[Begins at 00:01:10]

Kimberly Stitzel: Our convenings often start cross sector collaboration that leads to improved health. One focus area of the work of the Forum and many of our collaborators is in the work of blood pressure. And we're all here today because 45 percent of adults in the U.S. have high blood pressure, and unfortunately, less than half of those have their condition under control.

High blood pressure or hypertension has been referred to as a silent killer, and it's getting more attention now than ever, because having hypertension puts people at higher risk for severe COVID-19 illness. CDC recently reported that almost half of people hospitalized with COVID have hypertension as an underlying condition.

I am just so pleased to open up this webinar and introduce the speakers we have today, from several sectors, who will share with us how they have achieved success in lowering blood pressure in the populations they serve. We will hear community-based hypertension intervention strategies and examples from Minnesota, how a clinic in Missouri became a Million Hearts Hypertension Control Champion, how an elected official uses Move with the Mayor to help community members reduce hypertension, and then we'll have updates from two National Forum members, the American College of Cardiology and the National Heart, Lung, and Blood Institute.

And then finally, Representative Rosa DeLauro, Health Champion, Chair of the House Appropriations Committee on Labor, Health, Human Services, and Education will update us on the outlook for 2021 appropriations.

We ask that you share your learnings and comments today via Twitter and Facebook, and in front of you, you'll see our Twitter handle and our Facebook site as well as the hashtags that we have on the screen.

Now, before we begin, I just want to point out two of our WebEx features. You can download today's handout by going to the File menu in the upper left-hand corner of the screen and select Save Document, and we can encourage you to submit written questions at any time during presentations using the Q&A panel located at the bottom right of our screen.

Today's session is being recorded. Now, to introduce our presenters.

Gretchen Benson, Program Manager at the Minneapolis Heart Institute Foundation and fellow dietitian will share the success formula from "Heart Beats Back: The Heart of New Ulm Project."

Dr. Larry Sperling, Executive Director of Million Hearts, will interview Dr. Carolyn Koenig of Mercy Clinic East Communities in St. Louis about how her health system became a Million Hearts Hypertension Control Champion.

Next, National Forum Executive Director, John Clymer, will interview Mayor Christina Muryn of Findlay, Ohio about how she uses Move with the Mayor to help reduce hypertension in her community.

And in the spirit of keeping ourselves active, we'll have a two minute stretch break with Jen Childress of the Forum.

And then Brendan Mullen, an Executive Vice President at the American College of Cardiology, will tell us how the ACC is taking on heart disease and stroke prevention in our new environment.

Dr. David Goff, Director, Division of Cardiovascular Sciences at the NHLBI will update us on NHLBI and NIH's work to adjust challenges from COVID-19 and cardiovascular disease.

And then finally, Representative Rosa DeLauro, Chair of the House Labor, Health, and Human Services and Education Appropriations Committee will update us on the outlook for 2021 appropriations to support prevention of cardiovascular disease and its risk factors and how this is being affected by the pandemic. Representative DeLauro, we are so pleased and honor to have this health champion among us today.

At this time, I would love to ask Gretchen Benson to begin. Thanks, Gretchen.

Gretchen Benson: Thank you, and good afternoon. "Heart Beats Back: The Heart of New Ulm Project" began with a bold vision of preventive cardiologist, Dr. Kevin Graham, to eliminate heart attacks in the rural community of New Ulm, Minnesota. You can actually move to the next slide, please.

The idea for this 10 year research initiative actually started as part of a hallway conversation between Dr. Graham and a line of health executives. For reference, New Ulm is located about 90 miles southwest of the Twin Cities and has a population of about 13,000. New Ulm has one hospital and clinic that provides care to nearly 90 percent of its residents. It is also served by an electronic health record, making it ideal from a research perspective. We were able to obtain baseline data and survey the community over time to monitor our progress.

In order to achieve our long term goal, we also set out to improve the proportion of individuals within New Ulm who had controlled, modifiable risk factors. These included elevated blood lipids, high blood pressure, uncontrolled glucose, obesity, tobacco use, physical inactivity, low fruit and vegetable consumption, uncontrolled stress, and medication underutilization or nonadherence. We focused on these 9 factors as 90 percent of first heart attacks are attributed to just these. Next slide, please.

