Video Transcript: The RESTORE Health Equity Research Network  
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**Daichi Shimbo, MD** - Hi, my name is Dr. Daichi Shimbo. I'm Professor of Medicine at Columbia University Irving Medical Center and I'm the moderator of the session about the American Heart Association Health Equity Research Network. And I first started off the session describing the American Heart Association Health Equity Impact Goal. And just a little background about that.

I think it's been known for a long time there are race and ethnic disparities in total CVD mortality, stroke mortality. And for example, if you compare data from 2008 to 2018, you'll find that across all race ethnicities, there has been an improvement in total CVD mortality. However, the mortality rate overall for non-Hispanic Blacks remain much higher than other race ethnic groups, and the same sort of finding can be found for stroke mortality. And in addition, the mortality rate in rural America is extraordinarily high. And since really the '80s and '90s, despite the fact that mortality has declined in the United States, but if you actually take a look, that decline is much steeper amongst urban counties versus rural counties. So, there's also a health disparity in rural versus urban.

And the COVID pandemic really exacerbated these already present disparities. And there was recent data that was shown or published saying that basically the life expectancy actually decreased significantly in the US, and it was even worse for US Blacks and Hispanics. So it was very timely that the American Heart Association put out a 2024 impact goal in health equity. And they stated basically that every person deserves the opportunity for a full, healthy life, and as champions for health equity, by 2024, the AHA will advance cardiovascular health for all, including identifying and removing barriers to healthcare access and quality.

Importantly, they proposed a number of very important financial and resource commitments from the American Heart Association. And the most important one that's relevant to today is they invested a significant amount of money in health equity research. And so, that's really the background for the Health Equity Research Network, the HERN on the prevention of hypertension, the AHA recently awarded $20 million to a network called RESTORE that's run by Dr. Gbenga Ogedegbe at NYU. And the HERN is really a multi-prong approach in AHA's pledge to directly address social determinants of health while working to improve health equity for all communities and RESTORE is primarily focused on the prevention of hypertension. I will now hand it over to Dr. Ogedegbe and other colleagues who are part of the RESTORE Network, and they'll tell you about their important work.

**Gbenga Ogedegbe, MD** - Welcome everybody. I'm Gbenga Ogedegbe. I'm Professor of Population Health and Medicine, and Director of the NYU Langone Health Institute for Excellence in Health Equity. We had the great session this morning, where we talked about the American Heart Association Health Equity Research Network that was recently funded. We're excited to talk about it.

Basically what we talked about was thought through, how should we address the issue of health inequities, the racial disparities in hypertension control and prevention? So our RESTORE Network funded by the AHA actually brought together about eight institutions with 34 investigators. And what we proposed to do was really thought through what we fell felt were the two fundamental causes of health inequities, which is structural racism, which then has a downstream effect on the social determinants of health.

And frankly, what we talked about was in our network, we have five projects, we have five calls and the idea behind that was to use an implementation research framework to allow us to implement evidence-based strategies for lifestyle intervention in partnership with five Black communities, New York City, Detroit, Baltimore, Boston, and Alabama, Birmingham, near Birmingham, Alabama. And so, what I have with my colleagues here is to talk about what those means. So, I think I'm going to go next now to Dr. Shakia Hardy, who's going to talk about really the geographic disparities in hypertension. And then from there, we'll have Dr. Yvonne Commodore-Mensah talk about really, the impact of social determinants of health on health outcomes. And then we have Dr. Phil Levy really take it home for us to talk about where he talked about and shared how he used a reimagining of how we do preventive care with mobile vans in Detroit and how that can lead to really using implementation science research framework to address hypertension prevention. And then we'll bring it home with Dr. Chidinma Ibe from Hopkins, who will talk about really who is the linchpin in making all of this happen? Whatever I would do has to be community clinic linkage model for hypertension control and community health workers or lay health advisors are key to that. So she'll be talking about their role in how we reimagine that kind of model for hypertension prevention. So Dr. Hardy, please take it away.

**Shakia Hardy, PhD** - My name is Shakia Hardy and I'm an Assistant Professor and the Department of Epidemiology at the University of Alabama at Birmingham. The two most important pieces that I presented today for my talk on geographic disparities in hypertension is one that the Southern United States has a much higher prevalence in incidents of hypertension and it's consequences, and that there's very little research that is dedicated to the South in terms of the unique contextual environment, and that we as researchers did need to do more to address that. And the second piece is that rural environments are often left out of research. And what is important for social determinants of health in urban environments may not be the same for rural environments. So it's on us as researchers who are very aware of social determinants of health to go into these communities and figure out, what social determinants of health are important for preventing hypertension, specifically among black populations who largely reside in the South and some in these rural communities?

**Gbenga Ogedegbe, MD** - So Shakia, I think that's really fabulous. I was wondering, though, as you were talking whether or not you did mention in your talk some of the limitations of telemedicine, CHWs and some of the unique social determinants of health that tend to be much more prevalent in rural settings. We want to shed light on that, And then maybe from that, we'll hand over to Dr. Commodore-Mensah to talk about the specifics of the effects of social determinants of health on hypertension control.

