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ARIA JAVIDAN:
Hello everyone, my name is Aria Javidan and I'm the program coordinator for the national consortium of telehealth resource centers. Welcome to the latest presentation in our webinar series. Today's session is on possible futures, telehealth during and after the pandemic. Today's webinar is being hosted by the Pacific basin tell health resource Center. These webinars are designed to provide timely information and devastations to support and guide the developing of your telehealth programs and are presented on the third Thursday of each month.

To provide background on the consortium, located throughout the country there are 12 regional telehealth resource centers and two national, one focused on telehealth policy and the other on telehealth technology assessment. Each serve as focal points for advancing the effective use of telehealth and supporting access to telehealth services in rural and underserved communities.

A few times before we get started, your audio has been muted. Please use the Q and a function of the zoom platform to ask questions. Questions will be answered at the end of the presentation. Please note that closed captioning is available and is located at the bottom of your screen. Today's webinar is being recorded and you will be able to access today's and past webinars on our YouTube channel. With that I will pass it to Christina, director of the Pacific Basin Telehealth Resource Center.

CHRISTINA HIGA:
Thank you, and good morning, good afternoon, everyone, I am Christina Higa, codirector of the Pacific basin telehealth resource Center and I'm communicating to you from here in Hawaii and it is 8 AM in the morning here. I am very pleased to introduce our speaker for today. Doctor Matthew Koenig, Doctor Matthew Koenig is a neurointensivist with our Queen's Medical Center in Hawaii. He serves as the medical director there for telehealth. He is also an associate professor of medicine with the University of Hawaii John A. Burns School of Medicine. Doctor Koenig led the development of the Hawaii telehealth network -- Telestroke network beginning in 2011 and has been a very strong advocate for telehealth even prior to the COVID-19 pandemic. He has been a leader in guiding our way in the use of technology and telehealth through this public health emergency.

I also wanted to note that Doctor Koenig has recently been recognized as one of our top leaders and telehealth in our region. With that I would like to turn over to you, Doctor Koenig.

DR MATTHEW KOENIG:
Thank you, I'm going to share my screen here. And start my slideshow. I think you should be seeing my slides now. Thanks so much for having me today. I have a couple of disclosures. I don't have any financial disclosures. I don't have any stock in any telehealth companies. I will show you a bunch of brand names here. I don't have any disclosures related to any of the products or vendors I will show

 

you today. I don't even let them buy me lunch. The disclosure that I have is that I'm also funded by (unknown term) through their telehealth network grant program, T NGP and I'm not going to say a word about that project, I'm going to focus almost entirely on ambulatory telehealth because that is the bulk of what we have done during the pandemic. My other disclosure is that I'm on call currently, in the middle of a long stretch on call, I am covering Telestroke for 11 hospitals right now, there was a knock at my door, I handed my pager up -- off to a colleague but I may have interruptions. Hopefully not. That also means I am under slept and hyper caffeinated so it will be fast and furious today. I will dive right into the talk.

To define the word telehealth as we do at Queens health systems in Hawaii, we try to standardize our terminology, we have been doing a lot of hospital-based telehealth for our Telestroke program. I will not talk much about that today. We also have a program that we call clinic to clinic telehealth which is satellite brick and mortar clinics that have telehealth equipment. For example, on the Big Island that serves us well for patients located on neighboring islands. The majority of what I'm going to talk about today is related to what we call virtual home visit which is our direct to patient telehealth services. And just a comment that we are in a growth phase related to virtual urgent care, or patient initiative, on demand, video visits. We started that program about two months ago and we are just dipping our toes into remote patient monitoring so these are the pillars of telehealth in our organization. -- In our organization moving forward.

A little bit of slow responsiveness here. I wanted to show you our experience of the growth of the volume of telehealth during the pandemic. In the blue what you see is video telehealth, including all the telehealth that I mentioned in the first slide. The orange band is telephoned by which we mean audio only visits. So as you can see, prior to the pandemic, the beginning of the pandemic in March 2020 we were doing some telehealth. We had projected to do 2500 telehealth visits that year as an organization. But like many other organizations we saw a very rapid rise of telehealth related to the pandemic.

Unlike some organizations that saw a rapid growth in the early days of the pandemic and a slow fade back towards baseline, we have had sustained adoption of telehealth across the organization. I will talk to you a little bit about how we accomplished that and why I think this will be an important part of our organization going forward as we have made major investments in the integration of our telehealth program into our electronic medical record and patient portal. That has been some of the keys to the success of the program I'm going to highlight for my talk today.

You see there are peaks and valleys related to various waves of the hand that back in Hawaii. But the telehealth volume remains quite strong and last month we did 16,000 telehealth visits as an organization.

The direct COVID related services that we provided is a small slice of the pie, about 3% of telehealth. Our hospital-based and clinic clinic programs are very low volume. They are important parts of our program but they are low volume compared to the virtual home visit which has dwarfed other telehealth services. About 95% of the telehealth we have done in the last year has been direct to patient.

 

In fiscal year 2022 which just ended in July for us, we did 193,000 telehealth visit switches an unbelievable number. I never would have predicted that we would've done that much telehealth in the last year. These names note -- do not necessarily mean much to you but telehealth is not just in our hub hospital but distributed throughout the organization.

