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LESSONS LEARNED: RAMPING UP THE TELEHEALTH SERVICES DURING COVID-19
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>> Hello, and welcome to "Lessons Learned: Ramping Up Telehealth Services During COVID-19." This is the first in a multi-part series on telehealth innovation in the era of COVID-19, lessons from the field. My name is Murlean Tucker, and I am running this dialogue for health Web form with my colleague, Kathy Piazza. Thank you to our partners for today's event, UC Davis health, Transatlantic Telehealth Research Network, CITRIS and the Banatao Institute, the International Society for Telemedicine and eHealth and the Gary and Mary West Foundation. Audio for this is through your computer speakers or headphones. Just click the telephone icon located at the bottom of your screen for additional ways to connect. Real-time captioning today is provided by Tammy of Home Team Captions. For captions, click the multimedia viewer icon located under the circle with three dots at the bottom of your screen. Next, on the right side of your screen, locate the link in the captioning panel that says, "Show/hide Header." And if the captioning window ever disappears, click the multimedia icon to bring it back. We encourage you today to share your thoughts and questions about the presentation by typing them in to the Q& A box and we'll answer as many of them as we can. You can open the Q& A panel by clicking the black circle with three white dots at the center of your screen, and the Q& A panel on the right side of your screen, select "All Panelists" from the drop-down menu so that your question gets sent to the right place.

We also want to hear from you via polls. So in just a few minutes, a poll will appear on the right side of your screen. You simply need to select from one of the choices, and then hit the submit button.

And now, it is my extreme pleasure to introduce Dr. David Lindeman, the moderator of this event. Dr. Lindeman is the director health of the Center for Information Technology Research in the Interest of Society at UC Berkeley. He is also the director of the Center For Technology in Aging. He has worked in the fields of healthcare and long-term care for nearly 40 years as a health services researcher and gerontologist. His current focus is working with researchers, entrepreneurs and investors on the incubation, start-up, evaluation and scaling of technology-enabled healthcare solutions. Dr. Lindeman serves as an advisor for foundations, government agencies, businesses and venture firms. Welcome to the microphone, Dr. Lindeman.

>> DR. LINDEMAN: A number of specific individuals who have been working in the field, who are experts and will be not only sharing their views and the programs that they've been working on with us, but also answering your questions, and as we do this, it's important to understand that we are now in a new era. While telehealth has been here for decades, we now know that it will be the wave

of the future.

So as we welcome you to this session today, we want you to understand that we are building on significant historical experience, but also working to address the many changes that are coming at us quickly and rapidly.

Today, in Lessons Learned, I would like to share with you that we have our sponsorships from a number of organizations, as you've already heard. Our colleagues at UC Davis Health, who have been leaders in the field for decades. The Transatlantic Telehealth Research Network that brings together colleagues across continents, CITRIS and the University of California and now our International Society for Telemedicine and eHealth that has also worked to bring people together across the globe, and today's webinar would not be possible without the support from the Gary and Mary West Foundation.

What we would like to do first is conduct a very quick poll that you see before you because we would like to know the extent of experience of people who have worked in telehealth or are new to this space. We would appreciate it if you take, just for the next ten seconds, use the question and answer poll, and indicate whether you have been very involved, somewhat involved or not familiar with telehealth at all.

In a minute, we will give that information to our presenters, and as we do so, I would now like to welcome the four presenters that we have who are going to be working with you today. That includes Lisa Moore, who is executive director of the UC Telehealth Collaborative at the University of California San Diego. And her colleague, Dr. Lawrence Friedman, who is associate Dean For Clinical Affairs at University of California San Diego, who have helped stand up the entire University of California Telehealth System over the last few months.

We will then also be reaching and experiencing the work from overseas from the United States, that is, and we will have Dr. Micaela Seemann Monteiro, chief medical officer for digital information at her institution in Portugal, followed by Professor Kristian Kidholm. So without further ado, we would like to move quickly from this poll in to the introduction from our first colleagues.

I will turn the program over now to Lisa.

>> LISA MOORE: Great. Thank you.

>> DR. FRIEDMAN: This is Larry Friedman. Thank you very much for that introduction, David, and for being given the opportunity to present at this terrific event. I'd say good morning, because I'm in California, and it's around 9:00 here in the morning, but I know that people are participating from all over the world, so whatever time it is for you, I consider this your welcome greeting.