**Shakia Hardy, PhD** - Sure, I think some of the social determinants of health that are particularly important for rural environments are limited access to healthcare. There's also a lack of hypertension education programs in rural environments that are often available in urban environments. There's limited access to transportation. Rural environments just don't have the level of public transportation that urban environments do. There's sparse internet access for their whole communities in rural counties that don't have access to the internet. There are not gyms that are affordable and close to people that they can actually use to exercise in. There's a long distance to grocery stores, so people cannot buy fresh produce and often, they're buying their food from Dollar Generals. So there's several limitations that are very unique to the rural environment that I think Yvonne may be able to talk more about from a social determinants of health framework.

**Gbenga Ogedegbe, MD** - That's awesome. As some you would imagine, the evidence behind this is actually very clear. You hear about this a lot. I'm going to handle one out Dr. Yvonne Commodore-Mensah from Hopkins to talking about this. What do we know about the evidence that really shows relationship between social determinants of health and hypertension control?

**Yvonne Commodore-Mensah, PhD, MHS, RN, FAHA** - Hello, I'm Yvonne Commodore-Mensah. I'm an Associate Professor at the Johns Hopkins Schools of Nursing and Public Health and our Center for Health Equity. So we've alluded to social determinants of health, and I think one of the things that I covered in my presentation today was, what are social determinants of health? And they are the conditions in which people live, learn, work, pray or worship or play. These factors really drive differences in health outcomes and disparities that we see in the US. And in 2015, the American Heart Association actually put out a statement that discussed the associations between social determinants and cardiovascular health. And even most recently, the American Heart Association put out a call to action, and that noted that structural racism is indeed a fundamental driver of the disparities that we see in health outcomes.

So what's the evidence that shows that social determinants are associated with hypertension control? Well, we looked at national data from the National Health and Nutrition Examination survey and we included over 20,000 adults in our analyses and we found that indeed, social determinants were associated with hypertension outcomes. Black people compared to white people were less likely to have controlled blood pressure. Adults who did not have health insurance or a usual place for healthcare also had a lower odds or likelihood of having controlled blood pressure. So one of the things I also covered is, how do we measure social determinants? So as you can imagine, there are a lot of tools that assess social needs or social determinants, but in the RESTORE Network, we have agreed to uniformly measure social determinants using the Accountable Health Communities Social Needs Tool, which covers a number of social determinants domains, including housing instability, food insecurity, and Dr. Hardy mentioned transportation. We also want to get a good understanding of transportation problems across the five projects. So that's in regards to individual level social determinants of health. But we also know that there are community level social determinants of health. So the RESTORE Network is indeed partnering with the City Health Dashboard to be able to characterize the unique context of the five projects in the RESTORE Network. And so the City Health Dashboard has data on health factors that shape health. So these social determinants, and it would allow us to understand, what are the context of the five projects in the RESTORE Network? So what do we do with social determinants data? Right? So when we collect individual level data or community level data, what happens next? So one of the things I also covered is that we really need to integrate these data into clinical workflows in the primary care setting and community settings, and these data should actually drive action. And these steps include referrals to social services, clinical and social service coordination, and perhaps engaging community health workers. And Dr. Ibe will cover that in her remarks. And so in conclusion, yes, social determinants of health influence health outcomes, they're associated with hypertension outcomes. We need to collect data on social determinants, and we need to use these data to drive changes in policy that allow people to attain optimal cardiovascular health.

**Gbenga Ogedegbe, MD** - I think the key thing that you said, Yvonne, is we need to collect this data and use that to drive policy changes, and that's the work that Dr. Levy has done for the past, I dunno how many years. Maybe we can have Dr. Levy talk about how you're taking all of these concepts of implementation research targeting social determinants of health using the NMAG framework to address this in Detroit, and really harnessing that data for how... Because you've partnered with policymakers on this, and how you were able to leverage what you did with the COVID pandemic in the community to translate that to hypertension control. So maybe give you some talk a little bit about what you said and what you talked about in the session, Phil.

**Phillip Levy, MD, MPH, FAHA, FACC** - Yeah, thanks, man. I got to be delighted to. So I'm Philip Levy. I'm a Professor of Emergency Medicine at Wayne State University, where I also serve as Associate Vice President for Translational Science. And I added this to my talk but I always like to start with the concept, what the heck is an ER doc doing talking to you guys about this? The work that I do, the work that is part of the RESTORE Network begins by seeing patients in the emergency department who are far too young to have the advanced pathology they present with, especially in the city of Detroit where I practice, it's disparities on display, if you will. I trained in New York City at Bellevue Hospital and I never saw 45-year-olds coming in on dialysis or 50-year-olds needing heart transplants. And while a lot of my work started focusing on how do you come up with the best acute intervention for those folks? That's Band-aids, right? And the box of Band-aids can only be so big. And really, what it boils down to is that we have to think upstream to what contributes to these disparities and then implement outreach and interventions that can really do something. And so when we talk about social determinants, we talk about geographic distribution of determinants of disease burden, all that only matters if you do action with that information. And so what I really focused on was a lot of data and action. And we started a program called PHOENIX, The Population Health OutcomEs aNd Information Exchange prior to COVID to understand based on some of the awesome work that Shakia did years ago on community pressure, blood pressure reductions and how it can prevent disease, talking about a two millimeter mercury reduction at a population level reducing 50% of incident heart failure into Black population, how do you ever understand that? How do you ever get a community blood pressure and then track it over time?

