

*John Clymer:* Hi, I'm John Clymer, Executive Director of the National Forum for Heart Disease and Stroke Prevention. Thank you for listening to this podcast on health equity and increasing medication adherence to control high blood pressure. This podcast is part of a series produced by the National Forum and ASTHO, the Association of State and Territorial Health Officials, in support of the Million Hearts initiative to prevent a million heart attacks and strokes in five years.

This podcast will help public health practitioners and healthcare providers use successful strategies to improve diagnosis, treatment and control of high blood pressure, one of the ABCs of preventing heart disease and stroke. In the next few minutes, you will learn how health equity impacts hypertension control and the ability of healthcare providers and patients to maintain medication adherence.

I am pleased to be joined today by Dr. Keith C. Ferdinand, Professor of Clinical Medicine at Tulane University School of Medicine, and also an Immediate Past Chair of the National Forum. Dr. Ferdinand is an internationally-recognized authority on health disparities, health equity and cardiovascular medicine. He's Board certified in internal medicine and cardiovascular medicine, certified in the subspecialty of nuclear cardiology and a specialist in clinical hypertension, certified by the American Society of Hypertension. As an investigator, Dr. Ferdinand has conducted numerous trials and widely published in the fields of cardiology, cardiovascular disease, lipids and cardio metabolic risk, especially in racial and ethnic minorities. In 2015, he was the editor of the book *Hypertension in High-Risk African Americans*, published by Springer. Dr. Ferdinand has received numerous awards for his selfless service and his contributions to healthcare and population health from organizations such as the American Heart Association, Association of Black Cardiologists, Congressional Black Caucus Health Trust and the National Minority Quality Forum. Dr. Ferdinand, welcome.

*Keith Ferdinand:* Thank you.

*John Clymer:* Dr. Ferdinand, state and local public health departments are collaborating with healthcare providers to reduce high blood pressure in the population through policy and system and environmental change. A huge challenge for both providers and patients is overcoming gaps in access, diagnosis, treatment and utilization that are barriers to optimum health status. You are a leader in conducting research and testing interventions that seek to

identify what health disparities exist for different populations, and in particular, African Americans and Hispanics, around medication adherence. What have you learned in your research and during the interventions that state and local health departments can use to help close the gaps and improve blood pressure control for all populations?

*Keith Ferdinand:*

Well, one of the things that we first should strive for is health equity. The World Health Organization discusses health equity as related to overcoming avoidable or remediable differences among people in terms of outcomes. And these inequalities in the United States is something that affects all of us because it leads to early disability and death and wasted healthcare dollars.

Let's focus on hypertension across populations. Hypertension is a powerful risk factor for cardiovascular disease. It increases as we age, but the prevalence of hypertension is disparate in that non-Hispanic blacks or African Americans have the highest rates of hypertension in the United States, and even as high as seen in some other parts of the world. The rates are high in all: non-Hispanic whites, non-Hispanic Asians and Hispanics, but the prevalence in blacks is about 41 to 42 percent and clearly higher than that seen in the other populations, which range from about 24 to 28 percent.

Now, in terms of controlling hypertension, the Million Hearts has a goal of controlling 65 percent of persons with high blood pressure. We're not there, and in fact, control rates are suboptimal for all groups, but again, non-Hispanic blacks, Asians and Hispanics have control rates less than the 55 percent that we see overall in whites.

Now, the problem with hypertension is not just the number. It's actually related to death rates, and hypertension-related death rates are disproportionately high in non-Hispanic blacks, and not by a small amount. Deaths per 100,000 are almost twice as high in blacks versus Hispanics and whites. For all populations, however, medication adherence is a real problem. Many times, clinicians feel that when they write a prescription, they've done their work. But when you look at every 100 prescriptions written, only about 50 to 70 percent actually go to the pharmacy and pick them up. And when you look two to three years down the road, it may be as little as 25 to 30 percent of persons who are taking their medications properly, and only 15 to 20 percent who refill them on a regular basis. So specifically as it relates to high blood pressure, it's critical to our success that we help patients with tools to understand the importance of blood pressure control and taking their medicines. And nonadherence is not just a number. It kills. Persons who don't

take cardio-protective medicines increase their risk of death anywhere from 50 to 80 percent.

