, or otherwise. Next slide.

One of the first challenges we had, had

to do with the surgery precipice, as I like to think.

Next slide.

As we looked at trying to manage our increasing, rapidly increasing volume of COVID patients, we realized that we did not have the PPE to continue a full surgical schedule, as well as take care of these patients.

So, as you can see from the graph, we stopped surgery abruptly. Stopped all our ambulatory surgery.

And limited our inpatient surgery to only those truly emergent cases. And it had two effects.

One was, it freed up the staff to repurpose to COVID patients. But it also repurposed, it allowed us to free up the supplies we needed for our EDs, for wards, for our COVID positive patients across the system.

The second impact was the financial one.

You can imagine, like most health systems, our bottom line is driven by our surgery and other elective procedures like imaging, like lab.

That also dropped like a brick. So,

that created a second challenge for us as we worked to move forward. Next slide, please.

Well, the first challenge I really want to spend some time on is the PPE challenge. Like most big health systems, we have 11 hospitals, over two hundred outpatient centers.

Like most, we had a, very much a just in time supply chain. We would have twice daily deliveries to each of our hospitals.

We tried to minimize our inventory in our warehouses with very frequent supply. So, when the Wuhan, China epidemic hit, and our supply chains broke, we were in big trouble.

So, we very quickly had to look at, how do we do alternative sourcing? We did many creative things, including having an upholstery manufacturer down in south Georgia, repurpose their lines for cloth masks and cloth gowns.

We went straight to China to some of the suppliers who still were in business, and had chartered airplanes bringing supplies for us for masks.

We collaborated with our Department of

Biomedical Engineering at Georgia Tech to manufacture our own 3-D printed face shields. And we worked with a number of donors from across the city.

We started off a donation site where we received tens of thousands of N95 and KN95 masks from Home Depot, from Lowes. Hundreds of thousands of gloves were donated as well, really to keep us going through those first very challenging months, or at least weeks. Next slide.

One of the things that was really one of the big silver linings for us, was that things that as a major academic medical center would have taken us three to six months to make a decision, with this sort of very classic academic decision making processes, we were with our incident command center, and having all the stakeholders on the phone, on the Zoom for two or three hours a day, we were able to make some of these month long decisions in a week.

And things that would have taken two weeks to a month, we were able to get done in a day or two.

So, we launched a number of new and updated systemwide policies and procedures for -- about masking, visitation, temperature screening, testing, N95 mask distribution and reprocessing, within days.

We were able to stand up multiple drive-thru testing centers, offsite respiratory clinics, virtual outpatient management clinics for follow up, creating separate entryways for our EDs for respiratory versus other patients, very quickly within the first week or two.

And prior to COVID, we did literally around one hundred telehealth visits in the whole month of February. We ramped that up within about two to three weeks to three thousand telehealth visits per day, now having done over two hundred thousand telemedicine, virtual clinic visits. Next slide.

Innovation also became critical. And like Mass General, we started when we first saw this hit in late February. We started talking with our laboratorians around how to create our own test.

And when the State of Georgia, Department

of Public Health was only able to do around 20 to 40 tests per day, we were ramped up all the way to 80 to 100 tests.

So, we were fortunate. We were doing again, more tests than DPH, and actually CDC had very limited testing at that point as well.

So, we start -- we very quickly ramped that up. We actually were taking care of over 25 percent of the COVID patients for the State of Georgia, for the whole state, within those first week or two.

We developed new ways to clean, sterilize, and reuse equipment. We innovated new ways for patients to communicate in the COVID ICUs with loved ones and with the team.

We created and nationally disseminated clinical guidelines for ICU care across a number of different areas, coagulopathy management, again, ventilator management, proning patients. And we leveraged our academic research differentiator by leading national efforts around vaccine development.

We were one of two sites in the country

with the initial Moderna vaccine phase one trial.

Treatment development, we enrolled more patients in the ACTT-I remdesivir trial than anywhere else in the world.

And we continued to innovate around clinical trials, like we heard from Dr. Walensky, along a number of different areas. Next slide, please.

We learned a lot from how do we deal with the tsunami of patients that were coming to us as the major academic medical center for the State of Georgia.

Very early we created a symptom checker app that would allow us patients to assess their needs on their -- on their iPhones and on the web.

More than a million sessions with multiple repeat users.

We created a COVID hotline that's fielded over 80 thousand calls from the people of Georgia.

Screening more than 20 thousand people.

And we are very proud that we achieved extremely good patient outcomes. Higher than 92 percent survival rate for our admitted patients,

which increases every month. Next slide, please.

The major thing that we saw was the importance of our people. We had to rapidly move all of our back office work to full time remote, with the IT and otherwise all the challenges we had with that redeployment.

We had to redeploy front line employees from things like perioperative services to the COVID units, to the drive-through testing areas. We had to redeploy people who were front desk in our closed clinics to become screeners, visitor screeners, temperature screeners.

We had to figure out how to keep our employees safe. And we've tested now more than seven thousand of our 24 thousand Emory Healthcare employees.

Like Mass General, we created a mandated mask policy. And we saw our infection rates within Emory Healthcare plummet after we did that, similar to what Mass General has published.

And we also developed our own serology test, and antibody test for the receptor-binding domain of the virus. We've screened more than 11

thousand of our Emory Healthcare team members with that test.

But the most important thing was, the importance of making sure morale was up. So, on the right, you can see a note from a community member.

On the left at the bottom you can see our pharmacy people were writing personal notes for the meds going up to the COVID units. A lot of work on morale. Next slide, please.

So, there are still headwinds. And we continue to see strong performance with great clinical outcomes. And are moving forward in our recovery.

