Recording:
Welcome, and thank you for joining us for this podcast brought to you by the American Heart Association. This podcast is part of a series focused on sharing information with healthcare providers who are caring for patients during the COVID-19 pandemic.

Dr. Erin Michos:
Hi, this is Dr. Erin Michos. I'm the director of women's cardiovascular health and the associate director of preventive cardiology at the Johns Hopkins University School of Medicine. And this is our American Heart Association Podcast, focusing on heart disease in this COVID-19 pandemic.

Dr. Erin Michos:
In this episode, we're going to describe the link between cardiovascular disease and its risk factors with COVID-19. We're going to talk about some solutions to help with continuity of care for these high-risk patients during this unprecedented time. We're particularly going to address the big changes in physical and social distancing and how that impacts cardiac rehab, talk about disruptions to continuity of care and potential solutions for that. And finally, we'll discuss some actions that can be put forward to address this and future crises.

Dr. Erin Michos:
Welcome to our American Heart Association Podcast, focusing on heart disease in this COVID-19 pandemic. And I'm very pleased today to have Dr. Amit Khera joined me. Dr. Khera is a professor of medicine and director of preventive cardiology at the UT Southwestern Medical Center, and he's also the president of the American Society for Preventive Cardiology. Welcome, Amit.
Dr. Amit Khera:
Hi, so good to be with you. And I'm really excited about this topic today. It's something you and I have discussed outside of this podcast previously, and what an important topic. Maybe I'll start a question for you, as you know well, we're all getting deluged with information here, but one consistent signal is that people with cardiovascular conditions, those with cardiovascular disease seem to be at higher risk, not only for getting COVID infection, but succumbing to some of the morbidity and mortality from it, tell us a little bit about what we know so far.

Dr. Erin Michos:
Yeah. So thank you, Amit. So, although COVID-19 stems from a viral infection, its interaction with cardiology, both upstream and downstream, is really intertwined, because we know that patients with diabetes, hypertension, obesity, and preexisting cardiovascular disease have a markedly poor prognosis and a greater risk of dying from COVID independent of age. We saw from data from China that while their overall mortality was three to 4%, the mortality was significantly higher among those with cardiovascular disease, where it was around 11%, patients with diabetes at a 7% mortality, and a 6% mortality with hypertension. And this is really considering that there are approximately 31 million Americans who live with coronary heart disease or heart failure and stroke, and 116 million with hypertension. And I'm particularly worried because we have such a high prevalence of obesity in the United States with about 42% of Americans who meet criteria for obesity.

Dr. Erin Michos:
And in the US obesity is turning out to be a particularly strong marker of bad outcomes in COVID. We saw from the New York city experience that for individuals under the age of 60 who have COVID, those with a BMI of 30 to 34 or greater than 35, they were two to four times more likely to be admitted to the critical care unit than individuals who had a BMI less than 30, and this is likely because obesity can lead to restrictive lung function and patients may have dysregulated immune response and propensity for thrombosis and other impairments in cardiovascular reserve.

Dr. Erin Michos:
So it's really important for all of us in these critical times to keep cardiovascular prevention as our top- a public health priority, not only for this current crisis, but for future outbreaks. In addition to preventing outcomes related to COVID-19, we just can't ignore usual cardiovascular care so that we don't see a tsunami of complications due to interruptions in chronic care. We need to make sure we're accessible to our patients during this challenging time. Along that line I actually wanted to ask you, we have seen so much disruptions in our outpatient care and care in general for those at high cardiovascular risk, and so I wanted to know what you think, what are the aspects that concern you the most about care for these individuals?

Dr. Amit Khera:
I think you framed it very well here first and foremost, that increased risk in patients with risk factors and with cardiovascular disease. And the thing is that when this first started, the COVID pandemic here, especially in the United States, that appropriately we were focused on the in-patient acute care, and there's been some great literature coming out to help guide us in that regard. But now that this is unfortunately becoming a little bit, the new normal and we now have to figure it out how to think about broader aspects of care, we're realizing that there may be the second and third waves of these people
who have these chronic conditions, and there may be disruptions in their care and the implications of that are now becoming front and center, which is part of the purpose of this podcast.

