Good afternoon. I'm Commander Ibad Khan, and I'm representing the Clinician Outreach and Communication Activity, COCA, with the Emergency Risk Communication Branch at the Centers for Disease Control and Prevention. I'd like to welcome you to today's COCA Call COVID-19 & Telehealth Implementation: Stories from the Field.

Free Continuing Education is offered for this webinar. Instructions on how to receive Continuing Education will be provided at the end of the call.

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At the conclusion of today's webinar, participants will be able to accomplish the following: describe CDC's telehealth guidance, discuss frontline clinician experiences related to telehealth implementation across the spectrum of health services and diverse patient basis, discuss how current experiences can inform strategies to identify and improve telehealth access and equity, and list strategies to facilitate and promote telehealth and address barriers to implementation during COVID-19 and beyond.

All participants joining us today are in listen only mode. After the presentation, there will be a Q&A session. You may submit questions at any time during the presentation. To ask a question using the webinar system, click the Q&A button at the bottom of your screen, then type your question in the Q&A box and submit your question. Please do not enter your questions in the chat box.

You can click the CC button in Zoom to enable closed captioning. This button is located either on the top or bottom of your screen. The video recording of this COCA Call will be posted on COCA's webpage and available to view on demand a few hours after the call ends. If you're a patient, please refer your questions to your healthcare provider. For those who may have media questions, please contact CDC Media Relations at 404-639-3286 or send an email to media@cdc. gov.

It is my pleasure to welcome our presenters for today's COCA Call. We're pleased to have with us Ms. Erica Tindall, who is a public health analyst with Northrop Grumman, supporting CDC's COVID-19 response, Dr. Febe Wallace, who's the director of primary care at Cherokee Health Systems, Dr. Rasheda Prescott, who is a clinical instructor of internal medicine and pediatrics and a physician informaticist at NYU Langone Health, and Dr. Kemi Alli, who's the chief executive officer at Henry J. Austin Health Center. I'll now like to turn it over to Ms. Tindall.

Ms. Tindall, please proceed.

Thank you for the introduction. Before we hear about healthcare provider experiences, I would first like to kick off this call with a high-level overview of CDC's telehealth guidance. Next slide, please. In this presentation, I will define telehealth and telehealth modalities, summarize policy changes that increased telehealth utilization during the COVID-19 pandemic, describe CDC's telehealth guidance, and share telehealth resources and learning opportunities. This presentation will not cover billing, coding, or reimbursement for telehealth services; however, these considerations will be discussed by other speakers and are detailed in the resources found at the end of this presentation. Next slide.

Most of our participants are probably already aware of telehealth and telehealth modalities, but just to be sure everyone is on the same page, I would like to cover them here. The Health Resources Services Administration of the US Department of Health and Human Services, or HHS, defines telehealth as the use of electronic information and telecommunications technologies to support long distance clinical healthcare, patient and professional health related education, and public health and health administration services. Telehealth may be provided via synchronous, asynchronous, or remote patient monitoring modalities. Synchronous modalities include real-time telephone or live audio-video interaction, typically with a patient using a smartphone, tablet, or a computer.

In some cases, medical equipment like digital stethoscopes, otoscopes, or ultrasounds can be used by another healthcare provider like a nurse or a medical assistant physically with the patient, while the consulting medical provider conducts a remote evaluation. The asynchronous method includes store and forward technology, where messages, images, or data are collected at one point in time and interpreted or responded to later. Patient portals typically can facilitate this type of communication between provider and patients through secure messaging. The remote patient monitoring modality allows direct transmission of a patient's clinical measurements from a distance to their healthcare provider. Next slide, please.

The COVID-19 pandemic is an evolving public health crisis and because of social distancing measures implemented early in the pandemic, healthcare systems, clinics and facilities had to rapidly find ways to care for patients and protect staff. Strategies included canceling visits and elective procedures and rapidly implementing telehealth programs. Policy and legislative changes that enabled the increased use of telehealth include key provisions of the Coronavirus Aid Relief and Economic Security or CARES Act and the Center for Medicare and Medicaid Services, or CMS, waivers. Factors that increased telehealth utilization included policy changes and privacy, specifically changes related to health, the Health Insurance Portability and Accountability Act, or HIPAA, regulations, as well as changes for reimbursement for telehealth services and changes related to where telehealth visits can take place. Key provisions in the CARES Act allowed flexibilities to use new technology platforms to provide telehealth services.

The US Department of Health and Human Services, Office of Civil Rights issued a notification to empower covered healthcare providers to use widely available communication applications without the risk of penalties for HIPAA violations due to the use and good faith provision of telehealth services. Other CARES Act provisions include reducing or waiving cost sharing obligations, designating federally qualified health centers, or FQHCS, as eligible sites for care for telehealth services during the pandemic and expanding Medicare telehealth flexibilities. The CMS waiver expanded telehealth access by removing limitations on geographic location, which allowed healthcare providers to furnish telehealth and other services wherever the patient is located, even if that's across state lines. The waiver also allows providers to see both new and established patients and permits out of state practitioners to provide telehealth services in other states. Last night, CMS announced that they are proposing to permanently expand the type -- the number and type of telehealth services covered under Medicare as part of the White House executive order on improving rural and telehealth access.

The main goal is to expand these telehealth services beyond the public health emergency declaration and also to improve healthcare access and convenience of care for Medicare beneficiaries, especially those located in rural areas. This is a new development, and we look forward to learning more about the forthcoming policy changes and implementations from CMS. Next slide, please. Next slide. Thank you.

Telehealth facilitates public health mitigation strategies, and we specifically recognize that telehealth in the context of the COVID-19 pandemic increases healthcare access and can contribute to health equity by improving access to care for medically and socially vulnerable populations and by ensuring the continuity of care for chronic medical conditions. Telehealth also reduces healthcare worker and patient exposures and aligns with social distancing guidance. Telehealth can help facilities preserve personal protective equipment, or PPE, and reduce patient surge on healthcare facilities. Telehealth also provides opportunity for data sharing to improve surveillance and collaboration. CDC's role in telehealth during the COVID-19 pandemic has focused on collaborating with our federal partners and agencies on new and evolving federal telehealth initiatives, monitoring trends and telehealth utilization with key partners and exploring how telehealth can inform surveillance, improve health outcomes and health equity, and reduce the impact of healthcare facility surge. Next slide, please.