I'm going to talk a little bit about the experience at the University of California in San Diego. Lisa's going to talk about the collaborative experience across all of our campuses, and then I'll wrap it up with a couple of words about the experience in the United States in general. Next slide, please.

So the University start-up actually was started several years ago. The story of the telemedicine start-up at six individual campuses, including San Diego, Irvine, UCLA, UC Riverside, UC San Francisco and UC Davis. This is a little bit of background information. There were multiple tries to collaborate across these wonderful University of California campuses, and I can tell you one of the main sort of comments and lessons learned from the difficulties we had with collaborating was the general theme that culture beats strategy. So even though each campus had a telemedicine program, getting us to work together was a bit challenging.

Prior to recent events, telemedicine programs often depended on grant funding in the United States, which made their sustainability often challenging. And I'll come back to that in a minute, because of some major sort of break-throughs that happened with COVID-19, or because of COVID-19.

In 2017, the Office of The Health System President, provided a small stipend for a physician champion and that happened to be me to spend a little bit of dedicated time to bring the collaborative together. We created a multi-campus governance sort of series of committees. It wasn't just one committee, and we developed constant dialogue across campuses.

We had continuous conferences, one big annual summit, but there was really sort of an initiation of telemedicine-related communication across campuses. Next slide.

So what did we do and how did we do it at San Diego? And this is all related to -- so now we're going to talk about what happened with COVID-19. We had an existing telemedicine steering and executive committees. We met regularly and included key physicians, administrators and executives. We -- as soon as the weekend of March 16th, which I and Lisa remember very clearly, we convened a telemedicine command center almost overnight. It included electronic health record experts, our record happens to be Epic, and telemedicine experts.

We ran that center seven days a week for three straight weeks, and we created daily reports and dashboards by doctor, specialty and location were recorded and disseminated on a veg basis. We disseminated online training. We couldn't use telemedicine unless there were verified training from the UC Learning Center. So in one weekend -- so I oversee all of our primary care operations also, and I'm a division chief of general medicine. We trained probably several hundred doctors in one weekend. And we don't allow our doctors to provide telemedicine visits unless they get certified going through two training modules to understand all the sort of compliance and legal issues related to telemedicine. And in that one weekend, we trained -- as I said, we trained several hundred doctors, which is a pretty remarkable event.

We enlisted medical students. One of the advantages we have as a academic medical center is that we were able to enlist medical students to help with the physician training, and especially help with patient training, too, to how to get up and basically be able to facilitate a visit using video visits.

So when classes were stopped, they helped train patients and some of our doctors. We converted third and fourth-year medicine curriculum in to telemedicine sessions also. We run a paper that's currently under review for publication on how we evolved our medical school curriculum using telemedicine as well.

I can't emphasize the importance of communication, communication, communication. We communicated on almost a daily basis with staff, doctors and our call center. Patients through Web portal or phone calls, and daily hospital and physician group huddles. So there's a lot of communication about telemedicine, and it really transformed our organization almost overnight. And I'll show you some examples of that. Next slide, please.

So this is what happened in the UC San Diego faculty primary care domains. And this included intro medicine, family medicine and geriatrics. What you don't see is a bar graph all the way to the left, which would be pre-COVID, which is basically almost zero telemedicine visits. We had this capability, but we really weren't interested, and it was hard to get doctors interested in doing

telemedicine visits. If you go all the way to the right side, you can see that we already by April 27th, across the bar back to 75 percent of expected visits during that week, and I can tell you -- so this is two weeks old when I put the slides together. We're now up to about 90 percent. And the red bar -- red horizontal bar is our budgeted visits in primary care prior to COVID-19, and the gray bar in the bar graph in the middle are video visits. Yellow are telephone visits and orange is in-person visits. So you can see that we ramped up, just trust me, all the way to the left, prior to COVID-19, our video visits were primarily zero.

So this is a really rapid increase with everybody on board. Patients -- because of social distancing, there was really very little resistance to use telemedicine by patients, or frankly by doctors either. Next slide.