This is a slide from our ambulatory visits overall within Queens health systems, across all of our clinics in the organization and the red band is video telehealth, blue is in person and Green's telephone. So you can see, this is very recent data, we are still doing about 20% of our ambulatory visits as telehealth across the organization. It did not start out that way.

Taking the way back machine to the beginning of the pandemic so long ago, you can see that we were doing about 200 telehealth visits per month as an organization prior to the pandemic. What we were doing during this time was investing in an epic integrated telehealth third-party system. We had purchased licenses through a company called STA extended care in July 2019. We recognized at that time that direct patient telehealth was going to be an important part of our services.

Already prior to the pandemic it was about 50% of the telehealth we were doing as an organization. So we spent that time from July 2019 up to March 2020 building out an epic integrated version of extended care. We had planned to go live for that new product in March 2020. We planned to go live with three department, cardiology, dural it affect neurology and (indiscernible). Then the pandemic hit and we had to make a choice of either instead of doing three departments doing 200 departments across the organization or just putting various clinics and providers on whatever was convenient. I think we made the right choice by choosing the latter. We purchased any licenses for Cisco WebEx in our organization and supported that for about 50% of our providers and clinics.

Other clinics were allowed to migrate to whatever product they were most comfortable with. Clinics and providers chose (unknown term) or resume or other products -- zoom or other products. That created a fair amount of chaos in the organization meaning that patients who got all of their care at Queens might use zoom for one provider and (unknown term) for another provider and extended care for another provider. So that is on the negative side. On the positive side it gave her organization a lot of experience with easy to use off-the-shelf web RTC or app-based products. It allowed us to watch… If you could vote with your feet what products we would migrate towards. So we took that information from how his zoom works and (unknown term) works and all of these other products and worked with our vendor over the last two years to make their enterprise platform better and better in terms of its integration. Doing things like textbased invitations and web RTC and I don't think that we would've developed that anywhere near as quickly if we had not had experience with competing products in the organization and provider saying no, I prefer this project for the following reasons. -- Product for the following reasons. But it created a lot of chaos we needed to get our arms around.

We spent the last two years trying to corral all of that multiplatform use and bring everything into a single platform. We needed to do that for various reasons. One is that from an IT perspective we cannot support five different platforms. Number two, as an organization we cannot educate patients about how to use a platform if we don't know which one they will be using to see a doctor. Number

 

three, we thought that it was really important to have a very tight integration into the electronic Medco record which for our healthcare system is epic. We recognize that providers don't always like living in an electronic medical record but that's reality. We spent a lot of time working in the EMR and that is a major source of information for patients.

We knew that we needed to put something is deeply embedded into the EMR as we could from the provider perspective. We had very poor adoption of my chart which is the patient portal at the beginning of the pandemic as an organization but that was a big priority for us. So we wanted to build a system that patients can interface through my chart. Number one, as a tool for getting more people to adopt the patient portal, and number two is ease-of-use for patients and allowing features like self scheduling etc.

We spent the last two years working with the vendor and making the product better and better and integrating it more deeply into the electronic mental record. So this is what the adoption curve looks like since the pandemic started. The blue line is what we call virtual home visit telehealth, the epic integrated version of extended care or enterprise platform so you see the rising adoption over time as we made the product better.

Peaks here reflect the pandemic. You see these peaks occurring during various waves. Then you see the green is the visit type telehealth which is quote unquote off brand platforms like Zoom, WebEx, etc., you see high utilization early on. Then that is falling and you see telephone audio only visits falling gradually over time as well.

There is variability within the organization among various clinics, Queens counseling is a psychiatry clinic. They still use a lot of Zoom and WebEx and the reason is they do groups and classes which is hard to replicate. Our primary care, this is a primary care clinic that does a lot of (unknown term) care, they are doing a lot of telephone visits. Queens neuroscience is my home clinic, I'm a neurologist, it is pretty representative in the organization, the majority of visits are occurring on our enterprise platform. However, as a failsafe there are still some pockets of zoom and other backup programs that live on. And I think the superstars are comprehensive program which is doing multidisciplinary -- weight management program which is doing multidisciplinary telehealth visits and almost 100% of visits on the enterprise platform. So why did it take the pandemic for us to get here? I think it's important to go back before the pandemic and recognize that there were a lot of barriers that existed. There is still some barriers to be sure but there were a lot of barriers that existed that limited adoption of telehealth. One is uncertainty… Not just uncertainty, Medicare did not pay for direct patient services in the home.

Number two is we started -- talked a lot about consumer demand but it did not really materialize in a very real way, at least in Hawaii. Providers were slow to adopt. We had to leverage pilots based on early adopters. There were still some technology barriers, the technology was not ready for prime time, I can attest to that when we launched in March 2020 and it has made great leaps since then.

The last is clinical workflows and how you integrate telehealth into your in-person practice in a way that is seamless. Those were all barriers to adoption. COVID was the perfect storm in that one, Medicare waivers were put in place to help out reimbursement, too, patients were afraid to go to the

 

doctor's office finally materialized -- were not afraid to go to the doctor's office so patient demand materialized and providers are forced to adopt this. Even the ones who did not want to do telehealth were basically blowing up my phone and asking how they can get on telehealth as quickly as possible.