CDC created telehealth services guidance with the intent to describe the location -- the landscape of telehealth services and to provide considerations for virtual care during and beyond the COVID-19 pandemic. This guidance highlights telehealth modalities, telehealth benefits, and limitations from both a clinical and public health perspective. This guidance is specifically for clinicians, administrators, and healthcare systems, as well as public health professionals. It contains an extensive list of telehealth resources from federal agencies and professional organizations.

The CDC telehealth recommendations are an integral part of the framework for healthcare systems providing non-COVID-19 care and the 10 ways healthcare systems can operate effectively during the COVID-19 pandemic. These are both resources that provide guidance for safely managing healthcare facility operations during the pandemic. Next slide, please.

The CDC's telehealth services guidance has been highlighted across the response and other recommendations for healthcare systems operations, relief healthcare facilities, infection prevention and control, clinical care, rural health, and community mitigation and interventions. In the next few slides, I will highlight key recommendations detailed in the CDC telehealth guidance. Next slide.

As already discussed, there are a number of telehealth benefits that impact public health mitigation strategies. In addition to those strategies, telehealth services can be used to sustain healthcare facility operations. More specifically, telehealth can be used to screen and triage patients who may have symptoms of COVID-19. These patients can then be referred as appropriate or managed or monitored by their healthcare providers.

Telehealth can be used to provide low-risk urgent care for non-COVID-19 conditions and identify those persons who may need additional medical consultation, assessments, or referrals. Telehealth can provide access to primary care providers and specialists, including mental and behavioral health practitioners. It can be used for medication management and for the management of chronic health conditions. It can also be used to provide case management and discharge monitoring, especially for patients who have difficulty accessing care or need additional support at home. Telehealth can allow patients to participate in physical therapy, occupational therapy, and other modalities as a hybrid approach to in-person care.

Furthermore, telehealth can be used to support conversations with patients and caregivers about advanced care planning if a life-threatening event or medical crisis occurs, as well as support peer to peer professional medical consultations that are not locally available, particularly in rural areas. Next slide, please. We recognize that there are limitations to telehealth and that telehealth may not optimal for situations in which an in-person visit are more appropriate due to urgency, underlying health conditions, or an inability to perform an adequate physical exam. We also recognize that telehealth may not be

optimal in situations in which patient privacy cannot be maintained, especially if there's a potential for patient discomfort while discussing sensitive topics. Other limitations include limited access to technological devices or limited access to reliable broadband or Wi-Fi connections needed for an optimal telehealth visit. The level of comfort with technology for both healthcare providers and patients, as well as the cultural acceptance of virtual visits may also limit telehealth participation. Next slide, please.

Despite these limitations, telehealth is still an important, vital way of providing healthcare services and increasing healthcare access. Strategies to increase telehealth utilization include promoting the use of tele-triage methods for assessing and caring for all patients, as well as communicating with insurers and payers to understand coverage for telehealth services. Communicating the availability of telehealth services to patients is equally as important in addition to providing outreach to patients with limited technology. Such outreach might include offering a flexible platform that may -- that can be used for both video consultation or non-video consultations when possible. This can both encourage telehealth utilization while at the same time expanding healthcare access to populations that may already be at an increased risk of negative health outcomes due to COVID -- due to the COVID-19 pandemic. CDC continues to explore the utility of telehealth during the pandemic and beyond, and as we continue to monitor trends in telehealth, it is important to understand its impact on healthcare systems and public health. It is also equally important to monitor telehealth outcomes to identify and find areas to improve the delivery of healthcare services. Next slide, please.

Additional telehealth resources are listed here and can also be found on the CDC telehealth webpage, as well as listed at the end of the CDC telehealth services guidance. Next page. Next slide, please.

Before I close, I would also like to share an excellent opportunity from the Department of Health and Human Services, or HHS. HHS is partnering with the ECHO Institute at the University of New Mexico and the Public Health Foundation's TRAIN Learning Network to deliver a 10-week virtual peer to peer learning community called Telemedicine Hack. These Telemedicine Hack sessions are held on Wednesday from July 22nd through September 23rd, from 12:00 to 1:00 PM Eastern Time. Key components of the Telemedicine Hack include five teleECHO sessions on key topics like workflows, documentation, and reimbursement that highlight best practices and case studies for the field. There are also five virtual office hour discussion panels with case presenters, government agencies, topical experts, as well as stakeholder associations that are able to answer your questions. There's no cost to join these sessions, and Continuing Education credits are available for participants. All ambulatory care providers, including but not limited to primary care, urgent care, dental and mental health, and solo practitioners are all invited to participate. For more information, please contact the email listed here. Next slide. T

his concludes my presentation of the CDC Telehealth Services Guidance and Resources. Thank you for your time and attention, and now I will turn it over to Dr. Wallace.

Thank you very much. I'm looking forward to sharing our experience in east Tennessee with you. I'm the director of primary care services for Cherokee Health Systems based in Knoxville. Next slide, please. I would like to set the stage by telling you that we have actually had an extensive experience in telehealth prior to COVID, which has certainly served us well, as we've had to transition.

We actually began psychiatry telehealth services in 1999 to provide consultation to primary care clinics where behavioral health actually presents most of the time. So, we started very early. We began our primary care telehealth services in 2009. I actually started those services to a rural clinic in Morristown,

Tennessee, where we suddenly lost two providers, the only providers at a very busy clinic. I lived hour and a half away, and I would drive down one day a week to do the on-site care and the other four days a week to provide primary care from Bristol, Tennessee, an hour and a half away.

We had, though, all of the equipment that we needed. It's more what we think of traditional telehealth, where we had the ability to use stethoscopes, otoscopes, general examination cameras. The patient came to the clinic, so I had nursing support, lab, and all of the other resources, but just provided the clinician support. Since then, we certainly have continued to expand the use of primary care and psychiatry telehealth within Cherokee Health Systems and also into some of the schools in our surrounding counties. Next slide, please.