Dr. Amit Khera:
And there are a few things that concern me first, as you know well, there's been several reports about patients not presenting for care. We know, particularly with cardiovascular emergencies, heart attacks, strokes that there's a potential for patients to be scared to present for care, that they made themselves get COVID or their hospitals can't accommodate them. And that was theoretical, but now we're actually seeing good data for that, is many saw that article last week, where they showed that in nine centers compiling their data year over year, there's that 30% lower STEMI activation. So either we're not having STEMIs or patients aren't presenting. And I think it's the latter. Another study out of Singapore showed that when patients now are presenting, a few showed up, I mean, they were having significant delays compared to historic controls, the first symptom to medical contact was about 300 minutes compared to 80 minutes.

Dr. Amit Khera:
So we're really worried that patients are not getting care when they need it. And that is such an important take home from this, is that we should strongly encourage our patients where we're generally open for business in most places and patients should not delay their care. A couple other aspects, I know we're going to delve into this in a second, which is disruptions in usual care, we're so used to having outpatient practices and ambulatory care and regular follow-up or patients can get their preventative needs addressed, mentioned symptoms, and right now most places aren't doing outpatient medicine, it's all telehealth at this point, and we'll talk more about that, but we're really worried about these disruptions and access to people's providers and how that may impact preventive care and addressing symptoms.

Dr. Amit Khera:
And then you feel there are offshoots from that. We're worried about medication access. We know that pharmacies... elderly people who can't scared to go out and still many are going to the pharmacies and getting exposures. We worry about continuing to access, including supply lines around that. And then finally, I should say that the next wave, not to go too far beyond this, but a lot of people are losing their jobs, unfortunately, and that means they're going to lose health insurance, and we worry about that, and particularly vulnerable populations in Chicago, 70, 75% of the mortality is in African-Americans, they only make up 30% of the population. So we really worry about particularly different vulnerable and special populations in this [inaudible 00:07:45]. That's the sad news. I'm going to maybe pivot back to you. I know you've thought about this, what are some of the solutions here? What are some of the ways that we can preserve continuity of care for these high-risk individuals?

Dr. Erin Michos:
Well, if there's any silver lining in this crisis, I actually think it is the rapid adoption of telemedicine. I mean, we've always had health technology in cardiology, but this novel context has really boosted implementation, and I think it's here to stay. This is really helped by the expanded coverage with CMS, widening its reach. And you and I both do preventive cardiology, and I think this is particularly suited for telemedicine, where we can monitor a lot of these risk factors remotely with less of a need for physical exam. But so I think telemedicine will make it easier for us to check in on our high risk in practice.
Dr. Erin Michos:
For me, I used to have clinic at a satellite location, that's been easier for me to squeeze in patients here and there on my non clinic days, because I can do it remotely, and even from home, which has helped, but to make these clinical encounters meaningful, patients need to prep to, for these appointments. So patients with chronic cardiovascular disease and risk factors, I recommend they really invest in a good-quality home blood monitor and a scale. And we should train patients how to self evaluate, how to monitor their vitals, their blood pressure, their weights, how to recognize concerning symptoms, and to be able to adjust their medications and how to get in touch with their health care practitioners. And overall, I'm actually really optimistic that this new scenario is going to be actually an invaluable opportunity to enhance patient empowerment for them to take ownership in their own cardiovascular care, this patient centered approach.

Dr. Erin Michos:
I mean, we're literally coming into their homes with those telemedicine visits. But you mentioned some of the hardships for patients needing to maintain adequate supplies that are chronic medications. Perhaps utilizing mail or order pharmacies more than before. And just to make sure that they have the supplies without going out. And we're really need to, we're going to need to adapt some of our regimens to patient financial hardships during this economic downturn. And this may be being thoughtful about the medications we prescribe and trying to choose ones that are generic and lower cost, and making sure everything we prescribe has value and meaning, because money's going to be tight.