The big question for this talk that I spent a lot of time talking about -- thinking about as I put this talk together is how would an organization behave based on its thoughts about permanent telehealth? Is this something that we are doing on a temporary basis to get through the pandemic or is this an opportunity to invest in building a robust telehealth program that adds value to patient healthcare? It is not just let's get through the pandemic using audio only telephone or FaceTime, let's take the opportunity to heavily invest in the telehealth program that is going to live on and hopefully continue to grow after the pandemic ends.

I think those organizational strategic choices were really -- will color patient experience of telehealth, whether they want to do it after the pandemic or not, payers perception of telehealth, whether it is adding value to care or if it is a watered down version of in person care without any physical exam, so in a lot of ways the choices that healthcare organizations made during the pandemic and how they responded to it will heavily influence whether telehealth continues to grow for the organization after the pandemic ends, whether Congress passes legislation to allow continued reimbursement for direct patient services and the patient experience and whether patients will continue to ask for telehealth when they have more options for in-person care.

A couple of words about reimbursement. You know this stuff. I will skip through it. The main issue is Medicare part B and whether they will continue to pay for telehealth services in the home. I am fortunate to live in Hawaii where a group of stakeholders and Christina was a big part of convening this, these stakeholders, as we worked on the telehealth resource Center was really a great place to convene all of the stakeholders to work on are very progressive on telehealth reimbursement bill so fortunately in 2017 Hawaii past an omnibus bill that required reimbursement for telehealth services to patients in their homes. And had no geographic restrictions. So for the Medicaid program and the private payers we have not been living on waivers. These changes were made permanent five years ago. The main issue and the source of uncertainty is Medicare part B and what will happen there. We are currently under waivers during the PHE and who knows when that is going to end, that is unclear at this point, there is a lot of legislative effort in U.S. Congress, about 35 bills that have been introduced over the last two years looking to make some aspects of the telehealth waivers permanent.

Again, lucky we live, # lucky we live in Hawaii so we have Senator (unknown name) who cochairs the Senate telehealth caucus and has been working very diligently on this issue.

There is a lot of attitude that the genie is out of the bottle and magically these telehealth services are going to persist beyond the pandemic but we can't assume that. There is a very real possibility that absent any initial legislation within the US Congress which is not functioning very well at the moment, the genie could get stuff back into the bottle. We could run off a cliff. The other risk is that there could be a backlash against telehealth. Yes, people did a lot of telehealth, showed a huge increase in volume but what was their experience in telehealth? Did that telehealth and value to their care? Did

 

they perceive that they received good healthcare services with that telehealth? Was it safe? What was the impact on cost of care for those patients? That's unknown. There is very little literature published in the last two years on those important topics.

So there is a very real possibility that if patients have bad experiences with telehealth during the pandemic, they may not want to do it, there may be a backlash against it. This is data that came out last year asking patients what their preferences would be for how they would receive their services after the pandemic and the vast majority prefer in person services over telehealth, 53% versus 20%.

There are demographic offenses related to education level etc. as you might expect. But for every demographic group, patients prefer in person visits over telehealth. So I don't think we can make the assumption that these services will persist at the same robust level they have during the pandemic. Unless we heavily invest in the patient experience. And in making that care safe and doing the research that we need to do to convince legislators and payers that these services add value to healthcare and are not just a watered-down version of in-person care.

These are some of the lessons we learned during the pandemic, one is patient selection, making sure that patients are ready, patients want to do telehealth services, they are ready to do that, doing some pre-visit preparation to make sure that patients have access to devices and broadband coverage. Focusing on the patient and provider experience of telehealth and making it feel professional. Meeting the patient's needs, very important rituals that go on in healthcare that patients need to feel like I can trust this position or this provider. -- Physician or provider. And we provide that patient experience in a way that is meaningful to patients? And they walk away from the healthcare feeling like I've seen a doctor and I don't need to seek in person care after this? Ease of use of the platform, major lessons learned there about yes, we want to integrate telehealth into the electronic medical record, there is a lot of merit to doing that, but there needs to be trapdoors and tricks and tips of saving those telehealth visits when patients cannot use the patient portal where there are technology issues that are easy for patients to connect, text links, etc.

Finally, how do you integrate into a clinic workflow so you can smoothly move between in person care and virtual care in the setting of the clinic? Prior to the pandemic we had a lot of perceptions about what the benefits of telehealth would be and these were things that all of us talked about. It is convenient for the patient, reduces travel time and cost, it is very helpful for patients who have mobility challenges and can't get out of the house, it is effective for timeliness of care, especially Telestroke or tele-ICU services, we spent a lot of time talking about rural communities and yes, that's an important part of course, these rural communities.

And the questions that we asked in studies in the medical literature were about what would be the impact of telehealth on total cost of care? Would it further fragment care or be (indiscernible) of in person care or would it be good enough to replace the in person visit? There is a lot of literature about whether we can make telehealth equivalent to the in person visit. Those are the kinds of attitudes that I and I think we had collectively. What I would argue is a lesson learned is that the focus should not be on replacing the in person visit. The in person visit is sort of sacrosanct in a lot of ways. I think we would be foolish to try and just use telehealth as a way of replacing in-person care.