In 2009, when we launched the project, we conducted baseline community heart health screenings. These free screenings were conducted to enhance the data we had available in the record. We found that the top concerns for New Ulm were a high rate of overweight and obesity, a metabolic syndrome rate higher than the national average at the time, and only 17 percent were meeting the recommendation to eat 5 or more fruits and vegetables per day.

We repeated screenings in 2011, 2014, and 2018. At our last screening, we were able to rely more specifically on electronic health record data due to a more activated patient population over our project time frame. We supplemented this with a lifestyle questionnaire that was mailed to people's homes in order to get behavioral information, things like nutrition, physical activity, and stress management that often aren't tracked within the electronic health record. Next slide.

We used this community diagnosis to inform the interventions that were developed for the project. We worked with community leaders to understand what was already available in the community. From the beginning, the Heart of New Ulm created and was strongly supported by a local steering committee that included residents across varying sectors of the community, including local businesses, the Chamber of Commerce, the Superintendent of Schools, and local physicians. This high level of community and leadership engagement was essential to making the intervention successful.

We used a multi-tier approach to help community residents reduce their risk factors by intervening across the health care, work site, and community and environments. While health care interventions were available, we know that 80 percent of health care happens outside the clinic walls. So, we focused our population efforts where most of that care occurs—at work sites or throughout the community. Next slide.

This slide will give a few examples of our specific interventions and I'll start with phone coaching. So, we leveraged the electronic health record to identify patients who are at highest cardiovascular risk and proactively reached out to them to offer them phone coaching between their usual visits. We learned that about one-third of all New Ulm adults that did not have diabetes or heart disease were actually at high risk for developing them. Our goal was to reach this population to intervene and prevent them from having an event.

We worked closely with a local physician group and actually created a medication therapy protocol where our phone coaches, who were nurses and dietitians, could initiate and titrate blood pressure and cholesterol medications. So, on one end of the spectrum, we provided an individualized approach to care, and on the other end, we implemented changes to the nutrition and built environments.

Our work on the nutrition environment included working closely with restaurants and grocery stores to make the healthy choice the default choice. Over two-thirds of local restaurants signed on to participate, and this included some national chains, and promoted healthier beverage options for kids, smaller serving sizes, serving whole grains over refined, and offering a fruit or vegetable in place of French fries. In the later years of our project, we implemented a Complete Streets policy to make it safer and easier for residents to walk and bike in the community. A Safe Routes to School program continues to this day.

Additionally, the project used a comprehensive communication strategy to blanket the community with health messages. Here, you can see an example from our Swap It to Drop It campaign that was conducted several years ago that encouraged residents to make healthy, small swaps in their day. So, a wide range of interventions and the high level of community and leadership engagement was essential to making our project successful.

We have recently published a paper on the engagement of our interventions, which is listed on this slide in case it's of interest to other communities. Forty four percent of adults participated in at least one of our individual level programs. Next slide.

In our initial five-year outcomes paper, we found several improvements in cardiovascular risk factors, including blood pressure, LDL, total cholesterol, and triglycerides. In order to put this into perspective, we compared our results to the National Health and Nutrition Examination Survey. We felt this was a really good comparison, because like our program, NHENS uses both interviews and physical exams to create their data set. The health improvements during the same time period were markedly higher for those in New Ulm compared to almost no change in the NHENS population. Next slide.

In one of our evaluations, we assessed if trends from baseline through 2015 for cardiovascular risk factors differed for a cohort of residents in New Ulm compared to a matched control from a comparison community serviced by the same health system. We found that blood pressure was better managed in New Ulm than in the comparison community. Controlled blood pressure increased by over 6 percentage points in the New Ulm cohort versus 2 in the comparison community. There was no difference in blood pressure medication changes between communities, which we think implies benefit for the behavioral aspects of the program. Next slide.

These analyses provide estimates for how behaviors have changed among screening participants and we recognize that they're not representative of the entire community. We know that those who attend screenings may differ from those who don't. However, we do want to point out that a sizable proportion of the community had attended at least one screening. We did see nice improvements between 2009 and our 2014-'15 cohort in reduced smoking, increased physical activity, and fruit and vegetable consumption nearly doubled between those two time points. Next slide.