Dr. Erin Michos:
But I really hope that telemedicine is here to stay. It's really enhanced my practice. I'm able to actually check in on patients much more easily, which I think will be a good way, that instead of an annual visit once a year in a traditional clinic, that we can actually keep an eye on them much more frequently and be able to adjust their risk factors much more closely. But you know that a team-based care model is a really effective care model prevention. I know we've involved our preventive cardiology nurse with checking in on some of our patients. And so it seems that a team-based care would have even more additional value during this time of crisis. And so I wanted to ask you, Amit, what are some additional ways that you are using or suggest using to leverage the team-based approach to cardiovascular care?

Dr. Amit Khera:
Yeah. Thanks. I think that's really important. And let me just add to your points about optimism, and I will say anecdotally in the telehealth that we've been doing, I really enjoyed it. I think to your point about seeing people's homes and they're seeing us in different environments, it creates a different feel. I do think there'll be some new practices that come out of this, that'll be innovative as it relates to healthcare. And I'm optimistic that it's unfortunate we're in this situation, but we'll take some new learnings about how to interact with patients. And when it comes to team based care, first, as you know, you and I, both preventive cardiologist team-based care is sort of part and parcel of what we do. We always say there's no way to do prevention with that team. And so thinking about how to leverage the team a little bit better...

Dr. Amit Khera:
I'll maybe give some examples. First, I think about the pharmacist. We talked a little bit about barriers to access, and we also know that for example, some more generic type drugs, about setting up protocols in
the hospital or our clinic for routine extended refills, helping patients navigate getting a mail order, things like that, so facilitating that, there's also some other points when it comes to barriers for medicines like PCSK9, or ones that require prior authorization, there's obviously still some silly things about needing labs every year, and people can't go to the lab right now. So helping navigate those, of course, our advanced practice professionals, our armor practitioners and physician's assistants are integral.

Dr. Amit Khera:

And in many places it's different. Of course, in New York, it's, it's all hands on deck, and it may be that many of the physicians are drawn into the in-patient setting. That's really where the advanced practice professionals can be incredibly helpful, not only what they're doing regularly day-to-day, but helping pick up for where maybe the physicians are drawn into more of the acute care setting. So they can be incredible lifelines. And we can talk a little bit, I know, about physical activity and lifestyle things. And they're incredibly skilled at helping with those facets as well. So, I think that really if we think about leveraging the team, there's one last component I think about our nutritionist. And one thing has been fun with telehealth, our nutritionist continues in our new patient visits to see our patients via telehealth, and it's actually been better because they're with the whole family now, they're not just when the patient comes to the office, they're talking to children, they're seeing what they have in the house. So, again, our nutritionists are integral, particularly as we think about the changes to lifestyle habits.

Dr. Amit Khera:

So, I think there's really an expanded role and it's all hands on deck. And again, I think we'll learn new models of care around that. I've touched on this a bit in what I just mentioned about this idea of changes in patterns to physical activity, nutrition, we're all talking about physical or social distancing, and working from home and our kids are all running around at different things, and this certainly has implications for lifestyle habits, some good, some bad. And I know you're someone who's really not only talks the talk, but walks the walk when it comes to physical activity and lifestyle. What do you think is happening? Is there's some good and some bad? And what are some suggestions to preserve lifestyle habits in sort of these physical distancing work from home type environments?

Dr. Erin Michos:

Yeah. You hit the nail on the head. I mean, one of the key implications of this current crisis and social distancing is that staying at home can for many reduce exercise and mobility options and therefore decreased physical activity. And we've seen the data from things like Fitbit and step counts and activity counts are down. And I think largely all of these recommendations to stay at home are sort of lack guidance on the importance of maintaining a healthy lifestyle while at home. And I think adults and children are like glued to their computers and phones and effort to stay connected with the world. And unfortunately, that means skyrocketing in screen time. But there are things that can be done, both for ourselves and for our patients while we're at home. I mean, many government policies still allow for daily exercise outside if it can be done within safe social distancing.