 

The better question is how we integrate telehealth into in person care in a way that actually adds value to healthcare. That is not just about convenience, it is about bringing something to the table that in person care does not. Not replacing in-person care or being as good as in person care, but complement in-person care in a way that adds value to healthcare. That is where I think the focus needs to be.

It is not all about convenience, every sector of the economy that has virtualized over time, I think the glib response to that is saying it is more convenient to have an app on my phone where I can do these things for myself. But I think we overly emphasize convenience and there is more to it than convenience. We used to pay people to do banking and investment for us. We used to pay people to book travel for us. Used to pay people to order food off the menu for us and bring us food. Gradually, those things have virtualized and become app based. I would argue that what we have done is rather than have something be more convenient is shifted the burden of that work onto the consumer. In a way that is acceptable to the consumer. So rather than paying a travel agent I'm going to be my own travel agent.

I would argue that's not actually convenient but it gives patients more control and ownership over their travel arrangements, for example. I think we are doing the same thing in healthcare, as we shift to not just telehealth but digital health and insert whatever word you want. In getting patients to adopt patient portals and using that for video telehealth and connecting with their doctors, what we are doing is shifting the burden of healthcare from going to the doctor every six months" unquote purchasing healthcare from them to being an activity that patients do for themselves. Using digital tools. That is incredibly important, having patients take responsible for their own healthcare. In a way that they are assigned a number to meet which is blood pressure or glucose or weight and they can work within a digital healthcare application to take ownership of their healthcare.

I think that is what we are doing with telehealth, it is not just about replacing the video visit but shifting the burden of healthcare onto the patient in a way that is positive.

I think we got it right in terms of convenience and travel. Those are positive attributes to telehealth. But there is a lot more to it than what we thought. Definitely it is not just about rural communities. The majority of telehealth we are doing as an organization is where patients live, in urban communities. And there is great value there as well. We are doing things that add additional value to healthcare that you can't get through the in person visit. In Hawaii we have a lot of people with family on the mainland, who cannot join in person healthcare visit, you could put them on speakerphone but the reality is that that is often not done. So the multiparty aspects of video telehealth in allowing virtual family presence has been a huge boon for us in Hawaii. Language interpretation services, bringing in a video interpreter into the visit. Building that into the program has had great value. Device integration, using Bluetooth enabled devices to bring vital signs and some elements of the physical examination into the video visit has been very important.

Increasing the portal adoption and (unknown term) integration. As I mentioned, we use my chart, epic my chart as our patient portal. In a lot of ways I have seen when we try to encourage patients to use

 

my chart or adopt my chart as a means of using video to see their doctor, we can help patients gain proficiency with that portal. Once they do that there is a lot of other things that they can do other than just using video to see their doctor. Reading their notes, looking at their lab work, that really helps encourage some of the things I talked about about shifting the response ability of healthcare onto the patient. We have created tools and educational materials to help patients join Visio visit through my chart, this is the sequence of events. I'm sure that many of you have used my chart.

The patient logs on, finds their visit, does a hardware check to make sure the video will succeed and joins the video visit and it launches them into our third-party application which is extended care. There is a lot of benefits to both the patient and provider for using this integrated platform. One is that it's a consistent platform that does not matter if you're going to see a pulmonologist or rheumatologist or primary care doctor within our organization. You're going to use the same tool and gain proficiency with that tool. Number two are the features and functionalities that we spent the last two years building into the platform, like multiparty calls and translation, and number three is that we have a consistent IT response if there are issues, that we can support a single platform.

So this is how it works for the provider. There is a visit type in ethic that we call virtual home visit telehealth that we have built into the electronic medical record. When a patient is scheduled using that video… Visit type, what it means is that the patient materials that go out, they are after visit summary or reminder for their visit is correct. It does not tell them to come to the clinic, it tells them here's how to log onto the video visit. Then the billing codes, because every insurance committee has different codes and different modifiers that you need to use, all of that logic is built into the visit type so the provider does not have to think about that as long as this visit type is used in epic, all of that information is correct and all of that downstream workflow -- workflow has been designed.

This is how it looks on the provider's side. When the patient checks and through my chart they arrive themselves, so the clinic staff does not have to arrive them manually, the camera turns green, the roof -- provider double-click the camera, launches extended care and drops the patient and provider into the video visit.

Within the video visit we have a lot of features that we have developed. I will show you a few really quickly. These are bells and whistles that I think of added value to the telehealth services. One of them is multiparty as I made an allusion to. This allows in a patient provider visit, a family member or even another provider can be invited through a text invite. An SMS message goes to the guest and they click the link, then have to download an app and they are dropped into the web RTC visit. That has added great value into -- -- in terms of virtual family presence and inviting guests. The other we integrated is that we use a company called Marty for visual -- video Lang language transition services. We helped the two vendors in the organization design and interface -- the interface so we can invite a Marty translator is 1/3 party into the visit and the interpreter can be audio only or video.

We designed a link into epic so in epic demographics it knows what language the patient speaks. Epic passes that information into the extended care application so you can see in this case the patient needs a Portuguese interpreter and they can bypass the operator and go directly into a Portuguese interpreter and bring that interpreter into the visit. Screen capture, this allows either the patient can

 

send a picture off of their device that they have taken, or the provider can do a screen capture and place that picture into the patient's electronic medical record. Out of extended care. This has been great for our COVID hotline that we just set up on virtual urgent care two months ago. We just created a test to treat paradigm so patient's to home testing for COVID, they hold the home test up to the screen, we do a screen capture of the image showing a positive test, drop that into the electronic medical record and then we can schedule those patients for infusion therapies. For high-risk COVID.

