Speaker 1:	00:01	Quality Improvement in the Time of COVID-19 is brought to you by the American Heart Association with support from Novartis Pharmaceuticals. As physicians, scientists, and researchers worldwide struggle to understand the COVID-19 pandemic, the American Heart Association has developed its COVID-19 CVD Registry powered by Get With The Guidelines to activate data and aid research on the disease, treatment protocols, and risk factors tied to adverse cardiovascular outcomes. For more information, visit us at heart.org/covidregistry.
Sandeep Das:	00:35	Hello and welcome to our podcast, Quality Improvement in the Time of COVID-19. The heart association has built its extensive portfolio of quality improvement programs on the simple premise that patient outcomes improve when medical professionals follow the most up-to-date evidence-based treatment guidelines. One challenge in the current covert era is maintaining that focus on delivering high quality care in the context of a global pandemic. At the same time, maintaining consistency for the bread and butter cardiovascular conditions we know well, learning about the cardiovascular implications of COVID-19, as well as developing new standards for care delivery and how we deal with patients as well as their caregivers. Together in this podcast series, we're going to examine some of the challenges more closely and hear from experts on how we're adapting to the current situation. My name is Sandeep Das. I'm a general cardiologist at the University of Texas Southwestern in Dallas, and I'm also a member of the Center for Innovation and Value at Parkland Health and Hospital System, which is a large safety net hospital centered in Dallas, Texas. We are a think tank that focuses on innovation to improve care delivery. And so I'm really excited to hear from our guest today, Dr. Divya Guppta. Divya?
Dr. Divya Guppt...:	01:47	Thanks so much for this opportunity. As you stated, I am Divya Guppta. I'm an associate professor of medicine with Emory University. I specialize in advanced heart failure and transplant, and I am the medical director for this program.
Sandeep Das:	02:02	Let me just start you off with an easy one over the plate. How is your practice different now from pre-COVID at times?
Dr. Divya Guppt...:	02:10	It's really interesting. I'll tell you when the pandemic initially hit, we were really scared for our patients. Heart failure patients, immunocompromised patients. These are the ones that their concern going to be hardest hit if they are infected with COVID. And so we initially really had to... We shut down operations to

be quite honest and had to very quickly figure out a way that we could safely deliver care for our population of very vulnerable patients. Our patients were also very scared appropriately, and I think we're thankful that we had made the changes in not mandating that they come to clinic, but we're also fearful for what is the care going to look like for their current medical condition. It's such an interesting and unique position to be in, where our patients definitely, they want to make sure they can keep taking care of themselves, that they continue to do the best thing they possibly can for their current medical condition, but they're also fearful to leave their homes in order to do that.

So because of that, we were actually able to really switch gears. Luckily for us, we'd already been in a process of trying to create some sort of telemedicine option for patients, and we're able to very quickly ramp that up so that our entire healthcare system could provide this for patients on a regular basis. And I believe we've actually been able to provide more efficient and more timely care for patients than we might have previously.

Sandeep Das: 03:46 That's interesting. There's advantages as well as disadvantages to delivering care this way. What do patients and their families or caregivers like and not like about care delivered through telehealth?

Dr. Divya Guppt...: 03:59 It's very interesting. It really depends on the age population, I think you look at. I will tell you the younger patients actually really embraced this methodology in healthcare and this perspective in that it's really based on how comfortable someone is with technology. So if there's someone that isn't very comfortable with technology, those patients are a bit fearful. They are concerned they're not going to be able to use the platforms that are being utilized in order to have the telemedicine visit. They are concerned that they're not getting the same quality of care, but I think once we're able to get them to use the platform a few times, we're lucky enough in our system to have a telemedicine readiness group that actually preps our patients in advance so they can feel a little bit more comfortable with using our platform. And with that, the patients actually, as they use it more, become more comfortable, they actually find this to be again as I said, a much more efficient way, a much easier way for them to get care from their physicians.

We have referral from several hours away that gets into us because we are a center for advanced heart failure management, such as transplant and LVADs. And now they

don't have to drive four, five, six hours to come see us. We can do their visit in the comfort of their home. And so for them, this actually provides a great convenience. The patients that are comfortable with technology, again, they've had no issues and have really accepted this from the get go and again, really appreciate it.

The other thing that I've really noticed in all populations of patients is I feel like I have more engagement with them. Before I have them give me a list of... they have to record their blood pressures at home. We would make them check their weights at home, bring that into clinic. And they would sometimes remember to do it, sometimes they wouldn't remember to do it. Now because I'm asking them to provide that data to me every few weeks or so when I do a telemedicine visit with them, they are much more engaged. All of my patients have blood pressure cuffs and scales at home. I think they feel like it's actually now a partnership when it comes to their healthcare and it's become much more of a two-way street, the way I believe healthcare and patient care should be.