This is our home base in Knoxville, and I'd like you to, you know, get this picture in your head, because I'm going to compare it to another picture here in a minute. We are well recognized as a provider of integrated primary care and behavioral health, because we believe that we can enhance quality of life through those services being together and unified to best serve our patients. Next slide, please.

This is a picture of our service area. We primarily serve east Tennessee. We have 24 clinics. Although we do have a few urban clinics, the vast majority of them are in the foothills of the Appalachian Mountains and the Tennessee Valley. Knoxville is our home base. Next slide, please. Well, the next slide shows that we do have two clinics in Memphis, but that's not the focus today.

This is our service in 2019. We served a little over 71,000 patients. We have 755 employees, and this is a breakdown of our provider staff, which you can see includes primary care providers and physicians and mid-levels, psychiatry, psychologist. We do utilize clinical pharmacy to help us to deliver clinical care and have some scattered specialists that work with us as well. Next slide, please.

This is the picture to compare to, because this is more typical of our clinics of clinics in east Tennessee. This is in our -- in Washburn, Tennessee, and I tell everybody as I drive out to that clinic, just don't worry about connecting with me for the next 30 minutes, because you won't be able to get me. There is absolutely very little and spotty cell service, cellphone service going to this clinic. In that parking lot, you can't get cellphone signal. It's not until you get in the building, and even our wired services are of the best we can get out there but have significantly lower quality than we have in our urban centers.

And this represents the challenges that we've all seen in trying to deliver telehealth and virtual care to patients during COVID. Next slide, please. So, what did we do for COVID-19? Well, as many of us have found that finding the platform that works well for both patients and providers has not been the easiest thing to do, and all of the platforms have strengths and drawbacks. We're all learning together, and there'll be many good things that come out of this as far as the development of different platforms. We have used OTTO, which is a platform that directly interfaces with our EMR, which is NextGen.

The advantage to it and big advantage to our billing staff and our front desk staff is that immediate interface with NextGen. Patients did find it tricky to use, that there were a few too many clicks. With OTTO, we also -- our initial visual platform was not always getting good connections. We have now totally changed our visual platform within OTTO to try to make it more functional and more useful in low bandwidth areas. OTTO also required up to date browsers, which we discovered that many patients do not have, even if they have smartphone and computer access.

So, we've worked through those difficulties, but when you do get a good visual connection with the patient, it works well, and I'll speak more to that later. Doxy. me we have worked with, primarily our

behavioral health staff used that. We've also piloted and worked with Zoom to see what works the best with patients, because that's what we're after. We're after the platform and the systems that work well for both the providers and the patient. Zoom currently does not interface directly with our EMR, which from an IT standpoint is a drawback. Next slide, please.

Everyone has found the digital health literacy gap in trying to help patients through this crisis. It requires educating patients on the benefits of a virtual visit, and fortunately, this is where our background in telehealth really helped us, because I found over the years that once a patient knew that the quality of care that they received with the limits of telehealth and that you were really focusing on them and connecting with them that you get very positive feedback. Everybody recognizes it's not as ideal as on-site care, but it can be very, very good care and very beneficial.

So, it does require education for patients that have never been used to using virtual platforms. We did have to develop a virtual health outreach team to educate patients on how to connect. No matter what the platform was, we needed to give them extra assistance, and we're building for the future some formal educations that we hope to provide to patients when they do come into the center, so that we can help them know better how to use these platforms in the future. Next slide, please.

As already has been mentioned, there are a lot of technology challenges, and we encountered all of them. Many of the areas in rural East Tennessee do not have even phone access, much less internet access. Our patients can't afford internet access. If you have it, it could be very spotty and of low quality. Many of our patients do not have access to computers or smartphones. They're very reliant on what we call the government phone, where they get a flip phone with so many minutes of time, and in the past, text messaging with information to patients has really been much easier.

The older devices, we've discovered a lot of people that do have them, they're old and don't meet the requirements that the platforms require. And one big drawback particularly in trying to get new patients on board is the difficulty in getting electronic registrations and consent forms, which we need to deliver care. That's where having better interfaces with your electronic records would help. Next slide, please. But we really do feel strongly about the future of telehealth, that we need to continue to develop these platforms to offer flexibility in how we deliver care and options for patients to receive care.

So, we are actively working with the various platforms to give them our experiences back, help them to improve, look what we can do to improve the integration in care to make it seamless for patients and for staff. We want to continue our digital education, literacy education. We hope to use a mobile van to make the technology take hotspots out to certain areas where we can to make technology more available, and we are in the process of developing a specific app, so that hopefully in the near future, our patients can go to the Cherokee Health Systems app and access connection to their visits via the app and make it simpler for them. Right now, we do send a text or email out with the connection for their visits, but we want to make it as simple and easy and as possible for patients. So, that's a brief snapshot of our current experience, and I will turn it now over to Dr. Prescott. Thank you very much.

Thank you. I'm Rasheda Prescott, physician informaticist and clinical instructor in internal medicine and pediatrics from NYU Langone Health. I first would like to thank the CDC listeners today for giving me the opportunity to share our experience from NYU Langone Health. Today, I'm going to give you the insight on how our enterprise rapidly scaled our telehealth platform during the COVID-19 surge in New York. Next slide.

The views expressed in this presentation of those of the author and my colleagues at NYU Langone Health and do not necessarily represent the opinion of the Centers for Disease Control and Prevention. Next slide. NYU Langone Health is a large urban academic institution and tertiary care center. This slide shows data from our fiscal year ending in 2019. We had over seven million outpatient visits, over 12,000 births, 93,000 hospital discharges, 234,000 emergency room department visits, and we have over seven million unique patients in our electronic medical record. Next slide.

Our main campus is located in Manhattan. This map actually shows data from 2019. We have locations spanning across New York, including Manhattan, Staten Island, Brooklyn, Queens, Long Island, and Westchester County, and locations in New Jersey and Florida. Next slide.