Other examples like rash etc. are fairly obvious. Providers who use haiku and (unknown term) which are mobile applications with epic can do their video visits within that. As I mentioned, we created a unique visit type, this will also track the data of how many video telehealth services are occurring across the organization. And also standardize those downstream workflows that I mentioned. Patient selection is important. We have been working with our clinics to make sure that patients are screened and make sure they are appropriate for telehealth. One of the mantras we used in the organization is telling patients to ask your doctor if telehealth is right for you.

Number one, it promised the patient to know that telehealth is an option. But it leaves it to the doctor to determine if it is clinically appropriate for that patient. We have been working as an organization within our military leadership to create guidelines to determine when telehealth visits, especially for new patient evaluations, when those are clinically appropriate. It also screening tools for the staff to determine if patients have appropriate broadband coverage and devices to have successful visits.

This is our brochure for patients. Using that phrase, ask your doctor if the video visit is right for you. And giving patients the tools that they need to get started on my chart and learn how to use video visits in the organization. Preparing for the telehealth visit, one of the deficiencies that I think we experienced with direct patient telehealth is the limitations of the physical examination during that visit.

There is a lot of things that you can't do in terms of physical examination, especially using a smart phone in the patient's home. In particular, if you are primary care physician seeing a patient for hypertension, you need vital signs, blood pressure and access to some vital signs during the examination. In the early days of the pandemic we handled that by giving patients a box that had a blood pressure cuff and other devices, and more recently we have been working on device integration through Bluetooth enabled devices in epic so patients are able to upload their weight, blood pressure and other vital signs prior to the visit.

I think this will be a really important part of some of the investment that we are doing to make telehealth more safe and robust in caring for patients. On the negative side, Christina mentioned I'm a neurointensivist, I take care of patients were quickly ill from huge strokes and intracerebral hemorrhages. I have to say I have seen young patients in their 40s or 50s presenting in the last year with intracerebral hemorrhage related to untreated hypertension. When I look back through the electronic medical record they have had multiple visits with their doctor during the pandemic that were telephone visits with no vital signs. Or video visits with no blood pressure measurement. We have to ask ourselves how to make those visits safer, especially for something like hypertension. Were you really need vital signs. You really need to be able to document that blood pressures -- medications are effective or we will increase the cost of care and erode the quality of care inadvertently. This is a really

 

important part of how we are going to be investing in making these services more robust and meaningful.

Telehealth is not for everybody. Obviously patients who really need a hands on physical examination. We need to screen them for in person services. This is also where the clinic to clinic model, the brick and mortar clinic on the neighboring islands in particular where patients can come into a clinic, especially patients who don't have good access to broadband in the home, or need some vital signs, physical examination components, X-rays, EKG, lab work etc., they can get those services in a brick-and-mortar clinic even if the physician is remote. So screening outpatient for directive patient telehealth does not necessarily mean they can't do telehealth but it should be done in more of a clinic setting.

As I mentioned, we created the visit types for telehealth within epic and have been building event notifications that number one, alert patients to how to join the video visit and do a tech check prior to the visit but also the office staff can communicate with the patient if the provider is running late or prompting them when it is time to join the video visit. That is something we have built out recently. For patients who are not joining through my chart, who are instead joining through direct join link we created an event notification that would allow the patient to do a technology check prior to the visit. The clinic staff 15 minutes before the visit can send out this tech check link and the patient clicks the link and it allows them to test their hardware and make sure they will have a successful video visit.

Just a few best practices within our organization, one is setting expectations. So the patient one, they know they are doing a video vision, -- visit, make sure that they want to do that and are ready to do that, number two, doing the best we can to get all of the patient's active and proficient with my chart prior to the visit. That will be the best tool for them to succeed and have a successful visit.

For we recognize that there are some patients cannot use a patient portal or will not use a patient portal. One of the important lessons as I mentioned using some of those other consumer devices or consumer applications is the ease-of-use factor of getting a web link or getting a URL texted to you and clicking the link and not knowing through patient portal and not downloading an application and still having face-to-face video. That is one of things that we developed over the last two years, using epic links to send out a text message or email invite to patient so if they are not using the patient portal, or having trouble using the patient portal on the day of their visit there is a way of getting around that and still having a successful visit.

This is epic direct links, basically click the box, epic knows the patient's phone number and email address, hopefully that is accurate, and the patient gets a URL when they click the link just like that guest invitation I showed you, they can click the URL and use the web RTC functionality, not download an application and go right into the video visit. So it is still integrated into epic in a way that the patient is arrived when they do that through direct join link, the camera turns green etc.