So this is very important, and this is -- you know, I can't comment on the rest of the world, but this is an incredibly important motivation in the United States. So one could say that this was because the telemedicine technology was new, or was made remarkably available in a very short period of time. Technology for telemedicine certainly is not new in the United States and certainly in my institution, but I think throughout the country, this is not driven by technology, but is driven by policy. And I think that one of the most important lessons learned is technology for telemedicine is really not complicated by and large, but using it is really driven by policy, and by policy, I mean that very rapidly, by the third or fourth week in March, Medicare, which is a federal government payer for seniors, waived payment for telemedicine, which meant that they were actually paying for it. In the past, they weren't paying for it, except in very certain circumstances. They started paying for telephone visits. They waived the restriction for practicing medicine across state lines. That's really important. All state -- all medical licenses are applied according which state you live in, so I have a license for California. I can't go to Las Vegas and practice medicine because I don't have a Nevada medical license. That restriction was waived. And the waiver for confidentiality were waived as well.

It's important to remember these are waivers. They're not -- the law didn't change. So we'll see what remains post COVID. And who knows when post COVID is really going to be.

As I said before, social distancing, which is the patients and doctors understand the need and find it works well in the right circumstances. So we had a very motivated group of patients and doctors to institute telemedicine. By the way, I should have said this at the very beginning. When I talk about telemedicine, I'm talking about video telemedicine. There are other eHealth modalities, which we use, eConsults and med mobile monitoring and so forth. For the purpose of this talk, Lisa and I will both be talking about video visits. Next slide.

So Lisa, if you want to talk a little bit about how we utilize the collaborative to get things really rock and rolling in California.

>> LISA MOORE: Yes. Great. Thank you, Dr. Friedman.

So as Dr. Friedman had mentioned earlier, we had an existing governance structure for our UC Telehealth Collaborative. The goal of the collaborative is really to be able to leverage our scaleability between our six UC health system campuses and the 11UC school campuses to be able to really scale up across the State of California.

And so we -- part of our governance structure does include representation from each of our campuses, our sponsored CEO and CIOs from specific campuses, and then also collaborating with our compliance, legal and risk departments as well. We want to make sure that we are working towards a centralized consenting and credentialing process through all of this.

Each campus, each health system campus did already have their existing telehealth programs, but this is more of a way for us to collaborate lessons learned, and, again, really use that scaleability across California.

One of the benefits is that we also used, across the health systems, the UC Health Systems, this same electronic health record. Right now, there are different instances of that system, but there is a way to be able to share patient information across those instances and across the State of California.

And then we also have some centralized data warehouse and tracking mechanism where we can really leverage all of that data together and start to look at trends.

This graph just shows a great representation of our ramp-up during the pandemic with the six health systems. So about half of our traditional in-person encounters were able to be converted very quickly over to video visits. You see sort of the height of the pandemic, and when we started our shelter in place, we were able to quickly ramp up to about a 40 to 50 percent conversion of in-person to video visits. We were able to do this across the entire UC system based on our current infrastructure that was already in place.

And then some lessons learned that we had from all of the campuses. As Dr. Friedman and I keep repeating, the governance structure really helped to make sure that we were able to be scalable and very nimble, quickly to ramp up during the pandemic. Communication and training were vital. This is communication and training from the front desk staff all the way up to the providers and to leadership.

Because we had a lot of written policies and procedures already in place for our telehealth visits, we were able to quickly pivot as we needed to when there were -- our since there has been the waivers in place through the Center for Medicare and Medicaid Services, as Dr. Friedman mentioned, we had required training for all the providers, so not only on the functionality of the technology, but also items around compliance, privacy. Those all helped to be able to roll out the telehealth program much quicker.

Our patient outreach, this was our really a customer service way of reaching out to our patients, making sure that they were comfortable with the technology before they potentially had a video visit, understanding our business case. So this will definitely continue to continue forward as we continue to implement telehealth across the health system. Are we doing this to increase access, new patients into the system, cost reductions. It's really good for leadership to have that strategic vision in mind.

We are hoping that CMS will continue with a lot of these waivers in place, and the leniency that they have with care across state lines and the lessening of restrictions around technology and privacy.

And then we are projecting that continuing forward, that we are going to maintain about a 25 to 30 percent of our video visits as the new norm.

This will then further provide us some input and decision making as far as what we are doing for cost efficiencies and the type of visits that patients are going to be needing going forward.