As of 2020, we have about 500 outpatient locations, including one of the largest federally qualified health center, the Family Health Centers at NYU Langone Health. We have six inpatient locations with the latest construction in 2018, the Kimmel Pavilion, which is a state of the art digitally integrated facility. We also have two medical schools. Next slide.

So, telehealth prior to the COVID-19. The use of telehealth prior to COVID-19 was minimal and limited by regulatory restrictions and revenue generation. Based on the American Well 2019 Consumer Survey, telehealth was only used by 8% of Americans in 2019. At NYU, telemedicine was first piloted in psychiatry in 2016. The pandemic served as an opportunity not to implement, but to scale, a virtual health platform that was already integrated in our Epic EHR, utilizing our NYU Health App. Our largest virtual health program, the Virtual Urgent Care, started in 2018.

Prior to COVID, on average, we saw about 100 virtual visits per day with 25 to 35 in virtual urgent care and 75 in non-urgent ambulatory departments. Next slide. This graph shows ambulatory telemedicine visits compared to office visits during the spring of 2019. Each bar represents the number of ambulatory visits in one day, with the top yellow being office visits and the small dark line at the bottom of each bar representing the less than 100 telemedicine visits, including virtual urgent care and non-urgent ambulatory departments. Next slide.

On March 1st, New York had its first COVID-19 case confirmed in New York City and swiftly became the epicenter of the COVID-19 pandemic in the US, with greater than a half of the cases being in New York City. This illustrates New York City's pandemic surge. Within five weeks, New York City peaked with about 6,000 new cases a day and 1,500 hospitalization per day. The tremendous volume of hospitalizations rapidly exhausted our healthcare system. Next slide.

With the overwhelmed healthcare system, there was a demand to employ a strategy to keep patients and clinical staff safe, while providing essential healthcare to patients. We also needed to make sure that we were not draining PPE and preserving emergency department capacity. The solution was to quickly expand our telehealth program to move the frontlines from the emergency departments and ambulatory practices to virtual care. Next slide. As mentioned before, there were three pivotal policy changes that enabled the unprecedent shift of healthcare to telehealth platforms.

As mentioned before, CMS allowed reimbursement of telehealth services at the same rate as in-person visits. States followed expanding Medicaid telehealth services, and private payers also followed suit. The Department of Health and Human Services waived HIPAA penalties, allowing healthcare providers to use common communication apps for telehealth. States also relaxed licensure requirements, allowing healthcare providers to practice telemedicine across state lines. Next slide.

NYU Langone Health conducted a survey, capturing the rapid scaling of video-enabled visits during the New York State COVID-19 surge. The graph on the top shows ambulatory visits between April and May of 2019, with the majority of office visits captured in yellow. The bottom graph one last year later, during the COVID-19 surge in New York shows virtual care, the gray and the purple accounting for the majority of ambulatory visits at NYU Langone Health. Next slide. The largest shift in virtual video-enabled visit volume at NYU Langone Health was in non-urgent virtual care.

Virtual urgent care represented at the bottom and purple topped off at about 1,000 visits at the end of March, while faculty group practices article 28 facilities and Family Health Centers continue to rise with over 8,000 virtual visits during mid-April. Next slide. After the first day of video visit expansion to ambulatory practices on March 19th, virtual visit volume rapidly outpaced office visits in yellow. There were about 1,000 virtual visits on day one, and that ramped up to greater than 7,000 visits within 10 days, representing 70% of our ambulatory visit volume. Next slide.

The research has collected data and captured COVID-19 related visits by diagnosis codes in our EHR. In virtual urgent care, 56% of visits were related to COVID-19 compared to 17% in non-urgent ambulatory departments. On March 19th, the first day of video visit expansion, 55% of our virtual urgent visits were related to COVID-19, approximately 770 visits compared to the 381 COVID-19 visits in all of NYU Langone's emergency departments. Our virtual health expansion enabled us to significantly divert patients, specifically COVID-19 patients from the emergency department, manage our chronic patients, and provide preventive healthcare. Next slide.

On April 9th, 70% of our ambulatory visit volume was in virtual or virtual video-enabled visits, 20% were in-person office visits, and 10% were other, including audio-only telephone visits. Next slide. At the beginning of the pandemic, there was an urgent race to expand virtual health to promote social distancing and preserve ED capacity, shifting the frontlines to virtual care. This allowed us to preserve PPE, shifting the supply to the hospital. We were also able to manage, sorry, able to mobilize quarantine workforce.

Many of our clinical staff were impacted by COVID-19. Those who were in quarantine but asymptomatic could work from home, mitigating the loss of needed medical resources. After the initial COVID-19 surge in New York, virtual health enabled us to focus on chronic disease management, providing care for our hypertensive, cardiac, and asthmatic and diabetic patients who could not present to the office for care. We were also able to leverage our virtual health platform to expand with remote patient monitoring. So, not only could we provide medical care for patients during our ambulatory virtual encounters, we can continue to monitor at home, managing their glucose, blood pressure and monitoring their vital signs. Next slide.

In April, the Federal Communications Committee COVID-19 Telehealth Funding Program awarded 983,000 to NYU Langone Health to implement bedside telehealth capabilities. Physicians could monitor patients from a separate space, decreasing staff exposure and preserving PPE. The NYU Grossman School of Medicine was also awarded 772,000 to expand telehealth services for high-risk vulnerable and elderly patients to stay at home and receive chronic care management. Next slide.

NYU Langone inpatient sites were able to deploy integrated digital tools to improve interactions between clinicians, hospitalized patients, and their families. Due to the strict visitor policies and implemented to prevent spread of COVID-19, our patients were alone, and they felt isolated in their hospital rooms, and families were worried at home. We deployed about 1,500 bedside tablets, allowing clinicians to monitor patients from separate spaces and allowing patients to connect to their families via

video, utilizing FaceTime, Zoom, and Skype. Next slide. This is a picture of our army of iPads and tablets to help keep our clinicians safe and also connected patients to their loved ones. Next slide.