Now, we talk about blood pressure medications. What are those medicines? In general, as initial therapy across all populations, we have diuretics, calcium antagonists and what's called renin angiotensin system modulators, ACE inhibitors or ARBs. Specifically in blacks, diuretics and calcium antagonists seem to be more efficacious, whereas in all populations, when you combine agents, you get a better control of blood pressure. Beta blockers are no longer considered first step, especially in middle age and older persons because they tend to have lessened effect in terms of blood pressure reduction and protection against cardiovascular disease.

American Heart Association, American College of Cardiology and CDC released a science advisory in 2013, and they actually suggested in many patients starting with a combination such as an ACE inhibitor or a thiazide diuretic and then increasing as needed, even with non-physician visits, may actually lead to a better control of blood pressure. The next step could be the addition of a calcium antagonist. And in those patients who are resistant and don't have their blood pressures controlled, adding spironolactone or a beta blocker at that stage may be beneficial.

The game has changed. A new trial known as the Systolic Blood Pressure Intervention Trial, with the acronym SPRINT, was able to demonstrate intensive blood pressure reduction versus standard treatment in persons who were 50 years and older who had hypertension and additional cardiovascular risk led to an improvement in cardiovascular outcomes and overall mortality. And in fact, the benefits of reaching a goal of 120 versus a goal of 140 was so profound that the National Institute for Health stopped the SPRINT trial September 11, 2015, early, way before it was continuing on and expected to stop in 2016 or 2017.

What can we do? Well, first of all, we need to arm our patients with culturally appropriate, literacy level appropriate information. The U.S. Department of Health and Human Services, the Minority Health Departments, American Heart Association, the Million Hearts program all have adequate information which will help patients understand their disease, the importance of lifestyle modification such as the DASH Diet, physical activity, decreasing sodium and give patients essential self-management skills. There's even more information now being available of the benefits of self-measured blood pressure monitoring, or home blood pressure. And this has been supported by many organizations, including the

American Heart Association, the American Society of Hypertension, the Preventive Cardiac Nurses Association and the Million Hearts program. In fact, home blood pressure monitoring along with team-based care is now considered the appropriate way to help improve blood pressure control. The teams can share responsibility for hypertension care, for medication management and patient follow-up, help patients adhere to their blood pressure control, take their medications and monitor their blood pressures appropriately, and help them identify sodium, which as we know, is found in prepared foods where 77 percent of the sodium is already present.

What can we do? Well, as healthcare professionals, both providers and public health officials, we can empower our patients to take their medicines as prescribed. Effective two-way communication is critical, and in fact, a patient who understands his or her condition will double the odds of taking medicines properly. When talking to patients, we should limit the amount of information provided at each visit. Slow down, avoid medical jargon, use pictures or models, and assure understanding with what's called a show-me technique where the person tells you in his or her words what they think is going on with their condition, and encourage patients to ask questions. The Million Hearts, on their web site, describe what they call the SIMPLE method – S-I-M-P-L-E, simple – simplify the regimen; I, import knowledge; M, modify patient's beliefs and behavior; P, provide communication and trust; L, leave the bias at the door; and E, evaluate adherence.

So my take-home messages are that these hypertension disparities are significant, and especially affecting African Americans. The current recommendations are to treat blood pressure in most patients that are less than 140/90, and that's going to associate with dramatic reductions in hypertension complications including morbidity and mortality. And going forward, we should focus on patient adherence and team-based care.

Thank you, John, for giving me this opportunity.

*John Clymer:*

Thank you, Dr. Ferdinand. That was a lot of information presented very crisply. Thank you.