We developed PHOENIX to understand community pressure load. How can we understand blood pressure at a regional level, a neighborhood level, target upstream, social determinants mediators, moderators of how that pressure is lowered, managed, increases or decreases the likelihood of developing disease and consequences? And then COVID hit. And we were priming this whole data environment for hypertension and cardiovascular risk reduction, COVID hit, and we were perfectly positioned to add COVID data on, but then we still had to get to the point of rubber meeting the road, and that is a pun because I am from Detroit, and you know it's the motor city. What we did is we reached out to the Ford Motor Company and they came to the table, loaning us vehicles that we can use to deploy into communities to bring COVID testing and COVID resources initially. But then we figured that we were onto something here. We were onto a concept of portable population health where we could bring not just COVID-related services but blood pressure screenings, community health workers and patient navigators to provide social services, understanding that to provide social services, you have to ask the questions about what services people need. So the standardization of data intake for action was a core premise of what we were working on. We were drawing blood out of people's cars and out of truck windows and what have you, to understand things like high cholesterol and kidney disease, and hemoglobin A1cs and the risk for diabetes, and it all started to grow into this big program that was initially funded with philanthropy, was supported tremendously by the State of Michigan, which was the first in the nation to develop a racial disparities taskforce to understand why Brown and Black communities were suffering disproportionately from COVID. Our mobile health program became a pillar of that. We grew the program to the point now where we have 10 vehicles and we've done more than 80,000 encounters with over 55,000 people. And it's a natural fit to take the lessons we learned from COVID and apply them to the broader problems of health and healthcare that plague our nation. Unless we think differently about the way we deliver care, we're going to have the same old problems. And say it another way, right, the pandemic has taught us so much and allowed us to innovate. Let's carry that innovation and learnings forward so that we can fix the true fundamental and structural problems that exist in our country. Structural racism and the consequent social determinants the biological consequences of this, intervene meet people where they're at and basically put people like me out of a job in the ER so we're not having to be there when people suffer from the consequences of what's inherently a preventable and treatable condition.

**Gbenga Ogedegbe, MD** - So thank you, Phil. We've read a lot about social determinants of health. I think you heard a lot about what we said at the session but then we have to think about how we link that data to care. What Phil didn't touch up on is, who are the drivers of that? Each of the five projects actually have people who are driving that change. We call them community health workers or patient navigators. I'm going to hand one out to Dr. Chidinma Ibe, who's done a ton of work in this space, to talk about how the RESTORE Network is doing this and, who are these people? And she mentioned a lot of work that they've done in that space. So, Chidinma, please.

**Chidinma A. Ibe, PhD** - Thank you so much, Dr. Ogedegbe. It's really great to be able to just kind of recap some of the things that I was able to highlight when I briefly touched on the role of community health workers. And I can't help but think of what Dr. Levy said about the fact that all of this research is for if we can't find a way to translate it into action. And I see community health workers as primary vehicles for translation of what we know to be true in terms of helping people and meeting them where they're at to the outcomes that we're hoping to achieve, especially among marginalized communities. So one of the things I touched on in my discussion was just to kind of describe who community health workers are. They tend to be people from communities that have lived experiences, have specific intrinsic qualities that make them well suited to support people who are experiencing a number of circumstances that really hinder their ability to support their own health. They share a lot of common characteristics with the members of those communities, and they tend to be trusted. All of the different understandings they have of what it takes to navigate their own circumstances, they leverage that in support of helping others identify resources to really address their health-related social needs. The interesting thing about community health workers and their role in hypertension is that there's a substantive body of evidence that demonstrates how effective they are in achieving improved blood pressure control, as well as the things that lie along the spectrum of activities that are really critical for improved blood pressure management, chief among them being adherence to medication, but then also adherence to anti-hypertensive lifestyle regimens. But the problem is that even though they're effective, there have been a lot of barriers to their translation. And so one of the things that we hope to explore through the community health worker intervention component, within the intervention core of the RESTORE Network is, what are some of these barriers? What are are the facilitators? What are some of the things that we can learn across these projects with respect to training and the execution of best practices that have proven to move the needle and then determine how to turn those into guidelines for the American Heart Association and for other bodies who have a vested interest in cardiovascular health. We're hoping that partnering with all of the different projects within the RESTORE Network that feature community health workers will really allow us to discern what these next steps will look like, but then also to advance an agenda that is really focused on research and policy that is community health workers-centered, but then also is successful in driving change in terms of cardiovascular disparities that we've observed for many years.

**Gbenga Ogedegbe, MD** - Again, I want to thank the American Heart Association for funding this initiative. We think three, four years from now, we'll have enough data to share for policymakers, so disseminate and scale up these innovative strategies.