Sandeep Das: 06:18 That's really interesting. More broadly, can you talk about what the role of wearables is in your practice? Are you using any?

Dr. Divya Guppt...: 06:27 We don't pull the data in. I think some places are able to automatically pull that data in, but we definitely have patients that wear their Apple watch and will tell me what is their heart rate range over the last several weeks or months. And I think it helps them feel like that they're very engaged in their own care. Before, their watch was just another piece of technology. Now, it's a way that they can help care for themselves.

Sandeep Das: 06:54 I think that sometimes we all, as physicians, fall into the trap of paternalism or maternalism where we feel like we're shepherding people through a minefield when in reality, they're at least as invested in their own health as we are in their health. So I think engaging the patients is a definite good thing to be doing.

You mentioned before that the elderly, well, not to be ageist as well, but that certain people may be less comfortable with technology. It doesn't necessarily have to be age certainly. But what about people who have trouble affording technologies? I know that Atlanta has a robust population of the urban poor patients who are perhaps the most vulnerable to this virus and most in need of care, staying at home. But to what extent do

they have the built-in infrastructure to be able to receive care in that way?

Dr. Divya Guppt...: 07:41 For that population, we are trying to do our best. It's probably not as robust a system as it is with the patients that do have the smartphones, and we're trying to maintain care for them with telephone visits. And I'll tell you, even though telephone visits maybe don't have the exact same impact as a telemedicine visit, I really do feel there is a certain connection that takes place when you provide care for an individual within their own environment. And this is something we actually talk a little bit about in heart failure as well. We have patients that come into the hospital, de-compensated, trying to keep them out for 30 days. We wonder if there's something different about their home environment that causes people to be readmitted. I wonder to that same effect by physicians "going into the home" whether it be by phone or by video, there is this relationship, this bond that gets created that really just pulls to that engagement and patient feel that you care.

I don't mean to say that they don't feel that you care if they see you in the clinic setting, but I do feel there is a difference because you're speaking to them in their own home, in their environment. And so everyone really has a point of phone contact at this point. And so even for those, the more vulnerable and the people that maybe don't have the technology in order to have the higher level of telemedicine visits, at least a phone visit can provide that continued care.

Sandeep Das: 09:20 You mentioned before that you're a heart failure transplant specialist, and that's obviously a very high acuity population compared to what someone like myself as a general cardiologist sees day to day. How can we assure that our outcomes are at least as good, if not better, in the current virtual care environment than they were when we were seeing patients face to face? Or is that a pipe dream?

Dr. Divya Guppt...: 09:44 I will tell you, and I don't know, again, if this is me being optimistic and trying to look at things with rose-colored glasses. I actually feel this advancement that we've been able to make in telemedicine and virtual visits, I actually believe this is going to accelerate how we're able to provide healthcare for patients. As I stated before, a lot of times previously there are inconveniences for patients taking off of work to have to come to clinic. Patients have to decide is the four, three, two-hour commute worth it for them. They may have to figure out how they're going to get there a lot of times. Sometimes people,

they don't have a vehicle of their own and they have to figure out their own transportation. We're now taking all of those excuses out of the algorithm when it comes to patients getting the care they need.

I felt it was really more appropriate for a patient to be seen in four weeks, but because they lived six hours away and we didn't want to be too inconvenient, we would say, "Well, let's see how you do. We're going to space your appointment out in eight weeks or 12 weeks, but please let us know if there's any issues."

I feel like now we're actually able to provide really quick, very progressive continuous care, which we may not have before. And for our patients, I think it makes us as physicians listen to our patients more. We always teach our students and our residents that taking a really good history is so important to providing good and accurate patient care. Well, this is the test to that. If we listen to what our patients are telling us, and we understand they're able to give us ideas about their vitals consistently and their weights from a heart failure perspective, we can actually provide better care than we may have before.

Sandeep Das: 11:28 I'll tell you, I actually love the optimism. It just is a refreshing counterpoint to some of the non-cardiology related stuff that's going on in the world these days. So please do keep it up at least for me.

Dr. Divya Guppt...: 11:38 I'm going to try. Are you a pessimist or do you have your questions?

Sandeep Das: 11:44 Let's say I'll classify myself as a realist. Let's put it that way. A pragmatic, but we need optimists because pragmatists don't really cause revolutions.

One of the things that I think is really true is that when you're seeing patients on the video in their homes, it's a much more egalitarian setting. Historically, they really, they come onto your turf. They're in this sort of cold clinical environment and they're often intimidated and nervous. This time they're relaxed, they're sitting in their own couch with a beverage, talking to you on the video. It feels like it's a lot more egalitarian. I wonder if you're getting a sense from people's families, if they're liking the newer paradigm of care delivery?