>> DR. FRIEDMAN: So now I'm going to talk about some of the hopefully the lessons learned around COVID-19 in the United States. By the way, just a really quick aside. The graph I showed with up to 80 percent of visits by telemedicine was for primary care. The graph that Lisa showed was

for all ambulatory care, so it included all specialty care as well. You can see the uptake in our -- across all the campuses, for primary care was much greater than for all the specialties, and the reasons for that that are quite legitimate. But in any case, COVID-19, the lessons learned. Trust in leaders, science, policy and communicators is essential. Science matters. We in the United States are encumbered with some special challenges that really have substantially, I think most people feel, held back us getting to best practices in policies and procedures and legal issues and public -- really public health issues that we needed to be on a better path.

Leadership at all levels matter. Matters at the very highest level, the federal government and also the local level at local public health departments. That's extremely -- at the local level, competencies are extremely very -- without a set of federal national policies around best practices, it's been very difficult for many states and public health departments to get on the right path.

It should lead to a conversation about the role of federal versus state versus local public health decisions and processes. Some countries have been leaders, and we can learn from them. May not happen with our current leadership, but I think history will be the judge of that, and I don't think history is going to judge the U.S. too well in their response to this pandemic. New Zealand, I just picked out as an example. There are many other examples of countries that have done this well.

Telemedicine has played an extremely important role. Governance and processes are probably more important than technology itself. Next slide.

So, you know, we're, as I mentioned before, in the U.S., we're faced with a -- leaders at the very top talking about injecting disinfectants or drinking disinfectants as a way to mitigate risk, and having an extremely well respected infectious disease doctor laying out very, very important public health guidelines. And depending on which news channel you watch or where you get your information, you may basically decide to follow one or the other.

So I'm going to lead with that thought. In the United States, certainly for those of you in healthcare and in public health, feel pretty strongly about this. And that will wrap it up. Happy to take questions when we're done with the other panelists.

>> DR. LINDEMAN: Thank you, Larry and Lisa. Really appreciate that overview of the University of California system, the multi-campus program that has crossed the entire system ramped up telehealth very quickly.

We would also appreciate folks who would like to submit questions. We'll mention it right now, again, to submit those via chat, we will attempt to get to those as much as we can, but we will also be recording them and having further information afterwards.

At this time, I would like to switch over from the United States' perspective to the European perspective, and we're delighted to have Dr. Micaela Monteiro, who is the chief medical officer for Digital Transformation, at Jose De Mello Saude, who will now take us through the program that they have developed in Portugal. Micaela.

>> DR. MONTEIRO: Yeah. Thank you very much, David. Thank you for this opportunity to share our experience of setting up a teleconsultation service during this pandemic.

So this is an example from Portugal, where telehealth service was put in to practice within what I would call a fairly prepared system, and here's some background information about our country. We are ten million people living at the western tip of Europe. Our life expectancy is 81 years and we spend about 9 percent of our GDP in healthcare. We have a national health system, but also private healthcare providers. I like to call our ecosystem telehealth friendly, not only because we're

good -- but also because we have developed a lot of efforts in the last years to leverage telehealth.

A good example is the creation of a national center for telehealth, which was done by the government in 2016.

Here are some more examples of how telehealth is leveraged. I will just highlight a few that are the most important for our use case here. So first, the ontologic code of the medical board clearly supports telemedicine. Teleconsultations are reimbursed by all major health insurances and also by the Portuguese NHS. And ePrescription, which has been in place and mandatory for years now, is a really helpful in this -- for teleconsultation. So patients are already used to receive their prescription via SMS or eMail.

Last year we released our first national strategic telehealth plan, which I had the honor to coordinate with my fellow physician as head of the National Center for Telehealth. Stakeholders from all sectors, public and private, were called to discuss telehealth and give their contribution. There is an English version. So if you are interested, you just scan the QR code.

So but now let me present you what we did at Jose De Mello Saude in March this year. Jose De Mello Saude is the largest private healthcare provider in Portugal. We hold 20 healthcare units and do more than 2.6 million outpatients appointments per year. And Corona hit us all. Portugal had its first confirmed case on 2nd of March. We locked down on 16th. We are at the peak of our first wave the end of March and beginning of April and since the 2nd of March, we have been now in something like soft opening. So in total, we have at this point 31,000 cases and, sadly, 1,340 deaths.