But, as you can see, continued and growing surge. And particularly down in Georgia where we are, consumer confidence, the financial recovery and broader economy, the social unrest.

Fortunately, Atlanta has been primarily peaceful. And the uncertainty that we have when certainly as schools reopen, we can predict what might happen with COVID. But we really don't know.

So, next slide. So, my last slide. Our way forward, and our advice to other hospitals and

communities who are also facing outbreaks.

Are to be prepared for ongoing surges and resurgences. We've re-engineered our operations for a world with COVID for the next year or two.

We're looking at, in essence, running two healthcare systems, a COVID system and a non-COVID system running in parallel, to be able to keep all of the many patients who depend on us for their healthcare, for heart attacks, for transplantation, for brain surgery.

To be able to take care of them while being able to flex up our COVID care as needed, without having to shut down the rest of the system.

We worked to mitigate supply chain risks. We're working at balancing the financial stewardship with our need to invest in clinical recovery.

We're working to ensure consumer confidence. Working very closely with our peer health systems within the City of Atlanta to reassure patients that it's safe to come for their needed care.

And we're working closely with local and state governments. We're leveraging the goodwill and support of our community.

And most importantly, we're focusing on our people, on continued engagement, on combating burnout, and on ensuring that again, what we do to keep our people moving forward, works well.

And then last slide. I'd just like to thank everyone for your attention. And I look forward to working through, listening to many of the questions you might have.

So, Dr. Walensky, back to you. Thank you.

DR. WALENSKY: Many thanks, Dr. Lewin. Extraordinary efforts, ongoing and in the last numerous months.

Mr. Adams, can you please tell us about what, about the Kaiser Permanente experience?

You may be on mute.

DR. ADAMS: Good. I think we've connected. So, first I'm pleased to follow my good friend and colleagues, Jon.

He shared a great deal of what I am going

to share. But, I think the model of building a plane while one is flying, is really very appropriate for what we're all experiencing.

So, thank you, and good afternoon everyone. I thought I'd share just a little bit about Kaiser Permanente.

You heard that we're 12.4 million members. We are the country's largest leading integrated delivery system, health plan, hospital providers.

We are 75 years, for 75 years our mission has been to provide high quality, affordable healthcare. And to improve the health of our members and the communities we serve.

The community piece is very real for us. And the way we show up and lead and approach the COVID-19 pandemic is somewhat different from others.

We have a really bright community health officer who is a part of our leadership team that's playing a role. We've got amazing scientists, infection disease specialists that are working with us.

And throughout this process, I've been able to kind of immerse myself in the middle of that group. And learn and push and lead.

And it's been innovative. It's been challenging. And it's also at times been extremely hard to take.

We've had unfortunately, a number of our employees that through community spread, potentially at work, who are no longer with us. So, this is, you know, a very serious time for healthcare and our healthcare providers on the front line.

We have 39 hospitals, 114 ambulatory outpatient centers, MOBs, 219 thousand employees, 63 thousand of those nurses, and 23 thousand amazing physicians.

Today, actually to date, we have out of our 12.4 million members, about 114 thousand members that have tested positive. And today as we sit here in our hospitals and in our planned hospitals, we have a thousand, almost five hundred patients that are in our hospitals, in our ICUs and receiving care.

So, we started, I think we saw our first patient in February. Glad to know that, that individual went home in May, and is doing well.

But we through again, our data, our scientists, our infectious disease specialists, again to kind of monitor what we identified as leading indicators.

And we have very large call centers. And I'll speak specifically about our Northern California call center.

And in March, kind of February/March, we saw our volumes go from three to four thousand calls a day related to flu, questions about COVID, flu like symptoms to -- from three to four thousand, to 13 thousand. Which was just unprecedented.

And we actually reached at our peak about 67 -- in this one call center, 67 thousand calls per week.

So, it was very clear to us that we were beginning to experience community spread. And remember, we've been focused on containment.

And we began pretty immediately to advocate for our state and our nation to move from

containment to mitigation.

We were very concerned about not only that we manage the appropriate and the right levels of care in our communities, but also about exposure of our staff and our physicians and our clinicians as we were kind of not focused on the fact that this was now in the community.

We established three priorities for our organization that we continued to follow. One was that we would educate and care for our members, our patients, and our communities.

The second one, which is one that we took very seriously, and continue, was that we would maintain the safety of our front line staff and our physicians.

And then the third one, was that all hands had to be on deck in order for us to prepare for the surge. And like Emory and Jon, we implemented a national command center.

And you know, I think our culture is called to question during moments like these. And we have been kind of a multi-regional organization.

I have recently come to be the CEO of

Kaiser Permanente. And one of my kind of charges to the organization was the need for us to move toward being a single enterprise.

And COVID and the challenge of the pandemic offered that opportunity for us. So we came together with the national command center.

Over this period of time we have operated as a single enterprise as we've addressed COVID. We've published some 28 play books.

A return to work play book, a mitigation playbook. And of course we moved pretty immediately to deal with the surge.

And I'll talk a little bit about California, because we're probably 80 to 85 percent in California. And the models that we were looking at in California suggested that we could -- we could see an increase in our inpatient capacity by some six thousand hospitalizations at the time.

And we were working with the State of California. That was at the very early, a 20 percent attack rate.

We later decreased that. But we, during that period of time, increased our inpatient capacity

in California by 26 hundred beds.

We shifted staff from ambulatory to inpatient. We used our ambulatory facilities and set them up for inpatient facilities.

We worked with Los Angeles County, with CommonSpirit, a health system, to set up a surge hospital in Los Angeles. We did that in a matter of four weeks.