So, our key takeaway for the project is, The Heart of New Ulm began with a bold vision. It got people energized and excited about being part of this effort. Data from community sources as well as the electronic health record allowed us to inform the community decision making process. Community partnerships were critical to the initial and continued success of the Heart of New Ulm. As the research ended last year, there are currently 11 different action teams with over 80 volunteers who carry forward this work. The comprehensive package of interventions and the

interconnectedness of them across the community seems to reduce risk factors at a population level. We are currently working with the State of Minnesota to evaluate our final heart attack outcomes and hope to publish those next year.

Thank you so much for your time, and at this point, I am pleased to turn it over to Dr. Sperling.

Dr. Sperling: Thank you very much. So, I am pleased to move on with our session today and I'm going to introduce one of our Million Hearts initiatives, Hypertension Control Champions. Since 2012 Million Hearts has recognized Hypertension Control Champions, now defined as greater than 80 percent hypertension control among the patient population they serve. At this time, there are 118 Million Hearts Hypertension Control Champions in 36 states and Washington, D.C. caring for 15,000,000 American lives.

And so, I'm here to interview Dr. Carolyn Koenig, who is Chair of Quality in the Department of Medicine at Mercy Clinic East. She is Medical Director of Care Management and an Internal Medicine physician. First of all, congratulations to you and to your team on becoming a Million Hearts Hypertension Control Champion in 2015. We certainly want to hear about the work that you've done, and if you could please just describe the Mercy Clinic East where you're located and the population that you serve?

Dr. Koenig: So, yeah, Mercy Clinic is one of the largest Catholic health care organizations in the United States. We're in three states, Missouri, Arkansas, and Oklahoma; however, our East community from where I come is basically the greater St. Louis region. We have over 1,000 integrated physicians from different specialties and we mainly see patients in the suburban and rural type settings.

Dr. Sperling: Well, thank you, and I know you and your team became Million Hearts Hypertension Control Champions in 2015. Really impressive data, taking hypertension control in your population from 65 percent in 2013 and moving it towards, at the time, what was above a 75 percent hypertension control target to become a Million Hearts Hypertension Control Champion. So, what did you and your team do to improve hypertension control?

Dr. Koenig: Yeah, we were quite proud of our work, you know, starting at 65 percent and now we're closer to 80 percent. It looks like my slides are kinda merged on top of each other. But there's certainly a lot

that went into that. But at the end of the day, you know, the most impactful things, I think, were really quite simple.

Two things I'd try to get you to do in your own clinics would be namely get a program in place to ensure accurate blood pressure measurement across the board, and then designating a clinician champion to really change the culture in your clinic to pay attention to hypertension. It's important, it's a vital sign.

So, as for accurate blood pressure measurement, we started at Mercy with training our medical assistants. They certainly are the front line of blood pressure control, really—oh, that looks better. Thank you. So, you know, whether it's in the exam room or on the phone, these people have the ability to tell a patient, "Hey, it looks good" or, "You know what, it is a little high. Make sure you talk to Dr. Koenig about it," that sort of thing.

And, you know, in that training, we really found it impactful to teach those medical assistants that they really are an integral part of the time. They have the ability not just to check a blood pressure but really impact someone's heart attack and stroke risk by doing it the right way and helping be part of the team to draw attention to it.

So, we had talent development people go out to our primary care clinics. They would make sure they had the right equipment and make sure the medical assistants knew how to check a blood pressure accurately. They also went to our specialty clinics—so, you know, not just Cardiology, but even Orthopedics, Ophthalmology and did the same thing.

We also created kind of a fun blood pressure video, you know, showing kinda the wrong ways to take a blood pressure—you know, over a coat and that sort of thing and then, you know, contrasted that with the right way and shared the impact of that.

You can see from this slide that it's not just about the physician and patient relationship anymore, it really takes a team to manage blood pressure.

Our clinician champion really, like I said, did a lot of the work to drive clinic culture to pay attention to high blood pressure. We encouraged our specialists to pay attention and they had some financial motivation through a quality measure to do so. You can imagine even, you know, an Orthopedic doctor, if you're a physician, even if it's Ortho, says it's high, you need to follow up

with your PCP—you know, patients listen to that. And, you know, leadership buy-in is important. You know, if your leaders are on board with you in these initiatives, they're gonna allow you to get in front of their physicians to drive the culture and certainly, they love to hear about awards and make this type of award known, like the Hypertension Control Champion Target Blood Pressure Gold Status. So, if you do this kind of work, try to get recognized for that. I think that helps build team culture as well.