The last best practice is making sure that patients have the opportunity to test their hardware prior to the visit. We are working on an integration right now, we launched it and found some glitches and pulled it back and are about to relaunch it. When you send the tech check to the patient and they

 

complete that check, it will be green, yellow, red within a multi-provider schedule in epic so you can see… The clinic staff can see this patient had failed the hardware check before the visit and I will reach out to that patient and either reschedule them or work with them to make sure the visit is successful.
The hardware check allows camera and microphone and connectivity speed to be checked before the visit.
We have an app as a backup option. Two years ago, when we went live it was BASED. So in addition to the my chart app the patients would have to download the extended care app in order to do the visit. -- App based. In addition to the my chart app patient would have to download the extended care app in order to do the visit. Now we are with RTC-based but we thought it was important to have an app to download as a backup option because that's an issue with any web RTC-based platform, when Google for example has an issue that brings it temporarily so we have an app that patients can download as a backup option.

Other ways to deal with visits with glitchy video or audio we put into place of remote rejoin option so the provider can force the patient to rejoin the video visit. That is helpful when the patient has for some reason not enabled their camera or microphone. If the patient does not enable their microphone and then you can see the patient that there is no audio, we have all dealt with that frustration. That is one of the major reason that video visits fail. This will allow the provider to force a remote rejoin onto the patient and then they will have the opportunity again to say yes enable camera, yes enable microphone and be able to salvage that visit.

The other safety valve that we just introduced is PSTN dialing, this is standard telephone dialing. Through the extended care application. We worked with the vendor on putting this in place. This would be familiar to any of you using WebEx or Zoom where you use the call my phone option because we all recognize that audio is better on phone. It just is. PSTN audio is better than video audio. This would allow you to replace the audio that is inherent to the video platform with a PSTN call. Or place and -- place in audio only call out of the video platform or invite… Not just invite a guest but phone call a guest so you can place a PSTN telephone call out of the video application and bring a family member in by audio only.

This is a new tool that we just introduced that I think is going to add a lot of value to the system. This is how it works, you invite or call and can either send a text link is an invite or it can directly dial the patient.

A few words about telephone audio only. Christine and I have had a lot of discussion about the value of audio only phone calls. I see a lot of value to it. Their patients who cannot or will not do video and they need healthcare. There are visits that fail on the day of the visit and have to convert to audio. I understand that.

By the same token, how much do you really want to water down your healthcare? (Laughs) We are making compromises with video telehealth and we have to be honest with ourselves about that, the physical examination is very limited. Even if the patient has a blood pressure cuff you are depending on them accurately measuring their own blood pressure to record that. So we are making

 

compromises when we do face-to-face video telehealth. I spent the last 30 or 50 slides showing you how we have tried to mitigate those.

I don't see that with telephone audio only and I have great concerns that rather than addressing the digital divide with audio only, we may be providing services that are not safe or valuable to patients who don't have access to care through either video or in person care. You can throw tomatoes at me, that is fine. I hear it from primary care providers practicing in rural communities, they need this. But I think if telephone was a great way to provide healthcare, this was a technological advance that was great for patients we would've done it 80 years ago. I don't see non-integrated audio only quote unquote telehealth services as adding great value to patient care. Happy to debate that with you but… I was given a soapbox and I'm going to express my opinion here.

I think this is a better solution to patients who cannot do video telehealth in the home, having kiosks and satellite clinics so they can come to a brick and mortar clinic and get telehealth services and some aspect of in person care, vitals taken by a professional. As a better safety valve for patients who cannot do telehealth in their home.

I guess I will say that I will exclude behavioral health from a lot of the comments that I just made because I do think there's a role for behavioral health and some counseling services in audio only.

This is our clinic to clinic program. I will breeze through this in the interest of time. Except to mention that one of the other pillars of the telehealth that we've developed is that from the provider perspective and clinic perspective, I wanted single platform. That was my goal. I wanted to get one platform that could do all of telehealth, telemedicine, on the same platform and have the same features set, have the same workflow, look the same, feel the same for the providers. So from the provider perspective it does not matter if the patient is home, if the patient is in a brick and mortar satellite clinic or an emergency room or in ICU, the way to join that video visit is through epic. Through that camera. Through extended care. Through the virtual care room.

It has all the same feature sets like video translation, sheer screen, invite guests, etc. That is what we have done over the last year. Build out clinic to clinic telehealth within epic so that it connects through extended care and you can connect to devices in these clinics.

This is how it works. It goes through our extended care, virtual care room. You look for a device and dial that device directly out of extended care, connects to a device, the device has camera control, there are remote zoom cameras that you can use to get a better examination of the patient. There are also peripheral devices connected like electronic stethoscope etc. And yet from the provider perspective all of this looks exactly the same as it would for a virtual home visit.

A couple of words about hospital-based telehealth, similar to my comments about clinic to clinic telehealth, we also integrated epic and extended care into our Telestroke program so even for our stroke providers who are doing hospital-based or emergency room based services we are now using extended care. As I mentioned I am on call for Telestroke right now so I'm covering these 11 hospitals. We are doing about 500 Telestroke visits per year as an organization. Now completely converted over

 

to using our epic integrated instance of extended care.

I will wrap this up, again, I was given a soapbox and that going to express my opinions. I will wrap this up by coming back to that original question of how would a healthcare organization behave and what investment choices we make if we were basically holding our breath for the pandemic to end and a return to normal, in person care? And biding our time using telephone and consumer grade applications? Versus how would an healthcare organization behave if we were fully invested in taking this great opportunity that we have to build up telehealth in a robust manner that actually adds value to in person care rather than just trying to replace that with some watered-down version of in person care?