Like Jon, we saw our virtual care shift from, we were at 20 percent, to 70 percent. In the mid-Atlantic, we've got big medical office buildings. And we worked with the states there to really set those up as temporary hospitals.

And we, like everyone suspended elective surgery. I mean, there have been questions about, should we have suspended elective procedures?

I think we absolutely should have. I don't think it would have been possible for us to really manage all that we were managing, without being able to suspend.

And I think it also, of course, helped with the whole transmission, reducing transmission.

In terms of our staff, and you know,

we are an organization that's largely unionized.

We have the oldest and the longest running labor management partnership in the country. And our employees and our labor partners rose to the occasion in an amazing way.

I remember sitting at home, at my dining room table one evening at six, seven o'clock in the evening, calling companies, trying to get PPE equipment. And one of our labor leaders with SEIU, was doing the same.

Our -- we have two coalitions, two groups of labor partners, and our nurses, UNAC, was there with us, advocating that we move from containment to mitigation. We continued, like Jon, to engage with our employees through this process.

One of the most rewarding experiences for me, was over a two or three week period, I actually held conference calls with some ten or seven labor stewards that were on the front line. And they were able to talk to me about what I was articulating and what they were experiencing.

And I was able to go back to our leadership team in our command center, and really help them

to deliver on what we had committed to our employees in terms of safety and in terms of education.

So, our employees being on the journey, being the people that were helping us to innovate and frankly, still are, is a silver lining in all of this.

The other thing that we did, and I'll be quick here, was to -- we did look at, how do we acknowledge and reward kind of what our employees were going through?

I mean, you know, coming into work. Being concerned about going home. Being concerned about whether or not one could be taking the virus.

So, we did a number of things. We implemented an 80 hour paid leave for any employee who was tested positive, whether it was at work or not, the contact was at work or not at work.

We implemented a childcare grant for our employees during that intensive period. We came up with strategies for our people so that if they didn't want to go home, we provided temporary shelters for them.

And we're continuing to do that. And

we established a help center that is currently in place.

We, like Jon, and you're going to hear from others, had the PPE challenge. We are a very large organization.

We use a tremendous amount of PPE during this period of time. And, as you heard me say, we were all looking at sourcing and doing the kinds of things that Jon mentioned, including making shields, et cetera.

So, where are we now? As I said, we've had about 119 thousand members who have tested.

Today, as we sit here, we've got about 15 hundred people who are hospitalized nationwide.

We've protect -- we've really improved on our model of predicting.

And we have a 21 day model that predicts where we will be. We are operating at about 30 percent increase in capacity.

Right now today, we have about 19 percent increase. And we are beginning to see, and I know we've got stories about where we are in the surge.

But, we are beginning to see indicators

that suggest in some of our markets, especially California, that we're beginning to see things stabilize.

I'd like to leave us with a couple of thoughts. One is the issue of testing is huge. It is the PPE.

We are targeting, and are trying to get to about 20 thousand tests per day. We've got many instruments.

We've talked to the CEOs of the instrument companies. And I think as a nation, we're not, we're kind of missing that this is a world pandemic when it comes to PPE and testing.

And these multinational companies are having to source all of that. So, our being creative, really looking at how we get more instruments for tests, we're looking at pooling, is a big one for us.

The issue of suppression is something that we are not talking as much about. And I think we must talk about.

As we try to reopen, we see the surge. We see the transmission. In many of our counties,

we don't have the resources for contact tracing.

We don't have the boots on the ground as I say. We're working with those counties. But, this is a time for us to recognize our public health organizations and the need for resources.

And I think as we lead, and as we advocate, if we're going to get through the next year or two, we've got to own the need for people to be in our communities that are educating, that are doing the contact tracing, helping people who may not understand, to isolate, to quarantine.

And so, we are at a place now where our specialists, our chief health officers are working with us to put a number of programs together to really help our communities understand their role and how they can protect themselves and their neighbors.

So, thank you.

DR. WALENSKY: Mr. Adams, that was wonderful. Thank you so much for those comments. Maybe we will then now turn to Dr. Zucker.

DR. ZUCKER: Great, the video should come on. It says the host has stopped the video

so perhaps someone can help on that? Any luck?
Okay, thank you. Thank you. Thank you, very much.

I am grateful to the American Public Health Association and to the National Academy of Medicine for inviting New York State to share our story of managing and reversing the epic surge in COVID-19 infections, hospitalizations, and deaths.

On March 1st, New York began this difficult and very perilous, but ultimately instructive, journey on how to maintain public health.

In partnership with every New Yorker, we've flattened the curve. We've brought down our infection rates to around one percent. We've brought down our hospitalizations from about 18,825, which was on April 12th, at its peak, to under 600 today. The lowest number during the pandemic. We've brought down the number of fatalities from a tragic high that we had around 800 to less than five today.

The broad scale public cooperation allowed New York to avert the direct epidemiologic predictions and prevent the 100,000 dangerous infections that were initially predicted.

And despite this success we know that our state and our nation remain in the grips of this global public health crisis, the likes of which we really haven't seen in decades. And for that matter, probably not in probably a century when we think about the numbers and stuff.

So, unlike New York, the states in the south and the west have been seeing an increase in the COVID-19 predictions. In Arizona the doctors are rationing tests in the emergency rooms. In Florida I heard that there are no free ICU beds in about 50 or so hospitals. And the sole hospital in a remote Texas county seems so overwhelmed.

From what I'm hearing is that they were considering sending some people home who are COVID patients, but they're least likely, ones who are least likely to survive.