Fortunately, our health system has not collapsed so far, as we sadly have to witness in some of our neighbor countries, but, of course, there has been a huge impact on healthcare and healthcare production. So appointments, surgeries, exams and even urgent care went down up to 80 percent.

So people -- so this has not only been a big economic threat. It has also collapsed to a very important ethical and medical dilemma. People were and still are afraid to go to hospitals and outpatient clinics, particularly the most vulnerable, the elderly, those with chronic disease. People were told not to go because of infection risk. But, of course, if you stop taking care of your chronic patients, if you stop diagnosing and treating cancer, if you do not address acute, non-coronavirus disease, you may create an even bigger problem in your future and morbidity and mortality from non-coronavirus disease will certainly increase dramatically.

So for us at Jose De Mello Saude, this ethical dilemma was, of course, a strong call to action. We had to open a safe channel for our patients, and although teleconsultations had already been in our horizon before COVID-19, nothing was actually prepared, and we literally had to start from zero, and we have to do it within a pandemic storm, where the whole organization was reorganizing itself and organizing everything.

So for teleconsultations, we had to find the robust and scalable technology, HIPAA complaint and easy to use by patients and doctors. We ended up with Google Meet. We have to buy hardware like web cams and headphones, which was quite difficult, because the market didn't offer them at this time. We had to define the medical practice and to get the approval by the protection. We had 0 to create training resources. We did this through video tutorials that we created and of course we had to communicate internally and externally, and we had to talk to the insurance companies and to tell them that we are doing now also teleconsultations.

And we have to do this while the country and the whole organization was obviously fighting the virus, cancelling non-urgent activity, segmenting upset with COVID and non-COVID, relocating staff, redesigning processes and creating new procedures, training staff, communicating and so on and so on.

So on the 16th of March, we took the decision to go forward with teleconsultations. A week later we had the service set up and started with primary care, internal medicine and pediatrics. We follow-up consultations. Progressively, other specialists joined in, particularly with follow-up consultations and two weeks later, on the 23rd of May, we had done more than 20,000 teleconsultations with up to 900 a day in peak times. With more than 1,200 doctors of more than 30 specialties.

As I said, previously, we have been cautiously reopening. Sorry. Consultations are increasing again now, and teleconsultations at this point went down to approximately 500 per day, and these are kind of stable numbers at the moment.

So and how was adoption by patient and doctors? Well, from the patient side, we have adoption across all age groups, but most expressively in the pediatric group where 30 to 50 percent of all consultations were done remotely. But also among the elderly were high adoption rates. Almost 30 percent or more than 30 percent.

From the provider side, almost 60 percent of doctors offer teleconsultations now, predominantly in the medical, within the medical specialties, which is, I think, understandable.

And what has been patients and provider's perception and satisfaction. So patients were highly satisfied and rated this new service, and we are talking about video consultations, rated the service with 8.7 out of 10, and the following number makes me especially happy, because in 93 percent, they considered their health problem well addressed or even so, and I think this is really a success.

On the other hand, on the provider side, the results were similar. So 75 percent rated teleconsultation as highly effective to address and solve the patients' health issue, and 80 percent considered it clinically safe methods. Only 8.7 percent felt unsafe.

So what were the critical factors for the success? Well, I think, first of all, there was a clear vision of what -- about telemedicine and teleconsultation beforehand, so before COVID-19, we were thinking about it and we were working at it. And then there was a sense of opportunity. There was a collective sense of urgency. We benefitted from strong leadership and high level of support, and the alignment of professionals, mainly physicians, and we have a lot to have internal competencies and means to set it up. So we really have here a fast course in change management in these few weeks.

So I would like to now, in the end of this presentation, to share some thoughts for the future. So I'm profoundly convinced that the patient's journey in the future will be hybrid. That is they will be remote and face-to-face touch points, as well as digital and human touch points. So teleconsultation is a very important building block of remote human touch point.

Of course, COVID-19 has pushed teleconsultations with an unprecedented speed. So we are still doing our learning curve and getting experience, so we need here to measure and to guarantee quality and safety. And finally, while this hybrid patient journey means cultural change, and we -- telehealth is winning its battles, but I think it has not yet won the war, and culture change will need time and more efforts, so I think we are not yet there. Thank you very much.