These are some of the things that I think are really important considerations moving forward, as we transition, eventually, hopefully, as the pandemic winds down. And we transition to the quote unquote new normal.

There are big questions about reimbursement and we cannot sit on our laurels. USTR sees cannot lobby but I can lobby and I'm lobbying like hell. Every healthcare organization needs to be lobbying like hell. We need to be top of mind in Congress and trust me, we are not anymore. To get these services pertinently reimbursed in Medicare. We cannot assume that these will continue. It is going to take a lot of work on our part and some of that work is not just convincing a senator. Some of that is put up or shut up, where's the data, where is the data showing this is safe, where is the data showing this is effective, where is the patient experience data, whereas the cost of care data?

We need to be providing that data in a way that commences the Congressional budget office this will be budget neutral. So that is important work that we have to do. We cannot assume the genie is out of the bottle. Number two is that consumer preferences are going to be incredibly important and they will be colored by the spirits of telehealth during the pandemic. If patients have crappy experience with telehealth they are not going to want to do that and we will see a backlash and providers also, providers will not want to continue doing it if they've spent 15/30 minutes doing technology troubleshooting with patients during the visit.

We have to transition from this mindset of being a temporary solution to being something that is baked in and adds value to care. I mentioned consumer preferences. We have to use telehealth as a tool that provides additional services for patients and value for patients beyond just considerations of convenience. Patients have to walk away from the telehealth experience feeling that they have seen a doctor. That their medical needs were met. That it felt like seeing a doctor. We met the rituals and expectations that patients have of seeing the doctor to help us build trust in that video visit.\

The physical examination is part of it. It's not just the dog and pony show. The patient needs to walkway feeling like they've been examined by the doctor, that is really important. I have seen that from patients, where we say yes, telehealth is convenient, but my doctor never examined me. They did not attempt to do any physical examination during the visit. You have to be able to meet those expectations of patients or they will seek in person care elsewhere and will drive up the cost of care and lead to fragmentation of care and duplicate of care.

 

We have to invest in clinic workflows and making this seamless so that a provider can see a patient in person in a clinic room, walk out of the room into an office, see another patient virtually in exactly the same fashion, while the doctor is doing that virtual visit in the office, the clinic staff is bringing in the next in-person patient and then the doctor goes into that panic and sees the next patient. -- Clinic and sees the next patient.

And all of the intake information that occurs in person in the clinic, we need to figure out a way to replicate that. Medical assistance have a role in checking the patient and talking to them and getting a medication list and getting the information that the doctor needs before the visit occurs. Even investing in the architecture of the clinic or the clinic design in a way that recognizes both in person care and virtual care during those visits.

This is a mockup that we did during the pandemic of a standard… Trying to standardize what does the Queens clinic look like. We did not want to have doctors doing telehealth visits in clinic rooms. That is a waste of clinic room. So this is our mockup of the telehealth room.

It is better than a phone booth. You don't want to go in a booth and be uncomfortable and hate it. It's got to be ergonomic for the doctor and comfortable but not a full-size clinic room with a table and devices and things we don't need for telehealth visits. An example of how to use architecture to truly integrate telehealth into an office here.

I'm going to leave you with these points and wrap up. The questions are how invested are we in maintaining telehealth as the pandemic winds down? What do we need to do on a regulatory basis and how do we build that case in a way that is meaningful not just to make an emotional appeal to a legislator but convince CMS and the Congressional budget office that these services add value and don't increase cost of care?

How do we not leave vulnerable populations behind who are not proficient with patient portals and don't have good broadband coverage and don't have access to devices? Finally, doing more robust data and analytics to make sure that video visits are going to succeed, to get out in front of that and to look at the effect on value and safety of patient care.

I showed you a lot about volume and it is pretty easy for me to show you data about volume. What I did not show you in this talk is very much about patient experience or safety or cost. It is on us to grow our analytics to do that.

This is our success rate, the good news is from a technology standpoint our success rate of video visits is going up. It is about 85% now as an organization. But just because it was technically successful does not mean that it met the patient's needs and the patient experience was good and that it provided valuable healthcare. We also have a lot of data about why visits succeed or fail based on… It's kind of amazing how much data you can pull from the patient side. What device they are on, where the device is, what their network strength is, what version of software they are on, what browser they are using, so that is valuable information to integrate back into the video visit to figure out OK, let's

 

create an algorithm that determines upfront based on what the patient has rather? Whether the visits going to succeed or fail and then reschedule it as an in-person visit or clinic to clinic, if they are high risk to fail. Or at least call them and get them to update from their iOS 62 -- six up to iOS 12 or higher.

This is data, dipping our toes into value of care and patient satisfaction. This is data from our virtual urgent care program that we just set up two months ago and looking at patient satisfaction. The good news is that about 85% of patients said that they… 87%, 88%, doing math on the fly, of patients said they were likely or very likely to use telehealth services in the future after their basil -- video visit. And then when we asked patients, this is urgent care, so this is low acuity patient initiated video visits and weight! When we asked if they had not got there character a platform where they would've gone 30% said they would've done nothing, they would've waited for their condition to worsen. We averted a lot of unnecessary emergency room visits and urgent care and in person urgent care visits for these patients. So just be getting to dip our toes into that analytics and data.