But having been at the brink ourselves, our hearts do go out to all of our fellow Americans suffering through this crisis.

But much of the suffering could be linked to the states reopening too soon or failing to establish adequate testing and tracing systems.

And I wanted to talk a little bit about that, in choosing not to institute or enforce the statewide mask mandates, which we're doing.

So I guess the question is, what did New York do to beat back the surge and maintain one of the lowest infection rates in the country.

And we recognize this is not over, and we also recognize that there are risks of this coming back.

But we're trying to stay on top of it.

We base our decisions on the facts, on the data and the expert analysis. We were fully transparent with the public. We prioritized clear communication, easy access to the most current statewide and county data. Next slide. We prioritized testing and tracing, we prepared for the worst-case scenario to the best of our ability through critical partnerships.

And we acknowledged and we clearly reported when the information regarding decisions was no longer accurate or relevant. And we developed the contingency plans and moved ahead. And we worked to establish a public trust.

So New York slowed the virus spread

through aggressive mitigation measures and widespread public buy-in. Limiting the nonessential gatherings, closing schools statewide, shutting down in-office work for nonessential employees, helps stop the spread.

While we did identify the emerging hotspots, emerging hot spots and we targeted the medical response to those hot spots. The one you see on the slide here is the first hot spot we had, which was in New Rochelle in Westchester County.

Every decision about New York, on pause as we called it, was applied statewide well beyond the hot spots as well. So the question people have asked is why. And because we felt that a single super spreader at a wedding, a sporting event or any large gathering, which was what happened in New Rochelle, can lead to dozens of infections and truly an overnight crisis. And that's what happened.

The government's daily briefings provide New Yorkers with a sense of continuity that had been lost with the lock down and the unprecedented social situations. Which we found ourselves in.

Next slide please. The department launched a COVID-19 tracker web page to provide daily testing data to the public. And that's the sample of the page from back on the 14th of July.

The tracker maps and graphs statewide and county level testing results in fatalities by the county, which you can see on the map. By age, by sex and by comorbidities.

We created a regional consortium with New Jersey, with Connecticut, Pennsylvania, Delaware, Maryland. I'm sorry, Delaware, Rhode Island and Massachusetts, to ensure a consistent reopening actions along bordering states and to develop a regional supply chain for PPE, as well as other equipment.

New York was the first state to mandate masks in mid-April, and that was a decision based on the scientific data that was new at that time about aerosol spread, that the world was not aware of at the beginning of March. As we've said, this is information, new information that comes in, and we were adjusting accordingly.

The trajectory of the pandemic revealed

that the most effective actions for containing coronavirus was work to identify positive cases through diagnostic testing, aggressively trace and test the context of those who test positive and isolate those from infected. And we're working aggressively on this.

Maintain public buy-in throughout social distancing and mask wearing throughout the entire state. Establish, track and enforce metrics for continued, local and statewide safety.

Next slide please. So, the issue of laboratory testing has been something which everyone is talking about. So when COVID-19 emerged, only the CDC was permitted to test for the virus, which really did result, as we've heard, a limited number of tests.

So the Department of Health developed its own testing method and the state secured the FDA authorization to use the test. And that was on February 29th. Actually, a day before our first case.

Since then we've developed the most extensive COVID-19 testing operation in the world.

The state leads the nation in the world with per capita diagnostic testing. We've done just about 5.8 million tests, persons who have been tested. We're testing between about 70 to 80,000 persons per day.

We have about 760 testing sites across the state. In Downstate of New York City we have about 225 testing sites. A lot of the cases initially run in the city area.

Our positivity rate is fluctuating around one percent. And for comparison early this week California's positivity rate was at eight percent, Florida was around 19 percent.

Next slide. And so this next slide looks at this issue of contact tracing. So we worked with various partners to address the continued high infection rates in low income minority communities in New York City. It's one of the challenges that has hit those communities heavily. So we increased testing sites at public housing developments and at churches and community-based providers, in predominately minority communities.

We partnered with Bloomberg

Philanthropies, we built the national replicable COVID-19 tracing program. Thirty contact tracings for every 100,000 individuals out there. That number varies a little. The Bloomberg School and the Department developed an online curriculum for the state contact traces. And Resolve to Save Lives is providing technical and operational advice. A key number worth knowing is that we have about 44,000 contacts we've done. We've done about over 24,000 cases so far.

Next slide please. The Department developed one of the nation's first and most accurate tests for, to detect COVID-19 antibodies in the individual's blood. This is an interesting slide.

I'm going to go through this a little bit in detail. This test enabled the state to launch the nation's largest antibody random survey. About 15,000 samples. And it was conducted at grocery stores and community centers across the state.

You can see on the left, we just sampled them in April and then again in June. We looked at all across the regions, numbers that we're retesting.

You can see about 15,000 on the first one, 12,000

on the second. And we looked at the percent that were positive.

We also tested our essential front-line workers, the health care workers, the first responders, transit workers, the members of the New York Police Department to determine the scale of infection. You can see that as well where it says first responders and the numbers of the health care workers are about 15.3 percent.

The critical data has been essential to our understanding of what measures are necessary for protection from the virus. So we're looking at that. At the bottom you can see the New York State Police, which had about 2.7 percent positive.

We can talk about this in the Q&A.

Next slide please. As New York's COVID-19 surge began in March, our 53,000 beds statewide capacity needed to be drastically increased. This was a bit concerning to meet the demand because there were models suggesting up to 136,000 cases. And so, to do so we increased the capacity at our existing hospitals by at least 50 percent. In some places 100 percent.

We cancelled all elective surgeries statewide. And we need to be pretty aggressive.