>> DR. LINDEMAN: Thank you, Micaela. And thank you for bringing us through a very rapid progress that you had and starting our discussion about what the future will look like. We will return to that after our last presenter, Professor Kristian Kidholm, who's professor of innovation at Odense University Hospital in Denmark. We're delighted to have Kristian join us today. He is also a member of the Transatlantic Telehealth Research Network. Kristian, the floor is yours.

>> DR. KIDHOLM: Thank you very much, David, and thank you very much for the invitation to speak at this webinar. I will go to the next slide. Okay. There it is. I will give you a short introduction to how we have used video consultation and implemented that for new hospital patient groups as a response to the COVID-19 crisis, and I have been assisted by a number of great colleagues at the hospital in the work that has led to this presentation.

This is our hospital. We are located in Denmark, the northern part of Europe. We are a small country with five million inhabitants, and we have a public healthcare system, publicly financed with no co-payment, and we have -- the hospitals are reimbursed for their use of telemedicine.

We have been working on telemedicine for the last six or seven years because this has been a major focus of our Board of Directors. We have even made an innovation strategy to focus on the telemedicine services.

Here you can see a list of examples of telemedicine we have been using. So we have telemedicine for ICD patients, with heart disease. We have telemedicine for patients with diabetes, home monitoring, home monitoring in hematology, for premature infants, for patients with lung disease and we have also started working on the use of video consultation with outpatient visits, for patients with diabetes, and we also have our own app called my hospital, and we have produced 180 different apps for 180 different patient groups. So we have used these apps for many kinds of telemedicine, both an app for communication, but also for video communication, with a large number of patient groups.

So this has been quite successful, and we have done this over six, seven years. And this has been -- and this is very fundamental to us. We are using scientific studies. We would like to be evidence-based, so we try to do assessment of clinical effectiveness, safety, patient perception, health economic outcomes, organizational impact and ethical aspects every time we consider implementing a new service. So the decision on using a new service is based on signs and evidence, and this is very fundamental to our work.

But then came the COVID-19, and we have to completely change how we work. So this is -- the number of outpatient visits on the horizontal axis is the number of weeks from January 1st to April, and you can see that the top blue line, the number of outpatient visits in our hospitals decreased from about 20,000 per week to about 6,000 per week when we were really hit by the pandemic.

During the same time, we can also see that the number of video consultations have increased, and more than doubled, and are now at a much higher level than before the pandemic. But it must be understood that we still have problems with under-reporting the number of video consultations. So the correct number is probably a lot higher.

So instead of waiting for evidence to be produced, we had to start working. And so we were learning by doing, and a number of clinical departments were starting to offer video consultations for patients who needed outpatient visits.

So this is nine examples of clinical departments who started to use video consultations for patients with sclerosis, patients in palliative care, patients with -- women with endometriosis, patients

with asthma, severe pain, plastic surgery, infections and patients with stoma.

So I will give you three examples of how we have started using video consultations for the three first patient groups, and I can not present to you solid scientific evidence, but I can present to you our experiences from what we have learned by using these services.

So the first case is video consultation in the department of neurology. They have started using video consultation for patients with sclerosis who are having regular visits. Some of these patients have cognitive impairments, so doctors do an assessment of the patient's ability to use video before they are offered the service.

We are using our hospital app, my hospital, and patients are invited to video consultation by letter, and they can say no to this offer and instead they -- we would offer them telephone or physical meeting.

Most patients, and this is information I have from the clinical staff, most patients find it easy to use. That is sort of the general experience, and the advantage to patient is that they don't need to go to the hospital, they don't need to find a babysitter. They don't have the parking problems and the hard work of coming to the hospital.

The staff perception is that implementation is working very well. And actually, for these patients, we can use -- we can carry out -- the doctors can carry out neurological examinations during the video consultation. They can examine the patient's eye movement, weakness and strengths of the arm, and also facial strength, because that is an indication of the state of health of the patient. That can be done over video.

At the moment, they have made 60 video consultations in six weeks, and they expect this to be used after the pandemic. So that was the first case.

The second case is the use of video consultation in the department of gynecology. They're using video for women with endometriosis, who are having regular consultation in the outpatient clinic. These consultations are focused on health problems related to the disease and also to pain. Patients are invited based on patient reported outcome data. So the selection of patients who are relevant for video consultation is based on the data that patients send on the app about their perception of their health at the moment.