Dr. Erin Michos:

So I do encourage my patients to get out, get a walk in their neighborhood, some fresh air, and some sunlight is really good for the body and for the soul. But even if constraints mandate that one has to stay inside for exercise, there's actually a lot of group exercise classes available online, there's previously recorded videos, or there's actually real-time live classes that people can join where you can engage in
others. Good to have a virtual workout buddy, to help stay committed to daily exercise goals. I think at uncertain times, it helps to add a little routine and structure to one's life. So a daily exercise routine and tracking step counts, there's a lot of smartphones and devices can track activity to help keep people accountable to staying active. And spending more time at home, I think is a great opportunity to get the whole family involved in exercise, educate children about the importance of regular activity, and hopefully introduce exercise as part of a joyful routine that should be maintained once these outdoor restrictions have been lifted.

Dr. Erin Michos:
But in addition to activity, I also want to mention the challenges to healthy nutrition in the era of COVID. I run a lot of stress, and perceived stress can trigger unhealthy eating patterns, unhealthy food choices from emotional eating. And with social distancing, it's going to be harder to get trips to the grocery store. And it's a lot of the healthier foods like fruits and vegetables, you don't have shorter-shelf lives are more perishable. But that being said, I think with thoughtful planning, many healthy products can still be purchased for the once-a-week trip to the store to kind of plan out healthy meals for the week. And we can give advice to our patients on low cost, high-nutritious foods that can be purchased that are less perishable or non-perishable, some good options are low sodium, canned vegetables and beans, lagoons. Frozen fruits, they don't have any added sugars. Oatmeal, and whole grains. Now dried or canned beans and nuts are a really good source of plant-based protein and fiber with a long shelf life.

Dr. Erin Michos:
And then last in addition to exercise and nutrition, I just want to put a plugin for the importance of mental health and stress managing. Social distancing shouldn't necessarily mean social isolation. This impact of this crisis can understandably increase stress and depression and anxiety, and this can exacerbate existing medical conditions. So I encourage my patients and all of us to remain connected, to use the telephone and other technology, to stay in communication with family and friends, to create routine, focus on getting good, adequate sleep. And I suggest not having any screen time or watching news within an hour before bedtime to really be able to try to promote better-quality sleep.

Dr. Erin Michos:
And to now is a good time to start looking into things like meditation, yoga, mindful breathing. I mean, yoga specifically has been shown to be beneficial in reducing anxiety and depression. And that might be something that more of us need to adopt during these difficult times. And of course, limiting use of alcohol and avoiding tobacco and not resorting to unhealthy coping behaviors. We're having more time at home, so I think there is more time actually to do things like cooking as a family and exercising as a family. So again, I think there are some silver linings, but there's obviously a lot of challenges.

Dr. Erin Michos:
Along those lines, talking about physical activity, one of the things that have been impacted by the crisis is cardiac rehab programs being closed. Currently. I know one of my patients, right before we started canceling elective cardiac surgery, just had a bypass surgery, but now isn't able to go to any in-person cardiac rehab programs. So what are some options for our patients to continue cardiac rehab during this COVID-19 pandemic?

Dr. Amit Khera:
Yeah. Listen, you certainly brought up a critical point here because we already had a challenging issue with cardiac rehab, and we know it's way under-utilized. Even prior to COVID in Medicare patients that have myocardial infarction, something like only 20 to 30% end up participating in cardiac rehab. So it was already well under-utilized. And the irony there is that it's one of the most cost-effective treatments. It results in a 30 to 50% reduction in [inaudible 00:20:02] cardiovascular events based on randomized data. So, very, very important and impactful program. And now in the current era, one of the challenges is, as you know, as well there's really unfortunately no way to do face-to-face in-person cardiac rehab, I don't know of any centers that are currently open, because it's almost impossible to keep patients safe.

Dr. Amit Khera:
And as you started with... These are the ones that are more vulnerable to COVID. So it's sort of a double whammy there wasn't vulnerable, and now you really can't be in physical proximity, kind of exercising next to each other. You and I had talked about this before at another juncture, but one of my colleagues reminds us that we talked about six feet, but if you're increasing your respiratory volume and so forth, that may not even be far enough. So, maybe you need to be further. So this is a major challenge and that patients cannot participate currently. And this is a big problem because most people that need to participate are doing so after a myocardial infarction revascularization, that's a vulnerable period where they can really make an impact on their health.