Dr. Sperling: Thank you. We're clearly in the midst of unprecedented times, certainly, as a society and in health care delivery. Just a quick minute, what are you and your team doing right now, given the challenges we have related to COVID-19? How are you still maintaining this important focus on hypertension control?

Dr. Koenig: Right. Well, certainly, we're doing a lot of telehealth visits, video visits like everyone else. And that has highlighted the need for more systematic approaches to monitoring self—SMBP, self-monitored blood pressures. So, getting those devices to patients when people need it and systematic ways to track it.

We have learned through our partnership with Target BP that there are new SMBP codes that can be used for monitoring blood pressure that people take at home, and we're exploring systematic ways to do that. I think it will really help physicians do this work. You know, we've been asking them to follow up with patients after they've had a change in their blood pressure medicine, you know, in the office. We've been asking them to follow up within three to four weeks with the patient and have them come back in. But whether it's due to patient factors or physician access, they don't often do that. And that leads to patients not getting to goal sometimes as quickly as they really should. So, having those SMBP codes that you can do via a MyChart encounter, you know, portal type things, I think, will help achieve that.

You know, I put in some of the resources, you know, the information on Target BP that other people can look at. They recently announced the list of validated blood pressure cuffs, which will be helpful to patients and physicians. But, you know, collaboratives like that and partnerships can be quite helpful, too. You know, when we started this work, we were with AMGA's Measure Up/Pressure Down, and different organizations have offerings. But I really do think that helps your organization get to goal as well.

We do have, also, lastly, data analysts who have provided us during this COVID epidemic with lists of patients who are high risk for COVID. Certainly, hypertension is on that list as previously mentioned, other disease states like hypertension as well—I mean, diabetes as well. But we've asked our clinics to outreach those patients and check on them and, you know, preferably schedule them with a video visit as a proactive way to keep track of our high risk patients during this time.

And that's all I had, I think, unless there were other questions.

John Clymer: Well, this is John Clymer, Executive Director of the National Forum. Thank you very much, Dr. Koenig and Dr. Sperling, and congratulations, Dr. Koenig, on your success with hypertension control at Mercy.

I'm pleased now to introduce Mayor Christina Muryn of Findlay, Ohio. Christina Muryn won election in a landslide last year and immediately took actions to help people in Findlay obtain health and well-being. And Dr. Muryn—or Mayor Muryn *[Laughter]*—the people who've spoken before you today, they lead a heart health focused program and a health care system. So, I don't think anybody who's joining us today is surprised to hear people in those roles talking about controlling high blood pressure, but they might be surprised to hear a mayor joining us to talk about it.

So, can you describe your role as the top elected official in your community and the role of other mayors in helping the people who you lead and represent prevent and control high blood pressure?

Mayor Muryn: Yeah, certainly, and thank you for trying to give me a promotion to doctor. You know, I would take it, but I haven't quite earned it. *[Laughter]*

So, you know, I think mayors play a really important role in supporting our communities and creating a path for our residents to live healthier lives. And certainly, we create—you know, help lead the culture of the community, but we also oversee the infrastructure. So, there are really two main areas that I think we can really be catalysts and that's helping create and plan out our communities to allow for better recreational use, safer paths, better signage—all of those little things that create an environment that make it easier to live a health and active life.

And then the other thing is, you know, promoting it through both my employees as well as working with citizens to understand and

get access to health resources and understanding how they can be more physically active, have healthier food options and, you know, living smoke free and promoting that in our community.

John Clymer: So, how do you as mayor encourage people to live healthier lives?

Mayor Muryn: You know, so, you see some of the pictures. You know, a lot of it has been just showing people who easy it is to fit a walk in. And I think that sometimes when we think about living a healthier life, we think of dramatic changes that we have to make—you know, people go on these crazy diets or they think they need to work out or two hours a day. And that's not sustainable.

And so, I think just really encouraging folks to say, "You know, I have a crazy schedule, but I make it a priority to, whether I'm listening on a conference call or it's later in the evening or I schedule it with my team to get out and just walk for 30 minutes and listen to music and decompress or take that time to kind of follow up on phone calls I haven't had for a day," it's been really neat to see in my community how people have really embraced it and expected it. And, you know, at first, I was worried that I would call into a call and it would be noisy and people would be able to tell I was walking. But now, everybody is like, "Oh, I should've done that!" And, you know, "I'll make sure I do that next time." Because it is something that, as leaders, we have to not just lead about taking care of others, but about taking care of ourselves. And when people see that, that encourages them and empowers them to make sure that they're making their health a priority as well.