We integrated the states 23 public and 200 private hospitals into a single, tightly functioning surge in flux system to share patient information, supplies and inventories. The purple graph line is the actual hospitalizations. But in the beginning, back in March there, we did not know which one of these curves we were going to end up following. And it was very anxiety provoking to not know whether we were going to go above our 53,000 that we could accommodate without a surge in flux.

Next slide please. We partnered, we partnered with FEMA and the Army Corps of Engineers to create four equipped and staffed temporary hospitals downstate. And the President dispatched a 1,000 bed Comfort, which is on the right there, the U.S. Navy Comfort, to help us as well. We also faced the critical shortage of ventilators that we handled with help from the federal stockpile and the generosity of other states. They sent us ventilators.

And philanthropic partners as well. And the ingenuity of our front-line hospitals to figure out how to convert different things to get more ventilatory support to patients. We approved a protocol allowing BiPAP machines to be converted into ventilators. We acquired additional machines. We had a capacity of about 3,750. And then we used the anesthesia machines. So a lot of operating rooms that obviously were not being used so we used those anesthesia machines, which had ventilators obviously, for 2,000 more patients.

And then we looked for wherever ventilators were in ambulatory surgery centers, doctor's offices, or actually I should say group practices where they're doing procedures. And we worked on every front we could to get as many ventilators as possible.

Next slide. After the peak of infections, as we headed down the mountain, New York focused on establishing and enforcing a data-driven statewide system. We determined that this was the only way to maintain a safe and a healthy operations and interactions as residents reentered

workplace and common spaces. And resumed public activities.

Our New York Forward reopening strategy, it's down to a metric system. It's integrated within ten designated regions. Our plan requires a control group in each region to ensure that the infection rate remains less than one. That's the goal. And each day we monitor infections based on diagnostic testing. We look at the new possible cases based on contact tracing, we look at the health care capacity based on the rate of hospitalizations.

And the state has consulted with experts in the University of Minnesota, the Imperial College in London to create an early warning dashboard, which is what you're seeing up there. And the dashboard shows the seven reopening metrics that control groups in the state's ten regions tracked daily. And that's the testing and tracing of any new infections, the severity of infections, the hospital capacity. And we just watch that, literally, on a daily basis.

Next slide please. So what we didn't know. There was so much we didn't know at the outset

of this crisis that would have made a world of difference. And there is still a lot that we don't as you all know. That the coronavirus coming from Europe and infected an estimated 10,000 people in New York City by mid-February. And this is because of open travel between New York and Europe. And this was way before New York's first case, which was on March 1st.

So, there's a lot of travel. New York City (audio interference) through asymptomatic spread. We didn't have that. We didn't know that because of the dangerous combination of both aerosol and asymptomatic spread mask wearing is an effective and essential means to preventing disease transmission. We didn't know that the minority population would be at heightened risk for infections. 27.2 percent of the state's COVID-19 fatalities had been in African-Americans and 28.7 percent Latinos.

We didn't know that COVID-19 could attack any organ beyond the respiratory system and does in fact pose a threat to children. And we knew that it could, the virus can affect if you have

kidney disease and other things but we didn't think that this was as much of a threat to children because we had seen kids with it. And then we saw the frightening information about the multi-system inflammatory syndrome in children. And when this happened we started looking into the State of New York.

I called some of the hospitals about this. The number were just tracking, one hospital said, oh, we had 15 cases like that in the hospital right now. And so that's when we worked hard on that issue as well. Or started working diligently on that.

Next slide. It's also important to underscore the failures that I believe the federal government had a critical point throughout this ongoing crisis. Notably both the CDC's two month delay and the national availability of an effective diagnostic test, and the nations lack of coordinated medical supply chain lead to the situation that we were sitting in, in New York. And originally, and other states in March and April.

Right now the states especially needs

systems with diagnostic testing. And new escalating regional testing needs are putting pressure on the national analytical labs. So it's taking up to nine days to get some of these test results. Which obviously is far from ideal. And when that happens you really do fall behind the virus. We are fortunate that our lab and our lab capacity across the state has been ramped up.

A science based national guidance on mask wearing and school reopening is essential. And the school reopening issue is a tough one and we all know that. But what we're seeing instead is something shocking. Some of the new CDC guidance on reopening schools was written, actually by the alliance's officials then ran by the health experts.

The only national level leadership on mask wearing is actually coming from the corporate world. Obviously we are, and other states, are doing that. CVS, Walmart, Target, McDonalds, Apple, Costco, a lot of those companies are doing that.

And New York's record for the state with the most coronavirus cases was recently eclipsed, as you can see in this slide, by some of our other big

states. California, Florida, Texas I think may be there, I'm not sure yet.

Next slide. So, New York went, next slide please. Thank you. New York went, has gone from the worst afflicted to best managed state during this global pandemic. I know this has been a lot of work on the part of many people. We hope our lessons preventing the curve will help other states avoid the crisis that we found our self in when we began. We managed to get ahead of the virus rather than catching up behind it. But we are determined not to fall behind and we are doing everything that we can to be sure that New York is still safe.

And we recognize that the pandemic is still going on. We are diligently doing everything from the contact tracing, all the things I mentioned before. Because we realize that this could come back in New York, even though our numbers are one percent positive right now. We are concerned that we don't want this to have a resurgence and we're trying to work diligently on that. So thank you.

DR. WALENSKY: Many thanks, Dr. Zucker.

Those were three terrific talks. I'm going to take the opportunity to start having conversations about some things that perhaps we didn't discuss, or we can dive a little bit deeper.

One of the things that we encountered, probably, well, early on, was that we hadn't had enough communication with our downstream partners.