This graph illustrates the expansion of our inpatient video connections after telehealth deployment, supporting that virtual health more than ambulatory medicine and can be used across settings. Next slide. Although we were successfully able to scale virtual health to meet the healthcare needs dictated by the pandemic, it came along with certain challenges. Some were evident at the beginning and others discovered along the way.

Prior to the COVID-19 surge, our largest virtual health program was in virtual urgent care and staffed by about 40 emergency room physicians. During the surge in April, we had over 2,000 healthcare providers engaged in virtual care who needed to be onboarded and some within 48 hours. The majority had no experience with virtual care and needed to be trained on new platforms, devices, and workflows. With the 2,000 plus new clinicians plus patients, we had to ramp up our tech support team to support the dramatic increase in visit volume. We also needed to direct our patients to virtual care, utilizing various communication channels including text messages, emails, websites, and throughout patient call center.

Virtual health services are not exempt from systemic health and social inequities. With our large expanding footprint, NYU serves a diverse population. We encountered barriers to healthcare access related to language and technology. English is not the primary language for many of our patients, and some do not have access to mobile devices, data, and internet services. Although the majority of our practices utilize Epic-enabled video visits, some practices use diverse video platforms to meet the needs of our patients in our community, including WebEx and doxy.me. Telehealth services are not uniformly reimbursed by payers. We still see some restrictions related to types of services, including established patients and COVID-related visits. Quickly after our ambulatory video-enabled visit expansion, we needed to develop workflows to manage ancillary staff that's usually performed by office staff to ensure that patients had appropriate follow ups. We leveraged our existing secure chat platform to support communication between staff in different locations.

We developed workflows using our NYU Health App to provide patients with orders and referrals. Our IT team had to also make sure clinical decision support was embedded in our telehealth experiences to ensure patient safety and quality of care. Next slide. So, how did we manage to successfully scale virtual health during the NYU 19 -- NY -- during the New York City COVID-19 surge? How did we go from 100 video-enabled virtual visits to 8,000 within three weeks? We were able to accomplish this with our existing EHR platform governance and our telehealth infrastructure. NYU Langone utilizes a single enterprise-wide EHR platform Epic, that's used both in inpatient and outpatient settings.

We have a strong governance that's invested in digital health and believes technology enhances the experience for both patients and clinicians. In 2016, our dean, CEO, and chief informatics officer made a strategic plan to develop an enterprise-wide virtual health program. A virtual health steering board was created to lead the initiative consisting of executive, clinical, IT, and operational leadership. In 2020, NYU Langone Health developed a formal strategy for clinicians, the Clinician Digital Experience to enhance clinician experiences effectiveness and improve patient outcomes using digital tools.

When the COVID-19 pandemic demanded a switch to virtual healthcare, we did not need to pivot. We only needed to scale up our existing telehealth infrastructure. Prior to COVID-19, we had an over two year experience with virtual healthcare. We already completed 15,000 virtual visits. Next slide. So, what is the future of virtual healthcare? With the evolving pandemic and no current vaccine, we will continue to rely on virtual healthcare to support social distancing.

Currently, poll surge virtual care visits account for about 30% of our ambulatory visits, and we will continue to expand. Currently, virtual health is not limited to just clinicians. It's utilized by nursing, lactation consultants, pharmacy, occupational and physical therapists. We will also continue to expand our remote patient monitoring program and provide longitudinal care to patients that extends way beyond the acute visit. Next slide.

We have active remote patient monitoring programs in OB, maternal fetal medicine, transplant cardiology, endocrine, and bariatric medicine. In OB, we recurrently monitor the glucose of our gestational diabetics at home, allowing clinicians to give real-time feedback on management. Many of our programs monitor blood pressure, glucose heart rate, and pulse oximetry. We also have upcoming initiatives in primary care, utilizing remote patient monitoring for blood pressure, coupled with health coaching via virtual care to manage hypertension. In cardiology, we're looking into innovations, enabling cardiologists to interrogate ICDs remotely and use handheld monography to monitor ejection fraction.

In ophthalmology, we have an initiative, allowing remote tonometry readings, enabling our glaucoma patients to measure intraocular pressures at home. Next slide. The patient's healthcare experience really extends beyond right now and the acute inpatient or outpatient encounter. We will continue to support patients through digital health tools as they transition across settings. We will provide patients with our tools within our NYU Health App. We will provide them with questionnaires, educational materials, reminders, and allow them to continue to monitor themselves remotely, to improve their chronic diseases, and also to improve their experiences pre and post-operatively. Next slide. So, in conclusion, virtual health is not only a technology, it's an emergent ecosystem. It's a new mode of healthcare delivery. It's an experience.

The future of virtual health goes beyond telemedicine. It's the next generation. It's about digitization of healthcare. It's how we provide a digital experience for patients and clinicians to improve outcomes. Next slide.

This concludes my presentation, and I would like to pass the forum to Dr. Alli.

Dr. Alli, are you--.

Yeah.

Are you online?

Yeah, can you hear me now?

Yes, we can. Thank you so much. Please proceed.

Thank you. So, good afternoon, everyone. I'm going to start by apologizing. I am in New Jersey, and we have a storm overhead and trees are falling and wires are going down, and so I, in the last 30 minutes, I have dialed in six times. So, both phone and internet playing back and forth even between two phones, so again, I apologize in advance if I go out. I will definitely try to call back in. So, please be patient with me as I literally weather this storm. So again, good afternoon. I'm going to talk to you this afternoon about my experience at Henry J. Austin, an ambulatory care, primary care facility. So, next slide, please.

In my discussion, I'll outline who we are as an organization to give you some context. How did we implement telehealth within our institution? What was some of the opportunities and challenges? And then, in my mind, what are some of the future directions of telehealth, particularly for ambulatory care and those within vulnerable populations? So, next slide, please. So, who are we at Henry J. Austin Health Center? We are a federally qualified health center located in Trenton, New Jersey, and Trenton is the capital of New Jersey.