John Clymer: That's great. And the photos that we have on screen right now, I think people will note are from the pre-COVID era. And so, I'd call folks' attention to the National Forum's home page, because there, you'll see on the home page a screenshot of some of Mayor Muryn's social media that you're using now to encourage people to stay active even under stay at home, work at home, and social distancing regimen.

Mayor Muryn: Right, and you know, certainly, the events here, we really have tried to be focused in engaging a diverse population. So, you'll see, you know, I did a 7 a.m. walk where we met at a coffee shop and then we walked around downtown. I did a couple where we met at lunch time to kinda get the working population where we met at a juice bar and got a juice and then walked around.

So, we tried to engage local businesses, but then we also did one at the University of Findlay and we did one in partnership with the

Humane Society where we had animals that were up for adoption there for folks to take out and walk and then we were able to get some of those pets adopted as well. And then getting into our schools.

So, we're hoping to continue to put together some events, we'll probably, depending on how long this continues to go, look at doing some virtual events. But, you know, just encouraging folks to be active and get out with their family. A lot of our community has also done—I don't wanna say, I'm trying to think, like, scavenger hunts, but where people have put, you know, teddy bears or different things in their windows and then encouraged families to get out and walk around their neighborhood and count how many teddy bears they can find. And each day, you know, they kinda find more.

So, that's been really great to see how the community has also encouraged folks to get out in this time as a family, creating healthy habits, and enjoying the outdoors.

John Clymer: Great. So, it's really clear how you're using your role, your visibility as a leader in the community to lead by example. And I love the creativity that you've brought to it, the win/win with getting pets adopted as well as encouraging physical activity and things like that.

The slide that we have up now, I think, is a good prompt to ask, what are some ways in which you make it easier for people in Findlay to have a healthy lifestyle?

Mayor Muryn: Yeah, so, certainly, we have kind of implemented some of the policies around, you know, Tobacco 21 and trying to get people, you know, just—I don't wanna say a little bit of peer pressure, but a little bit of peer pressure. *[Laughter]* And then we also, you know, are working on the Complete Streets, as you can see. You know, we're an older—we have a lot of older neighborhoods, so we're trying to work within our current infrastructure and footprint. So, we are always trying to look at how we can implement, whether it be multi-use paths or dedicated bike lanes into our community and into new developments. We're really trying to encourage that as well as working, you know, to try to do some of the safe routes to park and safe routs to schools, just trying to identify how we can make sure that we are implementing those and creating, again, that safe environment.

As well as, then, a couple of things that we're working on is really trying to—you know, I have a team of 350 people here in the city and we work closely with the county. So, one of the small changes, like, adding signs to our staircases and to elevators and around downtown that talk about the importance of walking and how when, if you're going to, if you'd used the stairs, you would've gained so many steps. Or, you know, from one end to our downtown to the other is so many steps.

One thing we're hoping get to do this summer—we'll see what happens—is we (1) currently have a book walk that is set up in our park, so we have worked with the library where they have pedestals, these big things that have parts of a book, and then they're spaced out throughout the park, where you can go and read a book while going on a walk. But wanting to do something similar to that with putting information out about, you know, have paintings of a great blue whale on the ground and showing how many feet it is and, you know, then people can go and take how many steps and see, "I walked 50 steps, and that's the length of a whale." So, making it educational and giving people that kind of experiential opportunity is what we've really seen to be beneficial. So, it's been a lot of fun.

John Clymer: That's great. So, you're using promotion, your visibility in leading by example, you're using policy, you're using programs, and you're using changes to the infrastructure all to enable and empower people to live healthy lives. So, that's really impressive, and I think shows us the power that mayors have to positively affect people's lives and help prevent hypertension and cardiovascular disease. So, thank you, Mayor Muryn, for your leadership.

Mayor Muryn: It's my pleasure. Thank you.

John Clymer: And now, we'll take a 60 second stretch break. We'll walk the walk here real briefly, led by Jen Childress from the National Forum.