Dr. Divya Guppt...: 12:31 Absolutely. I have not heard anyone complain, but I believe they also feel like they're very much involved. They can also be heard a little bit better. Sometimes patients come to clinic and they

feel like maybe they're just the ride for the patient. But now as you stated, it's very [inaudible 00:12:51]. Everyone is equal when it comes to this setting and they can also provide insight into how their loved one is doing. It also makes it really convenient where if we're trying to figure out what dose or medication a patient is taking, they can just walk to their medicine cabinet, pull the bottle out and show it to me. Where that may not be possible if they come to clinic and they don't bring their pills. So there's a lot that is actually really helpful.

I've even had patients, families show me... I always check in and make sure they're restraining from excessive salt intake, they're watching their fluid intake. Daily members have actually shown me sodium contents on various things that the patient may be consuming or showing me the pictures that the patient might use to monitor their fluid intake. So they also feel that they are being heard, that their concerns or their questions are being answered. So I do believe that families absolutely feel like this has now become a team sport. It's not just about the patient, it's not about the physician telling the patient what to do, but everybody's involved and everybody has an equal voice.

Sandeep Das: 14:00 I love the patient engagement and I love viewing yourselves and the patient and their family as a team. I think that's a fantastic mental construct. I think that will lead to better care overall. Speaking of which, how much of your practice in the post-pandemic era do you think could be replaced or should be replaced by telehealth?

Dr. Divya Guppt...: 14:20 We currently are probably doing about 20% of our visits currently as telehealth visits of some sort. I think that's probably a pretty good number. Over here in Georgia, we're in an environment where our numbers are climbing, skyrocketing if you will. And so concerns are definitely growing for a lot of our patients, and by a lot of our patients. And so people are hesitant to come into clinic even more so now than they might've been three months ago. For that reason, currently we're at 20%. There's a potential increase to 30 or 40%, but we really try to limit patients coming to clinic for those who we have high suspicion may need admission during that visit, or if they have some other tests they have to have been at the same time labs, echo, EKG. So we're really trying to make that visit dual functioning and trying to keep the stable people as safe as possible at home in order to make room for all the patients that are a little bit more high risk.

Sandeep Das: 15:23 Are you guys doing anything or should we be doing anything to sort of proactively assess patient preferences? How they want us to be delivering their care and how satisfied are they with virtual care versus in-person face-to-face care? Are you aware of any systematic efforts to try to gather their information?

Dr. Divya Guppt...: 15:40 I mean, I will tell you if a patient... We always make a recommendation when we're setting up your patient, but if a patient would prefer the opposite, if we're recommending a virtual visit and they would prefer in person, we will bring them in to be honest, because I think a part of healthcare is making sure we don't create anxiety in our patients also. And so I wouldn't want to really stress a virtual visit if a patient would actually feel that they're getting the best care possible with an in-person visit to be quite honest and vice versa. If there's someone that we're recommending an in-person visit for now, it's very likely that the reason for the in-person visit is because again, we think high risk for readmission or they need another test and we will really stress that they come for that visit. But if they are very scared and we think a virtual visit could potentially work for them, then we will comply and set them up for a virtual visit. So again, we make recommendations, but we do try to take the patient's preference into consideration.

Sandeep Das: 16:38 I know a lot of heart failure care focuses on patient's quality of life, just because of most of those patients are pretty symptomatic. Have you guys thought of systematically trying to assess patients experience as it relates to virtual care?

Dr. Divya Guppt...: 16:53 We have not put anything into place, but I think that would be a great idea. It doesn't mean that people that are smarter and get paid more than me don't already have that in the works. That's definitely something that the system is most likely working on. I'm just not aware of, but I think it's absolutely something that would be important, especially if we're going to continue doing this, which I hope we do. We would want to make sure we optimize it to its fullest potential so that we can make the care that we provide virtually just as good, if not better, than what we're providing otherwise.

Sandeep Das: 17:22 Divya, one of the things that I really think of is sort of the hallmark of heart failure care is trying to get medicines to goal doses at the same time balancing volume status. And there've been numerous publications showing that we are perhaps not as a country, not really where we need to be in terms of delivering optimal care and titrating doses. I would think that delivering this through telehealth platform would be even more

challenging for volume status dose adjustment. What kind of recommendations do you have to the audience for ways that they could successfully think about implementing a dose titration protocol or program?