This is my last slide. I will end here. To reiterate, the focus has to be on patient experience and satisfaction for this to continue. We need better analytics. For a variety of reasons, and we need to work together to study the impact of what happened during this experiment. This experience in this controlled laboratory of the last two years of yes we dramatically increase dual dilation of telehealth and maybe that is great, maybe it is not. We need to prove that. What was the impact of doing that on the cost of care? What was the impact on patient safety and hospitalizations and emergency room visits?

That is something we need to work together as a state in Hawaii to take the opportunity and take the data that we have and try to answer some of those questions. I'm sorry, I got right up until the end of the webinar. I want to thank you and I can definitely stay on a little bit longer if there are questions and you have more time. Thank you so much for having me.

CHRISTINA HIGA:
Thank you very much, that was a very comprehensive presentation. Love hearing how we went from this gigantic opportunity of forcing you to use telehealth and experiment as you mentioned to how you have now refined telehealth protocols and systems to add value and empower the patients but make it safe with safeguards and easy to use. Aria, I wanted to check with you, could we do one or two?

ARIA JAVIDAN:
Of course.

CHRISTINA HIGA:
Doctor Conan, there were a lot of chat and discussions, a lot of the questions you answered during the course of your presentation so I will pick two, one is how… In terms of safeguards, how do you ensure in the moment of safety for establishing safety protocols for the patient, for example, during a telehealth visit, 911 services need to be called?

DR MATTHEW KOENIG:
I think we have not offered enough… We have left that up to clinics and providers. Probably more than

 

we should have as an organization. Out of necessity. But in the last few months what we have done is convened the medical directors of our various specialty and military clinics and come up with a series of guidelines. These are not fixed rules but they are guidelines for the clinics that state basically when is telehealth appropriate and not appropriate.

It does provide guidance about emergency care and converting to in person visits or referring patients to one of our urgent care clinics in the ER. That is something that we have done and I guess I will say structurally I am a provider. Most of our telehealth department are analysts and managers, directors, etc.

I would say that we support telehealth in clinics but we don't directly control how those services are provided. On a clinical, operational basis. So we recognized that we have not done a good enough job of partnering with clinical operations, mostly bandwidth. We have tried to backtrack and say how do we partner with our ambulatory leadership to create guidelines to tell clinics when is it appropriate, how is it appropriate, where should the provider be, that kind of stuff.

I think we are doing that more now but we certainly could've done more of that in the last two years.

CHRISTINA HIGA:
Thank you. The final question is regarding your telehealth team, as you mentioned. Could you talk a little bit about what your team makeup -- makeup was before the pandemic and this is so comprehensive, what does this telehealth team look like today to make all of this happen?

DR MATTHEW KOENIG:
It was like me and (unknown name). First of all, thank you to the telehealth team. Nothing is done in a vacuum so everything I presented to you is the work of not me but of the team of really great coworkers. (unknown name) is our clinical operations manager. During the pandemic we hired a telehealth trainer, (unknown name) who is wearing 10 different hats, he is not just training. We have a few analysts, two technical analysts, Sean (unknown name) and Scott (unknown name) and then we have an epic resource who has been incredibly valuable in everything I just showed you in terms of building out all of that epic integration, Dylan has done that on our behalf and we want to keep them forever. So that is the team.

In about six months ago we hired (unknown name) to do a… An audit, a self initiated audit on our telehealth program and give us guidance about how we write size the program and what are productivity metrics that based on the volume of telehealth services that we are doing, how many FTEs should we have supporting the program and what should the growth curve look like over the next five years in terms of where we live in the board structure and when we state -- take a step up in terms of bringing on a director or VP.

That was very valuable to gain insight from them about looking at other organizations that may be function in a more robust manner. And how they structure their departments. We have an open position currently, I will put in a plug. We have an open position for a business analyst. In our telehealth department. If you think that you would be good for that, and that is the person who is going

 

to help us with some of the analytics that I talked about, about pulling and technical data, clinical data, patient experience data, creating dashboards and algorithms that will help us to figure out decision trees for where patients get their services, and how we can use our analytics in a more robust manner to make sure that the visits are successful and are adding value to care, etc. So we have an open position for a business analyst, for someone to help us build out analytics and dashboards to do that. That is the next step for us.

CHRISTINA HIGA:
That is great, thank you for that. I wanted to leave you with the last comment from the participants, that was an awesome presentation, thank you so much, really timely information. For myself I wanted to thank you for my -- for your leadership and vision. It is amazing how you made the spaghetti mast of everything that has been done sound so clear and organized and systematic, but we know there is so much work that goes behind it for you to come out with these lessons learned that is actually represented in the integrated system. I'm really blown away by all of that.

Thank you for your time, Doctor Koning, and I really appreciate that. I will turn it over to aria to close out the session with some final announcements.

ARIA JAVIDAN:
Thank you. A reminder that our next webinar will be held on Thursday, August 18 and that will be hosted by the Midatlantic telehealth resource Center. Registration information is available on the events page. And last we do ask that you take a few short minutes to compete the survey that will pop up at the conclusion of the webinar. Your feedback is very valuable to us. Thank you to Doctor Koenig for his presentation, to the Pacific Basin Telehealth Resource Center for hosting today's webinar. Have a great day, everyone.

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