That while we were starting to become ready to receive patients with COVID-19 and to diagnose patients with COVID-19, our dialysis partners, our SNFs, our long-term care facilities were not necessarily as able to receive them when they were ready for discharge. And this created some challenges in terms of disposition and back up of patients because we needed to empty our hospital beds.

I'm wondering if each of you had those challenges and how you navigated that?

Maybe --

(Laughter.)

MR. ADAMS: I'll take a stab at it. We did have that challenge. And actually, in a number of our states, including the state of California,

the issues in our nursing homes were very serious in terms of PPE supplies, in terms of training staff.

And so we, the hospitals all came together and actually worked with a number of the nursing homes to address the training. The state supported them in terms of PPE in California.

But the issue that we had that was even, I shouldn't say more challenging, but also challenging, was people did not want to return to them. And they didn't necessarily, families didn't necessarily want them. And so we've had a number of incidents where individuals came from nursing homes positive, ill, did not want to go back, and then we had the issue of, how do we place them. And in some cases the family was not the appropriate place or the family, as I said, didn't want to.

But there's been a concerted effort, I think from the hospitals, the hospital association, in a number of our states to really work with the nursing homes. And our state leadership, especially in California, has really stepped up to kind of support and make sure they have supplies. And that work is continuing.

DR. WALENSKY: That's great. Dr. Lewin.

DR. LEWIN: Yes. And I'll echo that. We're fortunate in that in our system we have a long-term acute care facility. Part of the system.

So, when we have people who are still on ventilators who are really, you know, or at certain maintenance no longer needing really intensive care but nowhere to go obviously, we are fortunate to be able to put them into our long-term acute facility.

We also have our own 250 bed SNF, skilled nursing facility. So we also, and we were fortunate that we contained COVID within our own facility.

It was very, you know, it has been relatively minimal through the four months. But we did have the same problem with the local skilled nurse in the facilities. Once they transferred to us they didn't want them back.

So it was really just working with them, helping to assure and reassure them that these patients were no longer infectious. And it's worked out, but it has been one of the challenges as well.

DR. WALENSKY: Dr. Zucker, if I could

ask you numerous questions about how you enforced the mask mandate and how you were successful in contact tracing, which is truly one of the hardest parts of trying to contain/mitigate?

DR. ZUCKER: So, I think two things. One is with regards to the nursing home question because --

DR. WALENSKY: Got you.

DR. ZUCKER: -- we've been dealing with it a lot. And I appreciate Dr. Lewin's comments that they are no longer infectious. You know, nine days in the hospital and they're going back. And a lot of these individuals who came from the nursing homes. Also, as we know, those who are elderly, you don't move them out of a nursing home so quickly if they're a little tired. And they're probably asymptomatic.

Probably infectious disease before they were asymptomatic and asymptomatic a few days before they were moved to the hospital. And then by the time you were in the hospital you found that the average amount of time, beginning time is nine days in the hospital and the CDC was about nine days,

ten days when you're no longer infectious. But this is a big, it's been an issue that we have looked at.

We also found that the nursing homes, the infection in the nursing homes was a result of, unfortunately, from the nursing home's staff bringing in completely, not of any fault of their own, just they brought in asymptomatic spread.

And regarding masks, I think we were talking about this earlier today, and a lot of this has to do with communication and getting the message out and getting people to recognize that this is good public health practice and to do, almost do the right thing on this issue when it comes to washing hands, social distancing and wearing masks. And in New York, well, for all the country right now, it's pretty warm. It's not the most comfortable thing to have the mask on. People want to go out.

And I think it's sort of, a little bit of peer pressure, particularly in the younger population. Between the age of about 18, 19, 20 up into the 30s. Because that is the group that we have noticed has been the biggest challenge right

now on this. And we have had, I just wrote something, just dealt with something out in the Hamptons where people had a concert and they just didn't wear masks and didn't social distance and you get worried about them.

DR. WALENSKY: Contact tracing?

DR. ZUCKER: Oh, contact tracing. So, okay, thanks. Sorry. So, our contact tracing program is pretty aggressive. We are, any time there's a positive case we actually are working with our counties in there and trying to track and try to find out who they were exposed to.

Recently we had, oh, I want to say about three or four weeks ago, someone came from one of the more affected states and came back for a party, a graduation party, and sure enough, that became a big issue. Many people were infected, and we jumped on that really quickly when we heard about that. But it does require a lot of vigilance and to make sure that we identify individuals as soon as we know. And it's, I love to tell you, it's a lot of work at that issue.

But I think that that's one of the most

important things we could do. And given that we do have the capacity to be able to do a lot of testing, that helps to move this forward as well.

DR. WALENSKY: Dr. Lewin, maybe you can speak to whether, there's a lot of conversation about ventilators and PPE shortage. What other shortages, we experience shortages with tube feeds, for example, which we didn't expect. I guess we should have expected but it wasn't necessarily the first thing. Propofol sedation for our ventilated patients. What other shortages have you experienced? Are you through them and what still are you experiencing?

We're still recirculating, reusing and extended using our N95s even though our surge, our first surge anyway, is behind us.

DR. LEWIN: Yes. No, absolutely. And it's fascinating the things that have short supply chains. Because agreed, feeding tubes. Yes, the same, we have the same issue with some of the very simple things that we usually do.

Right now, you know, fortunately we got on the ball. We ordered 50 ventilators back in

the beginning of March and they actually were delivered by the beginning of April. So we had facilities for well over 350 ventilators in our facility. So we have not yet, knock on wood, come short on ventilators. But certainly, many of the things like propofol, many of these routine drugs, we got spot shortages as well.