Dr. Amit Khera:
So what do we do about that? The good news is there's been a lot of work previously in home-based cardiac rehabilitation, there's programs available, some proprietary programs, and they have reasonable literature in terms of how they can be helpful. There are some statements that have been made by different organizations about some consensus documents about it being a viable option for low and moderate-risk patients, probably not for your highest-risk patients. There's the exercise component where, again, many of these innovative programs have Bluetooth coupling where they can monitor physical activity, because we all know cardiac rehab is not just exercise, it's also comprehensive risk reduction with nutrition, counseling, learning about cardiovascular disease, many of the things that we talked about.

Dr. Amit Khera:
So those educational aspects can still proceed. Patients can still be given some recommendations about lifestyle habits [inaudible 00:21:56] many of my colleagues around the country that are continuing to share classes online education work, that can continue, no question, via telemedicine. The exercise is a little bit trickier, and I think that's where people are getting a little stuck. Again, there are some options. One of the barriers I should say in terms of potential solutions is home-based cardiac rehab has not traditionally been reimbursed. That's been a barrier. We know Medicare has done some emergency measures related to telehealth, and we really need those emergency medicines related to reimbursement for a tele-cardiac rehab, if you will, so that we can continue that in some capacity.

Dr. Amit Khera:
So that's something people I know groups are lobbying for that now, and I think that would be an important advance if that could be made available. So at the very least we should continue educational efforts and engagement with our patients with cardiac rehab, even with the same frequency as before,
we can't encourage walking in other activities at home, and we need to work towards reimbursement individually some of these other home-based exercise components as well.

Dr. Amit Khera:
So listen, I really am glad that this topic is covered. I have some anxiety about what's happening to all of our patients out there, maybe getting lost in the shuffle when they're in the outpatient land, that hasn't been the focus understandably, and we need to refocus on them. It's not either or. We have to continue the in-patient management, but we need to also think about the outpatients. And so I'm going to come back to you. I think we've covered a lot of ground today. Maybe you can tell us the key takeaways of, of some of the things that we covered today.

Dr. Erin Michos:
Yes. Well, thank you. Well, we certainly don't know this for sure, but I certainly think it's likely that the significant morbidity and impact of COVID-19 related mortality would that have been lessened with a greater focus and investment in population health and prevention of cardiovascular disease and its risk factors. And so I think going forward, we need to invest even more in essential services like cardiovascular prevention and public health initiatives. And you brought up the significant disparities related to social determinants of health. This was here before pre-COVID, and this is just even become more manifest in the COVID era of the high mortality rates that we're seeing among minority groups. And so I hope post COVID that we're in a better place to have meaningful discussions and action plans to achieve health equity for all.

Dr. Erin Michos:
And I think that while this pandemic has highlighted really how fragile the state of human beings are and our current health crisis or healthcare infrastructure, it has also demonstrated that we can rise to do extraordinary things to tackle urgent health crises. And if we can use that same determination that we've all mobilized to fight COVID-19, if we can use that determination, resilience, innovation to tackle the pandemics of obesity, diabetes and cardiovascular disease, I think this will ultimately hopefully improve the health of our population going forward.

Dr. Amit Khera:
Well, thank you. I really enjoyed doing the podcast with you today, and I know I always learned a lot in chatting with you. So thank you for allowing me to participate with you.

Dr. Erin Michos:
Thank you.

Dr. Amit Khera:
I thought those were also very inspirational comments you made, Erin and I, I want to remind people that there's many more in this series and people should return online to AHA professional heart daily, some call that PhD for some more podcasts in the series, which include COVID-19 and stroke, diabetes, pulmonary hypertension, and other concurrent cardiovascular diseases at this time of healthcare disruption. So please do tune in. You'll enjoy all the series of this podcast, and hopefully they'll continue to be informative and help your practices.
The views expressed here do not necessarily reflect the official policies or positions of the American Heart Association and American Stroke Association. For more information, please visit us at professional.heart.org.