Most patients would like to have a video consultation, and the advantage is that -- these are patients who are often in pain, so video will leave energy for everyday life and save time for the patients.

Some patients also feel that their symptoms are more well received when they are given this information over video instead of being physically at the place, at the hospital.

The staff are positive to watch this, and it was mentioned in the earlier presentation, implementation and how to train the staff in this use of video consultation is very important, and this was done in the kick-off day in which the doctors and nurses made video consultation with 24 patients and also got assistance from a local consultant company with expertise in patient communication. So this kick-off really helped our staff to use the service.

The use of video consultation has increased a lot over the last month, and we can see that for women with endometriosis, the goal is to offer this video consultation for about 20 percent of the

patients. So it's not for all the patients, because some of them must be seen at the hospital. And there's a substantial number of patients for which video is a solution that is possible and feasible.

The final case is video consultations for patients in palliative care. These are patients who are at home, and quite often have cancer, and they are referred to the palliative team by the GP or hospital doctor, and often because they are having severe pain or because they are having small children in the home, and there's a need for palliative care.

The first visit with the patient is done at the hospital, but hereafter, if the staff can see that the family has a computer or smartphone, they are suggesting to have some of the consultations by video. And this is an advantage for the patients because they are reducing the risk of getting an infection.

The staff perception, there was in the beginning resistance among the doctors and nurses before the pandemic, but this completely changed as a result of the pandemic, and now it's a very positive experience. And this is also very crucial for the implementation that people -- doctors and nurses will see that this really works. They are going to use it for more patients.

We have reached -- increased the number of consultations to about 14 per week. And how we will go over time -- some of the staff will continue to use video, but others might return to physical visits.

So we can see that the use of video is really a good way to offer services and healthcare to patients during the pandemic, and the experience is so far quite positive. But it's very important to underline that we don't really have the research and we need to do more research to make sure that the safety and the quality of care is sufficient. And I can see that especially four areas are important for future research. And the first area is how's the patient perception of the use of video? Is the picture and the sound quality okay? And that needs to be addressed, and we do that by submission of a questionnaire to all patients using video. So we get this from a large number of patients, information about how they see the quality.

We also need to look at patient safety. Is there a change in the mortality of patients or patient? Is there a change in the number of acute admissions of the patients. That could be an indication of a quality problem that needs to be examined further and we can assess whether this problem is in place, at least as a start-up. It's a starting point by doing -- looking at hospital's data and real-world data.

Ethics is also important because we need to see if we are having problem with inequality in the use of video. Are we -- who are the patients who refuse to use video and does the use of video vary with income and education of the patient. It might be that if it's mostly for patients at a high income level and high level of education, but -- and we need ways to examine that to make sure that this service is offered and used for all groups in the population.

And then finally, we need to address the organizational aspects and to identify what level of education and training is needed to ensure that we have success in the use of telemedicine and video.

So in conclusion, we -- our experience is that we can use -- we can increase the use of video to ensure access to care for new patient groups during the pandemic, but we still need to do research to ensure the safety and quality of care. Thank you very much.

>> DR. LINDEMAN: Thank you, Kristian. We appreciate that review, and now would like to

turn to questions for each of our panelists.

We have limited time, so we apologize ahead of time that we will not be able to cover all of your questions. We're seeing some excellent suggestions and points to be covered. If you do have a moment, you can send to the Q& A your questions, and we will also be capturing those and getting back to them.

We're hearing from the audience issues related to how to do stand-up or telehealth solutions in rural areas, what are some of the key staffing issues, what do we need to look at specifically and specialization, and many issues that we're all concerned about in terms of privacy and security of data.

But going back to our key issues, one of the things I would like to ask all four panelists very quickly is what would be one of your key strategies that you would like to recommend to audience members today that really were -- led to success in your program. You've all emphasized video. What were the key strategies that helped you stand it up that you would want our colleagues to take away today? And we can go right through in order. So Lisa, please.

>> LISA MOORE: Yeah. So I think through this pandemic, it is really catapulted the desire from patients and consumers to be using more telehealth, and specifically video visits. I think we were able to, at the University of California Health System, address this high demand, as well as use it for preventing patient exposure, was really having that governance structure already in place so that we could be nimble and really move forward with our technology, because we already had a lot of the governance structure, the leadership buy-in, the eLearning that we had already created. A lot of that internal infrastructure, to be able to quickly disseminate out that communication and training and information to our providers and patients, and that really helped us increase our volumes fairly quickly.