We've been in existence for over 50 years. We are accredited by both the Joint Commission and a patient-centered medical home, and we've also received recognition from the Health Resources and Services Administration for enhancing access to care, reducing health disparities, as well as advancing quality through health information technology. So, we're really trying at Henry J. Austin to straddle the world of best practice, evidence-based care, and innovation at the same time. Next slide, please.

So, we are made up of nine locations. Four of them are the very traditional bricks and mortar locations. Three of them are primary care sites that are embedded within a mental health institution. There is one site that is embedded within a homeless shelter.

Dr. Alli, are you -- you just dropped off for a second.

Yes, can you hear me now?

Yes, thank you.

Next slide. Yes. Next slide, please. Our patients, one in nine are homeless. Over half of our patients are African American and are female. A third are Latino, and two thirds of our population fall below 200% or more of the federal poverty level. Next slide, please.

So, when we look at how we implemented telehealth within our organization, we took the road of looking at people, processes, and technology, and you need all three of those, particularly when you're implementing any change process on this level. Next slide, please. So, starting looking at the people within our organization as it relates to telehealth. Next slide, please.

So, the people within the organization, there are many different individuals that make up an organization of our size, providing primary health care services, and we decided early on that we were going to convert all of our practice to telehealth in the beginning, and we did so within four days. We converted every service we had to telehealth, and all of our staff worked from home, and so that includes-- Who registered patients from home. Our nurses, who did triage, were screening from home. Next slide, please.

As well as our providers, of course, but also our medical assistants and community health workers and our billing staff, our finance staff. So, everyone worked from home, and, in fact, 95% of our staff we were able to retain and work from home, and it was really only those individuals like security and maintenance that we had to furlough when we were at the peak of our epidemic here in New Jersey. And as you know, New Jersey was one of the states that was hit the hardest, only after second to New York. So, it was really important that we did convert, feeling important to keep our patients and our staff safe. [Inaudible] When we transitioned to telehealth, they were one of the critical roles.

We were looking to help our patients navigate this brand-new system, making sure they called ahead to say did they have a video component, did they just need to call in and do a telephonic visit, did they understand how [inaudible]-- [Inaudible] Hello?

Excuse me, Dr. Alli, we were having a lot of difficulty on the audio side hearing you. We can try just another slide, but I think with this much sort of breaking up audio, we might have to move past you if this continues, because I think we're getting long stretches of no audio on your end.

Yeah, can you hear me now?

We can hear like three or four words, and then it kind of breaks up.

Yes, I understand. I apologize. I do not think it's going to get much better. Can you hear me now?

We can. We can. Like I said, we can try a couple more slides, and then I might have to make a decision to move on to our Q&A session.

You got it [inaudible]-- So, next slide.

So, Dr. Alli.

Yes.

I'm sorry. We weren't able to catch anything for the last five or six seconds, if you were speaking. So, with my apologies, if it's okay, we are going to move past your slides to Ms. Tindall's resources slide and then commence with our Q&A session. I do apologize for the technical difficulties for both our audience as well as our presenters. Please be safe. It sounds like the conditions are quite austere. So, you know, our thoughts for your health and safety, please be safe.

For our host, would you please forward the slides to the Resources slides? And I'm going to turn this over to Ms. Tindall for her discussion.

Thank you and a special thank you to Dr. Wallace, Dr. Prescott, and Dr. Alli for sharing their telehealth implementation experiences. Before we end this call, we would like to share again the Telemedicine Hack, which is an excellent opportunity for providers to learn more about the intricacies of telehealth implementation, including workflows, billing, and reimbursement.

Again, these sessions are held weekly and are at no cost for participants. So, for more information, please contact -- use the information here to contact the organizers. Thanks again for joining us, and now I will turn it back over to Ibad.

Thank you so much, presenters. Thank you for providing our audience with such useful information. We will now go into our Q&A session. Please remember, you may submit questions through the webinar system by clicking the Q&A button at the bottom of your screen and then typing your question. Please do not ask your questions in the chat box.

Please reserve your questions for the Q&A box that you can access with the Q&A button. So, we have quite a few questions that have come in for our presenters.

First question asks, while regulations have been modified during the pandemic to allow providers to expand telehealth services, organizations are concerned regarding malpractice insurers pushing back. Can our presenters from the various healthcare systems please share their experience on how that has worked out for them?

This is Febe Wallace from Cherokee. I -- we are covered, we are a federally qualified health center, and we are covered under FTCA. We have always made sure, even in the early days of telehealth, that we have used HIPAA-compliant and very secure systems. We -- any care that we deliver, we put to the same quality standards as on-site care, and to this point, we have not had any malpractice issues or concerns raised. We undergo a lot of scrutiny from FTCA when we apply each year for deeming, but we have been able to meet those standards.

I think a key thing again, you don't change the quality. You may not be able to do everything that you would normally do on-site, but you aspire for the same quality, hold the provider to the same standard, and even though the security and privacy issues are a little bit more lax now, we have just taken the standard that we didn't make anything more lax. We just kept it to the highest standard possible for our patients as well as our own liabilities.

Thank you, Dr. Wallace. Would any other presenter like to comment based on their experience from their facilities?

So, this is Dr. Prescott. So, also, I practice at a federally qualified health center who's also covered by FTCA. So far, as far as I know, we haven't had any problems with malpractice. Similar to what Dr.

Wallace stated, we emphasize that documentation and privacy has to be equivalent to what's done during an in-person visit. You make sure you have this, you know, similar type of documentation. You're performing a physical exam if it applies, and so far, you know, things have been fine, and we haven't had any issues with malpractice.

Thank you. **Our next question asks, and this is actually multiple questions we've received around this topic. Can you please address the challenges of accessibility, for instance, for patients who may be deaf or hard of hearing, and what solutions can you implement for them?**

Hi, this is Dr. Wallace again. I will go first, but, Dr. Prescott, you [inaudible] hop in ahead of me anytime, but we have, particularly with Zoom, you can have several people in the visit. So, we have some deaf patients, but more often are situations that need interpretation, and we can connect via both OTTO actually and Zoom to have the interpreter present for the call, you know? We have not actually had a circumstance.