The area that we're concerned about now is remdesivir because it's being state allocated.

We've been fortunate, we're part of the ACTT-2, ACTT-3 trials so some of our patients are on trial.

But the state I believe is getting, either has gotten or will be getting, it's last allocation from the federal government. And it's clearly not enough to go around given George's case rates. So that's where we see sort of the next and most critical shortage coming up.

But things like masks, N95s, we still have re-sterilization and multi-day use for some of them. We've, isolation gowns. Disinfecting wipes, for whatever reason, we just cannot get disinfecting wipes. Which it seems to crazy, it's such a low-tech thing, and that's probably our

shortage supply of anything.

We track on a daily basis and most things were over 45 days of supply. Again, based, since, as we've stocked up since learning the hard way in March. But there are still a few things that are just difficult to obtain.

DR. WALENSKY: Yes, disinfecting wipes has been a challenge for us too. You know, one of the questions I came up was around whether we use our crisis standards of care. And so, I'm curious as to the experience of all of you as to whether we use it.

We did have remdesivir challenges early on as well. We were in the middle of the surge.

The EOA came out before the data came out. The EOA had a very expanded definition of who should receive it, and it wasn't entirely clear who should get it, and that we were definitely going to need to prioritize. I'm wondering if anybody has used their crisis standard of care.

And then maybe one other comment I'll say is, we spent a lot of time trying to ensure that all of our patients had living wills. This

was an extraordinary effort because it was very clear that some people were coming into the emergency room who might not have wanted intubation but didn't have a living will. And we certainly didn't want to give a ventilator to somebody who didn't want it. Especially when somebody else might.

MR. ADAMS: You know, I'll just offer.

We have not used crisis care standards. And just implementing them was really a challenge. I mean, I remember, my background was I started as a nurse and I remember years ago the whole ethics and how do we do this. And so it was really fascinating to watch our clinicians and our ethicists come together and really realize that this was something that was real and it could happen.

We actually worked with the state to try to get the states to take the lead. And in most cases they did because it was really about all hospitals, I mean, where we do we stand. But we have not used them.

On the question of living will, we've been very focused, as a system, on making sure that advanced directives and all that happens with our

members -- had an interesting experience where, and this is about the culture again and people, you know, just the whole culture of sensitivity, where an individual who was Latinx came in, was actually doing well. But in the course of the conversation about advance directives really misinterpreted what he was being told and understood that we were asking him if he was basically okay dying.

And I actually got a call from this individual's employer late at night not understanding what was going on in thinking that somehow we, as a health system, had given up on him. And the opposite was really true. But the, just in that moment of crisis, having people come in with such volume and really walking them through the procedure and trying to prepare for all that we thought we might deal with was really challenging.

And really a cultural disconnect for a lot of our patients and our members.

DR. LEWIN: Yes, so we had a similar journey through our bioethicists, our clinicians, our community members. Today I had a board meeting

with my board, my Emery Healthcare Board, and went through the triage, as we were calling it, an ethical triage process. And fortunately we have not had to implement it. But we are ready. We've got all the systems in place ready to go. And I think remdesivir is going to be the time we turn it on in the relatively near future.

DR. WALENSKY: Could folks speak about what you've done outside the hospital for your vulnerable communities? I've heard it said that isolation and quarantine is a privilege, right? I think someone spoke to this.

We stood up a hotel in one of our vulnerable communities and staffed it so that people who cannot isolate at home could isolate in a hotel during their period of time. Have other people done creative things to help the communities who are not necessarily under your roof?

DR. ZUCKER: I could talk more on the policy end of this rather than the practical. From what the hospitals are doing.

But I think one of the issues that we have been speaking a fair amount about is the

isolation of those, particularly who are elderly but homebound. And I feel for them. I really do.

Because I feel that here they are, let's say 85 years of age and not knowing when this is going to end, not able to interact because they are the most vulnerable, recognizing that there's not a therapy right now that's available.

And as a age group which they may not need something because you just feel like, you know, this is just what happens, you're living by yourself.

So we're working sort of a lot on sort of communications and how you can use technology to connect them.

But it's also an age that is not as facile with some of the technologies. I don't want to be like ageist or anything but I'm just sort of saying that I'm thinking more about own my mom and so I just don't use the face -- she'll use FaceTime but it's not the same as somebody who is 7 years old.

So I think it's really important to sort of make sure they're connected. And also, when it comes to the basic needs, we have spoken to

pharmacies about medication delivering. We've also spoken a little bit about food delivery. I think there needs to be more of a buddy system. We put this out as a possibility developing some kind of buddy system where someone knows to check on somebody else to be sure that they have what they need and to be sure that they're available.

You know, right now it's summertime but in the winter it gets pretty cold in upstate New York and people aren't so quick to travel. But that's some of the issues. And then we're looking into what policies we could do as well. But I'll turn it to those who are in the health system right now.

DR. LEWIN: So I'll just briefly. Our main efforts so far has been communication. We realized back in March when one of our African-American board members mentioned that in his community no one was masking, no one was social distancing, people didn't think this was real. And so we stood up a committee. A broadly diverse committee within the organization to help communicate.

And as part of that we brought in both African-American and Latinx physicians, celebrities, sport stars, to do videos to try to get, in a manner that, again, these communities aren't going to listen to me, right, but they're going to listen to somebody who looks like them, who sounds like them, who understands the cultural references. And that's been really successful in working to improve the understanding within these communities.

But it still is a challenge. Especially the multi-generational households and the Latinx communities are a big challenge for us.