Dr. Divya Guppt...: 18:00

We use this, especially with the patients, when they have cuffs and scales at home, we absolutely are able to adjust heart failure medications to try to get them to goal. So I'll use their blood pressure, their heart rate based on how they're feeling, really trying to hone in on, are there symptoms that maybe they aren't even really understanding or heart failure symptoms. So really, again, trying to take a great history, as great a history as possible. And using that to very slowly uptitrate heart failure medications, the beta blockers, ACE inhibitor, RNA, aldosterone antagonists, really trying to get them to go therapy based on vital and symptomatology.

With regards to diuretics, again, a big part of it really is how does the patient feel and what is the weight doing on the scale? So our guidelines, as I'm sure many people use, if the weight goes up over three pounds in a day or five pounds in seven days, it's worth trying to double this a diuretic. And so honestly, even over the telemedicine visits, reiterate that and try to reinforce that and see if they're able to get volume off by doubling those diuretic doses. Then if possible, try to do a followup in about a week or two to make sure that that's actually working for them. And if it isn't working, there's a possibility at that point that maybe they do have to come in for a visit to see about IV diuresis potentially. Whether that be IV diuresis in the clinic or IV diuresis with admission. So there are definitely ways to uptitrate medication safely.

And always whenever we make medication changes, we make it very clear to our patients to always call us if they have any issues with any changes that we've made, even if it's before their next visit. They should not suffer in silence at home with these increased doses if they feel miserable. They should always call our office and let us know if there's an issue. And we can even do a visit earlier than had been scheduled if need be. So I actually feel with this, we're able to better dose adjust than we might've been before.

Now, I think a lot of programs have a pharmacist or some sort of pharmacy program and a pharmacist sitting in their clinic who can actually help with uptitrating medications to goal, which helps keep the clinics not as full. But with this method, this way the patient doesn't have to come. And again, they're

checking their blood pressure at home. So we're able to provide that same care that before required a patient to come in every few weeks for dose adjustment. We're able to do that from the comfort of their own home.

Sandeep Das: 20:35 I like it. How are you handling labs in that context?

Dr. Divya Guppt...: 20:40 Those are the few instances when patients do have to come in. If they do live a ways away, we will have order specs to the most local labs and then the results come to us and we have all of that put into our system so we can review all of those things before a visit. I always try to get those a few days before the visit and that way I'll have the data before I actually see the patient virtually. This way, we can have conversations about how is this medication impacting them? Do we need to make any adjustments? These create an extra layer because we're doing a little bit of faxing back and forth because in medicine we're very archaic in our technology and what we use. It does provide the same quality of care I feel.

Sandeep Das: 21:23 Excellent. Thank you so much for taking the time to talk with me. It's been a fascinating discussion and I really love hearing your insights into telehealth. I'm wondering if you have a few take home points that you want the audience to take back from this discussion today.

Dr. Divya Guppt...: 21:38 I really feel that if we embrace telehealth and if all the institutions embrace telehealth to its best and fullest capacity, we could really get a huge impact in how we care for patients. Specifically cardiac patients, yes, but any possible range of patients. By again, we've stated this several times, really engaging patients and their families, getting a look into their own home. By us being able to see their environment, it provides us some insight as well as to what may be some limitations in the patient being able to care for themselves. And so I think just really taking this on with an open heart and open eyes, we're able to fully understand our patients and provide better care I feel than we may have been able to in the past.

I'm going to end with my rose-colored glasses and state that I really do feel this is the future for healthcare. And we, as physicians, should try to figure out how to optimize the care that we can provide with this because I really do feel that patients really feel that you care because you are coming to them.

Sandeep Das:	22:45	That's great. I think that's a lot for people to reflect on and hopefully valuable to the audience. For me, it really is refreshing and I think it's important in ways that are not necessarily as obvious. Because I think that if you approach your care innovation or your job with a sense of fatalism, that you're almost poisoned from the start and doomed to subpar outcomes. I think if you approach it with the idea that we are going to do the right thing for people, we are going to improve outcomes, we're going to take better care of patients, then lo and behold, it can happen. I liked some of the things that you've discussed about engaging families, about how we can really build on and expand our telehealth program and make it more robust. And it's reassuring to me that you talked about doing it in such a high acuity population, to talk about the post transplant patients or the advanced heart failure patients. If you can manage those patients over the video, then I have nothing to complain about. Overall it's been a fantastic conversation. I appreciate your time and I appreciate your thoughtful commentary.
Dr. Divya Guppt...:	23:51	Thank you so much for having me on. I really appreciate this.
Speaker 1:	23:54	Quality Improvement in the Time of COVID-19 is brought to you by the American Heart Association with support from Novartis Pharmaceuticals. The views expressed in this podcast do not necessarily reflect the official policy or position of the American Heart Association. For transcripts of this podcast and more information on the association's COVID-19 CVD Registry powered by Get With The Guidelines, visit us at heart.org/covidregistry.