We're prepared to connect into a sign language interpreter for a deaf patient. So, that's one thing we all have to work on in our platforms is to be able to have the -- to be able to meet the needs of certain circumstances. But in our case, it's been more interpretation, but Zoom in particular has been very helpful in having that connection. In addition. the other way we use it is when we need behavioral health.

We can, in our model, we would see patients and have a behavioral health consultant on-site, of course, just to do a warm handoff, and we've had to recreate those kind of warm handoffs via telehealth as well. So again, we have to work to make sure we have the platforms that allow us to meet the need of patient

needs interpretation and patient needs deaf services, any of the needs through having multiple people be able to join a visit as needed.

Thank you, Dr. Wallace. Next questions. **Do any of your facilities provide telehealth and nutrition services by registered dietitian nutritionists, and can you please talk about those?**

Hi, this is Dr. Prescott from NYU. So, as I said before, our telehealth services now are not only used by clinicians, and we have expanded it to nutritionists, also lactation consultants, health coaches, and also nursing staff. So, we do have nutritionists who have utilized the telehealth platform, specifically during the surge when patients could not come into the practice.

Thank you very much. Next question and we -- this is a two-part question, because we have received multiple questions in the Q&A box based on this. And that is, **can you talk about any advice or tips you have for conducting physical exams with telehealth? And a follow up on that is, how do you propose using things like otoscopes and stethoscopes remotely?**

This is Dr. Wallace from Cherokee again. Our major experience has been with using technology in that way has been with patients that have come on-site where we have the equipment. One thing we hope to do is be able to put this in mobile units that we can take around, so that, you know, we can do the care there. But as far as having access to be able to do the technology home, our patient base currently does not have in addition to not having access to all of the wonderful technologies that are out there for patients to have to be able to send data back to us is limited right now.

I think this is an area that we need to advocate for, and I think particularly for our elderly population that we need to really work toward having that ability in people's homes to get data back to us. In east Tennessee, when the weather turns cold, most of -- a lot of our elderly population will not even venture out the door. So, we really do need to take this opportunity where we're really reexamining the fabric of how we deliver care in the United States to think about how can we not only get broadband out to areas that need it but to provide technology that really, really helps. I've had visions of maybe we develop a healthcare library where somebody -- you have a library, and you have things where patients can access these tools in a secure place to get remote care back into centers. But I think we just really haven't had -- we don't even have access to patients that can do blood pressures that they can download and send to us.

I mean, we just -- our patients cannot afford or and don't have insurance companies to help them with the cost of these, a number of reasons, but this is a very fertile area for us to advocate for in the future moving ahead.

This is Dr. Prescott. So, in terms of the physical exam, of course, we rely a lot on visual inspection, but we also ask patients to facilitate what we call the patient-facilitated exam. So, via video, we ask them to check their vitals. They can actually check their temperature while we're looking.

They can check their pulses and check their blood pressures for us to document. We also have them palpate different portions of their body to assess for pain while we're watching, and sometimes we actually have to engage caregivers in the exam, facilitating with movement of the camera, so we can visualize different parts of the body. So, you have to be creative, but it can be done.

Thank you so much for sharing those insights. Our next question asks, that **you've talked about some federal regulations being more lenient or expanded upon. How has your experience been with state licensing boards specifically?**

This is Dr. Wallace again. We have actually in Tennessee not had any issues that I am aware of. We actually have had not now, but in the past we've had some clinicians that lived in other states, but we've had them to have licenses in both states, but we haven't had as far as delivering telehealth. Actually, the State of Tennessee with our Medicaid providers has been very supportive of telehealth efforts in Tennessee.

So, we haven't really faced any significant barriers that I am aware of, but that's state by state. You really have to look at your state regulations. Okay, thank you. Can you speak to what resources you used at your various facilities to educate your patients on telehealth and follow up? How did you promote and deliver patient digital literacy education to get them to that level?

I will go ahead and start. This is Dr. Wallace again. We found that we've had to have a very, quote, hands on, although it's mostly telephone on support for patients. We actually repurposed, much like they did in New York, our staff to assist with helping patients learn how to navigate the technology and connect.

We tried to test visits when possible to help them connect. So, a lot of it has been just one on one and fairly time intensive. Before COVID actually, we had some digital health literacy activities that we had. We had actually coaches at kiosks to help patients start to learn how to navigate technology, and, of course, those hands on efforts have had to stop. We do have scripts that we have put out on our patient portal for those to obtain.

And we do send verbal blast -- text blasts out to people, but a lot of it is just, with our population, this had to be very, very hands on. As I said, a lot of time, but it's time well spent if we can help patients. Sometimes we had to help them develop an email address, so that they can get communications. Right now, we do have to send either via text or email the way to connect, and many of our patients don't even have email. So, it has been time-consuming.

But we have used -- there are a lot of good resources for behavioral health patient -- SAMSA has some resources. There a lot of good resources out that we have adapted for our patients, guidelines on what to expect at the visit, how to connect, and how to prepare, including all the privacy issues that were brought up, be in a secure space. So, we have our own homegrown information that we do hand out to patients or submit to the portal.

Thank you very much. Our next question is for all our presenters, and our inquire would like to know, **can you please tell us which EHR the various speakers are using at their facilities?**

Cherokee Health Systems uses NextGen.

NYU Langone Health uses Epic.

Great, thank you very much. The next question asks, **are there efforts at your facilities underway or planned to quantify the cost savings of the shift to telehealth delivery, for example, studying metrics such as PPE conserved, care delivered that would otherwise not have been undertaken, staff utilization et cetera?** And, of course, for our presenters, if I go through a question too fast, I'm happy to repeat it. For instance, this question is specifically asking if there are efforts underway or planned to be conducted to quantify cost savings by shifting to telehealth delivery and the person asking the question gave examples of metrics, such as conserving PPE, care delivered that would otherwise not have been undertaken, or staff utilization, benefits et cetera.