>> DR. LINDEMAN: And Larry?

>> DR. FRIEDMAN: So to follow up on Lisa's comments, which I totally agree with, a component of the governance was that one of the things that we did early on in San Diego was to write a set of policies and procedures for how to perform telemedicine. It was really meant for the organization in general, for the health system, and especially for doctors.

So just as an example, we have an integrated electronic health record, and we require of our doctors to use that record when they do telemedicine visits. Telemedicine is embedded in the patient Web portal. We don't allow people to use Skype or FaceTime, even though it's very possible to use those systems, because things like security, confidentiality, documentation are really, really important. And so we do require people to use one system.

And don't wait for a pandemic. If we didn't have these policies and procedures in place already I think it would have been way less well-organized at our place. And just a really quick aside, and I don't have time for this whole reference, Dr. Meyer, Brett Meyer, and I wrote a paper published in Academic Medicine, published about eight years ago on how to start a telemedicine program, and if you want to contact you, David, or me, I can give you the exact reference for that paper, but for any organization that hasn't yet started, it's a process paper, lays out how we started our program, and a set of recommendations for starting a telemedicine program.

>> DR. LINDEMAN: And Micaela.

>> DR. MONTEIRO: Sorry. I was in mute. Yes. I think this is very important what Dr. Friedman says. Maybe I highlight another issue, which has to be -- for us it was important. It was the technology bit because we did not have technology in place, and so we used -- we chose to use a technology that is -- that was available at all of our units that our doctors use not for -- already have used, not for telemedicine, but for other purposes, so they were familiar with it.

As I said, we chose to use Google Meet, and, of course, it is only the video tool that was used. All information is taught in VHR that we use and that we use through electronic VHR that we use throughout our organization and our unit.

So there was not a lot of learning how to use the technology, at least from the provider side. And from the patient side, there was no need to download apps or technology that works on all devices. So this really enabled us to start quickly.

On the other hand, we have also -- it was also very useful to have a focus team within all this pandemic storm, I called it. We had a focus team of multi-disciplinary, of IT people, clinicians, administrative people, managers, and our communication department. So all helps to put this new service in place. And, of course, it was very important to have support from -- strong support from our leaders, from top management. So this is maybe some of the aspects that I think what we need to success.

>> DR. LINDEMAN: And Kristian.

>> DR. KIDHOLM: David, we have all made presentations about that we have increased the number of telemedicine and the number of video consultations quite a lot. And they will ask us why have we been successful in that. And will we still don't know whether we have been successful. We can see a large increase, but it will take some time before we actually know whether we have done the right thing and whether we are offering this service for the right patients. But I'm quite sure that our situation was a bit different from Micaela's in Portugal, because we actually had systems in place. We had the apps. We had the video systems, and to me that was important. I think for the increase we have seen. Also the reimbursement was also in place. So my guess, because I really don't know why and I don't know whether this has been a success, but we will see, but my guess is that IT systems, reimbursement and managerial are very important factors for success.

>> DR. LINDEMAN: Well, thank you very much. And unfortunately we are running out of time, so I would like to suggest that for any additional questions you have, please feel free to share those with us to CITRIS, or the Transatlantic Telehealth Research Network and we will attempt to connect with our speakers today. Today, you were fortunate to hear from four outstanding leaders in this space. We would like to thank Lisa Moore, Larry Friedman, Micaela Monteiro and Kristian Kidholm for sharing their insights regarding their programs.

The slides that we've had today will be available. We are archiving this material. Within a week, please look for that material. And finally, we'd like to turn to thanking our sponsors one more time. UC Davis Health, the Transatlantic telehealth research network, CITRIS and the Banatao Institute, the international society for telemedicine and eHealth and the Mary and Gary west foundation. Please look forward to joining us on June 23rd, when we will be addressing policy and reimbursement issues, the greatest challenges we've seen across continents in terms of the future of the telehealth. And with that we'd like to thank you for joining us and please do take time to fill out the evaluation. In addition, the evaluation will allow us to learn from you what topics you would like.

So please, fill that out for us and we will use that for selecting specialized sessions as we go forward in to the future.

And with that, I'd like to once again thank our panelists and thank you for joining us.

[Webinar concluded].