Jen Childress: Good afternoon, everybody! Although you can't see me, I'd love for you to join along. And if you're not already, please stand up and let's take our hands over our heads, reaching like you're plugging your fingertips into the ceiling, and then let's go ahead and bend, stretching over to your right side like you're reaching your fingertips to the corner of your office, and then come to the center, and let's switch sides. Reaching to the opposite side, really stretching those fingers out, feeling the stretch along your ribcage, and then let's come to the center again, slowly lowering your arms down to your sides.

Let's take our chins over towards our right shoulder, using our left hand parallel to the floor, pushing it down, chins over towards the right shoulder, elongating your neck, feeling that space between your ear and your shoulder. And then, slowly take your chin to the center and over to the opposite side, so chin over the left shoulder, right palm pressing down parallel towards the floor, elongating your neck, and then bring it to the center again.

Shake your hands out, and thank you for moving with me. I'd like to now introduce Brendan Mullen with the American College of Cardiology.

Brendan Mullen: Hi, everyone. Thanks, Jen. You know, I loved both the stretch break and I loved Mayor Muryn talking about being on conference calls while walking and being a little bit sheepish about that. I, in fact, before I realized we weren't gonna be on video, had a dilemma, and that was, am I gonna change out of my T-shirt and my ball cap that I was hiking in this morning while I took my morning conference calls to put on something a little more quote-unquote respectable, or am I gonna walk the walk and talk the talk and just show up in my workout gear? So, I won't betray what decision I finally made because you can't see me, so you'll never know.

So, I'd like to talk just for a couple minutes about how the American College of Cardiology is thinking about and responding and maintaining, trying to maintain focus on hypertension and prevention in the context of what we're facing right now with the COVID-19 pandemic.

Essentially we are viewing this as sort of three crises in one, in the cardiovascular community. First of all, we are attempting to effectively manage the risk of COVID-19 for cardiovascular patients. Number two, we're dealing with the acute cardiac complications of COVID-19 in hospitalized patients. And then number three, we're dealing with the profoundly worrying effects where patients are deferring care even for the most acute myocardial infarctions or heart attacks and strokes. And we're starting to see a damage to the heart unlike we've seen probably in a decade in terms of how patients are finally presenting to the hospital where it's untenable for them to stay home.

So, there are sort of three intertwined crises, here. And ironically, in some ways, they all tie back to hypertension in the end.

So, on that first crisis of managing the risk of COVID-19, unfortunately, the signal has been very, very clear since the earliest case cohorts were published out of Wuhan in January of this year, that patients with underlying cardiovascular conditions in particular, including diabetes and hypertension, were at extreme, the relative extreme risk for COVID-19, contracting the disease originally and then suffering a much worse prognosis, with mortality rates running up into potentially the 12, 13, 14, 15 percent rate for some of our sickest patients.

And we started publishing early clinical bulletins to the cardiovascular community as early as February 10th on this using influenza, SARS, and MERS analogues to guide, early guidance on how the cardiovascular community should be prepared to treat this. And then we have followed on with launching our COVID-19 hub on ACC.org/COVID-19 that's had over 1,000,000 unique visitors in the last 8 weeks looking for our guidance on that. And, of course, now that this is prevalent in the United States, we know that there are probably 120,000,000 Americans with an underlying cardiovascular related condition that are at risk for this.

And the second major area that we're working on is the acute cardiac complications. I won't spend a lot of time on that. You're probably tracking sort of acute onset cardiomyopathy and heart failures that are happening and then our new, emerging sort of concern with dysregulated coagulation or coagulopathy, which is resulting in diverse presentations of thromboembolic disease, which can have very, very severe outcomes in patients.

And then finally, on that third crisis, the deferred care, we know that presentation for myocardial infarction or MI is down between 35 and as high as 50 percent in some regions, where patients, we believe, are simply so scared of contracting COVID and they're taking the social distancing to such heart that they're simply not showing up at the hospitals. This isn't because we don't think the heart attacks are happening, it's because we don't think people are asking for care and the consequences of that are pretty profound.

Now, interestingly, a lot of that actually ties back to hypertension, because if we think about across those three different crises, the best guidance we have right now and the best evidence that we have right now, both from the COVID-19 pandemic as well as those prior viral analogues with influenza, MERS, and SARS is that the best thing we can possibly do for our patients across the continuum of cardiovascular disease is to have them on their maximally tolerated guideline directed medications, so they are as

healthy and their hearts are as strong as they can possibly be before they either encounter the virus or if, unfortunately, they contract the virus.