I will start and tell what we're doing at Cherokee. Yes, I -- and I'm not privy to all of what's been done, but our analytics department in our business offices are looking at, you know, how just constantly and how the change in treatment, how we've had to deliver care affects billing reimbursements and looking ahead to the future, you know, thinking about what we want to sustain, because we all anticipate that telehealth, particularly as with the changes we know are coming in Medicare with CMS, you know, what are those reimbursements going to be and how -- what do -- we what kind of balance do we want to maintain? We looked, of course, our visits dropped dramatically right at the beginning of the pandemic, but what did not drop and what actually increased was our behavioral health visits -- are -- because we -- they were more ease -- they more easily switched to virtual platforms. Our behavioral visits went up nearly by a third to base -- from baseline. Our primary care visits dropped substantially and are just now -- we are now getting back to above baseline of 2019, but all of those things have impacted our care. We look at also things like patient satisfaction.

The OTTO platform allows us to do patient surveys after, and we're learning that our patients certainly value if they have a good connection, we're getting out of a score of 10 8. 8 ratings, using telehealth where patients really find value in this and really want this effort. We're also looking at things like, again, how do we help people understand the value of telehealth. We took one clinic last week and did a text blast out that gave them the actual way to the links to download Zoom, so they could be prepared and call in for a virtual visit. And in the first 30 minutes for one clinic, we had 40 downloads of Zoom and have had 174 downloads of Zoom out of that clinic.

So, we try to measure all of these metrics to see, you know, one, is this a value to patients, is the experience good? We monitor our staff, and as I said, I know we're checking and following the business metrics because that will guide us downstream. I can't give you more details on that part though.

Thank you for that, Dr. Wallace. Our next question asks, **can you speak to any challenges that you continue to face when using telehealth compared to the initial challenges that you shared in your presentations?**

This is Dr. Prescott. So, I think we continue, and we'll continue to face challenges related to reimbursement. Right now, the majority of payers are reimbursing for the majority of our telehealth services, but as I said previously, every week we have to look to keep up with payers. One week, one payer will pay for new patients, the next week it will change.

So, I think that's a continued challenge. Also, you know, going forward, we have to make sure that telehealth doesn't add to inequities that we currently see in healthcare and make sure that it's beneficial to all patient populations.

This is Dr. Wallace, and I'd like to just, you know, agree totally with what Dr. Prescott said. We don't want to increase disparities with these efforts to provide telehealth. We want to improve the disparities.

I think several things, it does require more training. We are working on really improving the kind of care that we give virtually, the teaching providers how to take a patient through the soft exam that Dr. Prescott described is -- it does take training, and the level of comfort with providers depends on their levels of -- their years of experience. We have a lot of newer in practice providers, particularly we're relatively dependent on NPs to deliver care, and their discomfort in providing virtual care can be -- is something we have to help them to address and help them to understand how to really provide a visit and when do they need to make the efforts to convert that to on-site visit. We never did shut totally down our on-site visits.

So, you know, we've had to work on that balance of -- and many people just felt like everything needed to be an on-site visit at first. No, you know, let's talk about, you know, what you can do and how you can feel comfortable in managing a patient when you can't do the actual exam. The other thing, I think, we all have to recognize long-term is there are many providers that really are very relational and are not professionally fulfilled with telehealth. Some people really like it better. Some people find it more efficient, but we found during not only COVID, but just the -- for some people emotionally, they had trouble adjusting to trying to care for people remotely, and one little minor point from a provider standpoint was, but when you schedule people virtually, you know, those patients tend to want to be okay.

On eight o'clock, I should be right at eight o'clock, you know, nine o'clock, I'm right at nine o'clock. When we're seeing patients on-site, we're very flexible. We're moving back and forth, and, you know, they can go in one room and get something started going to another room. That's not -- you can't shift like that doing virtual care. So again, if you [inaudible] have the patient that needs extra time, we were finding people hanging up, you couldn't reconnect with them if they were in waiting areas.

So, it's logistically some things you have to adjust to, but we can do it. We're all learning together in busy primary care practices how to balance all of these factors, but we need to continue these discussions and learning from each other as providers, as administrators on how we can really provide quality care in flexible ways, so that we can meet the needs of patients.

This is Erica Tindall at CDC. I just would like to echo the concerns and the conversations related to telehealth potentially exacerbating health disparities in certain populations. And I just want to acknowledge those concerns and acknowledge that CDC is approaching telehealth through that health equity lens, so that we can simultaneously both promote telehealth promotion -- telehealth utilization, as well as improve access to those medically and vulnerable and socially vulnerable populations. And we are working in tandem with some of our other federal health agencies and partners, as well as our subject matter experts in our Office of Health Equity to make sure that we, you know, continue to align health equity in the context of the COVID-19 pandemic and beyond. So, thank you for those questions and also for the work that our speakers are doing in their facilities to promote health equity through telehealth.

Thank you for those answers as well as your comment, Ms. Tindall. I think that actually serves as a good capstone for today's Q&A session, and I just want to thank all our presenters and our audience for their time today. All Continuing Education for COCA Calls are issued online through the CDC Training and Continuing Education Online System accessible at https://tceols.cdc.gov. That web address you can also find on the archived slides, which will be available on the COCA Call page.

Those who participated in today's COCA Call and wish to receive Continuing Education, please complete the online evaluation by September 7, 2020, with the course code WC2922-080420. The access code is COCA080420. Those who will participate in the on demand activity and wish to receive Continuing Education should complete the online evaluation between September 8, 2020 and September 8, 2022, and use course code WD2922-080420. The access code is COCA080420. Continuing Education certificates can be printed immediately upon completion of your online evaluation. Accumulative transcript of all CDC's Continuing Educations obtained in the CDC Training and Continuing Education Online System will be maintained for each user.

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Please join us for our next COCA Call 2020-2021 Influenza Vaccination Recommendations and Clinical Guidance during the COVID-19 Pandemic. This COCA Call will be held Thursday, August 20th at 2:00 PM Eastern Time. Please continue to visit emergency.cdc. gov/coca to get more details about this COCA Call and others, as we intend to host COCA Calls to keep you informed of the latest guidance, updates, and recommendations on COVID-19.

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Again, thank you for joining us for today's call and have a great day.