MR. ADAMS: You know, I would add that in most of our states we've worked with community organizations or with the state, to your point, to actually set up housing, motels, et cetera. We've also put in place what we're calling kind of a home kit. So if a member is diagnosed as positive, we actually have a call center that's setup. We have a kit that goes to that member, to the family, that has instructions, masks, gloves, disinfectants. And then there's a conversation

that occurs about quarantine, isolation, what does that mean.

We're working with, in a number of our communities, with community organizations, where there isn't contact tracing, or staff actually to setup community organizations with resources that would take on some of that responsibility and collaborate and work with counties.

I mean, when we look at our population and we look at the percentage of African-Americans that we have as members and the percentage of them that are positive or the percentage of Latinx that we have as members and the percentage that are positive, it is very clear that the group kind of most affected by this are people of color. And really tailoring programs that are specific to them, working with churches. We're, like Jon and others, really working to have individuals that are part of the community also be a voice in helping to educate and to lead and teach.

DR. WALENSKY: Great. Maybe I will take the opportunity to ask for one line from each of you, what is the biggest gift that you've gotten

out of this because it's been a lot of sad, a lot of heart. Has there been anything, what's been the silver lining? Dr. Lewin?

DR. LEWIN: For us it's really organizationally. As with 11 hospitals and academics and being a system has been very challenging. Every local unit wanted to live on its own and their culture was sacrosanct. And I would say what this has done is it's brought our system years ahead of where we would have otherwise been in really being, in being a system, in looking at common, you know, every one of our ICUs across all of our hospitals are using exactly the same guidelines. That never would have happened. In my lifetime, that would never.

And so that really, for us, as an organization, it's brought the people together, it's brought the system together. And that's been, I think, the biggest positive.

DR. WALENSKY: Mr. Adams.

MR. ADAMS: Well, Jon kind of stole my thunder there.

(Laughter.)

MR. ADAMS: Thirty-eight hospitals, same. You know, the other thing I would add though is that, you know, what's happened with virtual care is just amazing. And we were on a journey, we were owning that and yet we, just overnight, moved. And our patient satisfaction is through the roof. In most cases. Our productivity is up. And so we're at, now looking at how do we hard wire, how do we really have the right assessments in terms of quality, et cetera.

So I think all that Jon said, I think the virtual care shift, and I think it's changed the culture and the mind set of our people and clinicians. I mean, this, the innovation and the togetherness is an entirely different place. So, echo Jon.

DR. WALENSKY: Great. Dr. Zucker.

DR. ZUCKER: I think, my answer's a unusual one it's because at first you may think it's not a positive, but it's looking down the road is why I think it's a positive.

I think what this did, is it unmasked the issues that we've all been saying about the

health inequities and that this is an issue of who, what kind of care, that there's disparities in healthcare in America. And I think this showed this even more, because I think this pandemic accentuated a lot of the things that we've already known about. I think down the road, everyone is going to be better off for this because they have seen these inequities that are there in such a visceral way. And I think that we as a nation, will be more fortunate in the long run.

MR. ADAMS: And in that vein could I add, it is also shown the need that we have, to fund, and the resource of public health.

DR. WALENSKY: That I would wholeheartedly agree with. So maybe I will just weave together some common things that I certainly felt, and I know that we heard. I think we all recognize that this became a team sport very quickly and that we really needed a multi-disciplinary approach. And I mean multi-disciplinary even beyond medicine.

We needed infrastructure, we needed stockpiles, we needed conversations outside to our

SNFs, in our long-term care facilities. We just needed, we needed a lot of people at this table in places that we might not have reached for before just in thinking about our own walls in medicine.

I think we all heard that testing had been the Achilles heel, and probably remains the Achilles heel. And that folks who were able to, sort of develop their own tests and had a little bit of independence, were able to do a lot more and were able to triage a lot faster. An incredible role for innovation. We didn't talk a lot about it, but I know in all of our spaces we have been innovating from a data standpoint. From surgical masks standpoint, we have hexapods that we were using for testing so we did have to use PPE to do our testing.

So a really important role for innovation, a critical role for data. I think, following the data and not just looking retrospectively, but looking prospectively and projecting what you might expect you will find, and you will see gives you a real sense of where you are going. And it allows you to think through

what tomorrow is going to hold because tomorrow's a whole different day.

I think, we spoke a lot about our vulnerable communities and, Dr. Zucker, your point is very well taken. We have sort of really, if it wasn't obvious before, which it should've been, we really unmasked some really key disparities that I think merit critical attention beyond this pandemic.

The important role is communication. I do think that, even when we don't know the answer it is important to be out there to tell you what we know so that it can be very transparent. I would say, early and often is probably the best communication.

And really the importance about caring for one another, because I think all of us are stressed. All of us were not sleeping a lot. All of us were forced into tasks and asked questions where we didn't know the answer, and it was unfamiliar territory and I think all of that led to uncertainty and stress. And if you don't care for one another then, that became very hard.

So maybe with that I will close, and just thank everyone. Thank our speakers really, this was truly a wonderful conversation. I want to thank everyone who registered for today's webinar.

And you will receive an invitation for the next webinar.

This webinar has been recorded, and we're recording a transcript and the slide presentations will be available on covid19conversations.org.

I want to again thank our panelists and to the APHA, and the National Academy of Medicines, for sponsoring this webinar series. I want to thank you, our listeners, for joining us today, wherever you are around the country, around the world. We know you are tackling these critical challenges, and so we wish you luck in doing so.

Best wishes, to all of you, for staying healthy. Please take care of yourself, and one another. Thank you everybody.

(Whereupon, the above-entitled matter went off the record at 6:28 p.m.)