Now, one of the key underpinnings, of course, of all guideline directed medication therapy is managing blood pressure, as we've been talking about, and hypertension. And that in particular has gotten a focus under this situation because, as I'm sure many of you read, the binding site for the SARS-CoV-2 virus is actually the ACE2 receptor site _____ cells and there was some early concern that ACE inhibitors and ARBs, so, very, very common anti-hypertensive medications actually upregulated those ACE2 receptor sites, potentially increasing the susceptibility of patients.

Ourselves, along with the American Heart Association who's on board, the European Society of Cardiology were very aggressive in saying that that was sort of a theoretical conjecture, and I think that's been borne out that, if anything, managing hypertension with ACE and ARBs probably continues to be not only cardio protective, but COVID protective based on early evidence. So, we continue having to push.

But if we look at the questions that are being asked to our hub and our website, so many of those questions are coming from both physicians and from patients are things about hypertension and COVID, losartan and COVID, and it created this concern amongst the patients and doctors that our traditional guideline directed medication therapies weren't what we should be doing right now, and of course, the opposite of the case.

So, what we continue to be doing is emphasizing how important those therapies are, that underlying best practice and prevention continues to be the core of keeping our patient population safe and the best protected they can be as they go through this. And trying to emphasize that things like anti-hypertensives are often anti-inflammatory as well, along with statin therapy and that, until we have new evidence on specific medications, whether that's hydroxychloroquine or remdesivir for more severe patients or perhaps other combinations of medications for our less sever patients, that sticking with those guideline therapies is the best we can do. And not only the best we can do, but a very good thing and an important thing.

And as my closing comment, what we are trying to do is encourage, through both our public outreach as well as our outreach to our clinician community, that this is now an excellent

time to reach out with patients and encourage them to make sure they're taking their medications, to work with patients on up titrating, say, beta-blockers, ACE inhibitors and ARBs to the maximum tolerated doses along with statins to get your best cardio protective effect. Because we think many patients right now are very activated towards this risk and are willing to do whatever they can to protect themselves.

Thanks so much, Jen. Thanks so much, John. I hope everyone stays safe, and thanks for having me.

John Clymer: Thank you very much, Brendan. And now Dr. David Goff from NHBLI and NIH. Dr. Goff?

Dr. Goff: Thank you, John. Thanks for having me here. It's been a really interesting and exciting opportunity to hear and learn and listen to others, and I appreciate the opportunity to talk a little bit about what we're doing.

You know, before the Coronavirus pandemic occurred, there was one sort of presentation I thought about providing as an update on our efforts to improve hypertension control. We're still focused on all that, so we're trying to walk and chew gum at the same time, here. However, our lives have been changed at the Institute with the Coronavirus pandemic. And you'll notice, the name of our institute is Heart, Lung, and Blood. And so, all three parts of our institute have gotten engaged in a—all of NHLBI, all of NIH, all of, really, all of America response to the Coronavirus pandemic.

You just heard quite a few of the issues that we're facing. One of the issues that we're facing at NHLBI is that no one has ever really thought of us as a nimble organization in the past. That's not the way people think of federal agencies. We tend to be thoughtful, and that means when people have research ideas, they go through a long period of review where we think very carefully about whether it's a good investment of the public's resources.

And we've been called upon to be quite nimble. So, ideas that would usually take at least a year to go through a process of review and consideration and funding negotiation, we've been able to accomplish in just a matter of weeks. So, we've already gotten two clinical trials up and running in just the past few weeks since we were awarded or given $103,000,000.00 by Congress through the CARES Act. One of those studies is a trial of hydroxychloroquine in hospitalized patients with severe COVID-19. The other trial is of colchicine, which is an anti-inflammatory agent that was shown

to be effective in people with established cardiovascular disease. This is now being tested as an immunomodulatory therapy to prevent some of the adverse effects for the immune activation, the immune system on patients with Coronavirus.

We have several other trials that we'll probably launch in the next two to three weeks and while it's a little early to talk about them, one of them is focused on convalescent plasma. This is the idea that people who have recovered from Coronavirus infection have antibodies and plasma can be collected and treated in such a way that it's pathogen free and then given to people who have acute infection, and those antibodies may be helpful.

We also have some trials under development that we'll be launching soon, I believe, in the area of anticoagulation. You just heard a little bit about some of the real severe vasculopathy and coagulopathy that this virus is causing.

And then finally, among the things pretty much ready to launch is a trial in the area of the RAS system. You heard about ACE inhibitors and angiotensin receptor blockers, and we have interest in testing whether an angiotensin receptor blocker in particular might be effective at blocking some of the effects of the virus through the RAS system.

This is just a small sample of some of the things we're doing. We've also put out mechanisms that enable people to ask for supplements to their current research projects so that they can turn their attention to the Coronavirus. And we've received well over 100 applications, requesting in aggregate well over $80,000,000.00 so, you know, the ability to cover all the potential meritorious projects with only $103,000,000.00 is quite limited. And we expect that Congress may allocate additional funds to support this sort of research as we go forward.

There's many other topics on the agenda. We have a program in which we have long standing cohorts that have been assembled and followed for decades. We have well over 100,000 people participating in these follow ups around the country. In many of them, we've collected data that will allow us to do whole genome sequencing and other deep phenotyping in what's called the omics, where we're able to look at metabolomics and proteomics, and we hope to be able to mine those data with follow up of these cohort participants to identify people who develop Coronavirus infection and see if we can identify some of the risk signals for infection, for complications, for outcomes, potentially response to therapy.

NIH has announced an initiative you may have read about called ACTIV, in which all of NIH is working with a large number of industry partners in a private/public partnership to leverage the combined resources of NIH and the biomedical industry to launch trials rapidly to be able to rapidly identify therapies that don't work as well as those that do work. And the news you heard just this week about remdesivir as an effective antiviral is just the first of the outcomes that you should expect to hear from trials supported by NHLBI and NIH more broadly and in partnership with the biomedical industry over the weeks and months to come.

Some of these results will come rapidly, others may take a bit longer to pan out, but I think you can be reassured that NIH is focused on this topic. NHLBI is one of the lead institutes focused on this related to the heart, lung, and blood pathology related to this virus. We're doing everything we can. We've got a lot of people burning a lot of oil to—I mean midnight oil—trying to focus on these issues.

At the same time, we're trying to walk while we chew gum and we have interest in hypertension control, we have a workshop that is planned—it was originally planned to occur almost any day now, but it's been postponed 'til October, co-sponsored with the CDC, at which the Patient Centered Outcome Research Institute, the Agency for Healthcare Research and Quality, and the Surgeon General's Office will be participating if all goes according to plan. It's really gonna be focused on why his progress in hypertension control plateaued in the United States and how can progress be restarted, and an expected outcome is establishing a research agenda for the next decade.

With that, I think I've probably gone over my time, and I'll stop here, John.

[Ends at 00:54:38]

[Begins at 00:59:05]

John Clymer: Well, thank you to everybody who stuck with us through the technical difficulties. We understand that there was a server issue and we apologize for that. We will go back to Chairwoman DeLauro and resume the interview with her, complete it, and then share it with everyone who registered in a recorded manner. And we'll also see whether there's a possibility to reschedule with her.

In the meantime, we want to thank all of our speakers today. You shared a lot of information and we're especially grateful to you for sharing the formulas that you used to achieve success at the community level and public policy and in clinical settings. So, thank you very much. Thank you, Dr. Sperling, for interviewing Dr. Koenig. And thanks to everybody who participated.

I will ask before you sign off that you mark your calendar now for October 15th. That's the date for the National Forum's annual meeting, which will be virtual this year. So, no cost to travel, no COVID barriers to participation. We're going to have a tremendous set of panels and another kickoff with the Sidney report, the annual signature report. I think it will be a great event. So, if you don't already have October 15th on your calendar for the National Forum annual meeting, please put it there now.

And I'm gonna point out real briefly that the American Society for Preventive Cardiology, today, released an official scientific statement on continuity of care and outpatient management for patients with and at high risk for cardiovascular disease during the COVID epidemic. So, if you are interested in that scientific statement, please check it out on ASPC's website.

With that, thank you, again, for participating. Thank you to everyone who is a member of the National Forum. Thank you to all of our speakers and stay well.

[Ends at 01:01:41]