I want to go back, Dr. Ferdinand, to your concluding take-home message about the importance of team-based care. One thing I noted as you were talking about that is that the patient is part of the team. It's not just clinical professionals who comprise the team, and you also pointed out that team-based care works. So I'm

wondering, and I suspect a lot of listeners are wondering how can public health practitioners and leaders help clinicians and systems increase the use of team-based care?

*Keith Ferdinand:* Well, one of the things that we can do is, because it's in the public domain, go to the Million Hearts site, and they actually have materials that can be promulgated by state and local health departments that discusses the benefit of team-based care. They actually suggest, therefore, that if we share responsibility for controlling hypertension with the patients, that actually may lead to an increase in medication management adherence. Patients take their blood pressures routinely and in a more efficacious manner, and it may also help patients to identify sodium in the diet. You know, one of the things we used to say is remove that salt shaker. Well, that really doesn't help because anywhere from 77 percent or greater of the sodium in persons' diets are already in processed foods. So using those public, easily-available sites and disseminating that material and allowing the public to understand the importance of taking control of their health, I think, will help that adherence question be answered and would also help with blood pressure control overall.

*John Clymer:* Great. That's very helpful. Are there other things, from your perspective as a clinician, that public health agencies and practitioners can do to help you and your peers raise the priority on blood pressure control and increase it in your practice?

*Keith Ferdinand:* Well, at one time, there were large public health campaigns and the NHLBI sponsored a lot of that. For people to have their blood pressure screened, we went to supermarkets and beauty shops and barber shops, sporting events. I don't know if we necessarily have to have those type of mass screenings, but we should look and try to elevate the importance of blood pressure and the person knowing their numbers. Those particular campaigns were so effective that when you look at blood pressure control, although African Americans have less control, the levels of awareness are actually a little higher than that seen even in whites, and that, I think, is because those minority communities were targeted with those mass screenings. So I'm not saying we need to go back and do those type of interventions, but we need to bring back to the view that treating hypertension's one of the most important things we can do as a society and not have it on the back burner behind some of the things such as devices and surgeries and procedures. Those are important for the individual patient, but on a public health-wide basis, we should elevate the control of blood pressure.

*John Clymer:* Okay, that's very helpful. Dr. Ferdinand, I know you often point out that reducing disparities improves everyone's health. Could you expand on that a little bit and help us understand what – why that is?

*Keith Ferdinand:* Yeah. We often say that the American healthcare system is wasteful and that, when you look at longevity and compare it to other developed nations, we actually are about 16th in terms of survival. That may be true, but I think it kind of misses what's really happening in the United States. If you have an identifiable source of care, if you're able to get medications, if you have health literacy and health-seeking behaviors appropriate, the life expectancy for people in the United States who have all of those factors in place is as good as it is in Japan or Western Europe.

The reason the overall longevity in the United States is so poor is because of these disparities. There's a real white-black death gap. This is not social science. When you look at longevity, for instance, black men have the shortest life expectancy, and that life expectancy is about six to seven years less than that seen of white men. Even more distressingly, black women have a life expectancy which is very similar to black men and loses the protective effect of being female. Therefore, if we approach these disparities with vigor and purpose, we can affect the mean longevity for everyone in the United States and no longer will you hear those statements that we're a country that is a disgraceful situation because we have such decreased longevity overall. We really don't. I think if we address these disparities, you'll see that the American population will have outcomes equal to that of Japan and Western Europe.

*John Clymer:* Great. That's a great goalpost to aim for. Dr. Ferdinand, you – when one goes through med school, I think they get great training in understanding and interpreting and acting on biomedical indicators of health, biological indicators. But the things you were just talking about a moment ago are, to a large degree, not on biomedical indicators of health. What can we do to help clinical practitioners be aware of and use those non-biomedical health indicators that can have a profound bearing on a patient's health?

*Keith Ferdinand:* Yes, I think medical training can be criticized that we focus too much on the technical diagnosis of disease and the applications of pharmacotherapy, surgery and devices and not enough on understanding the importance of health literacy, the social determinants of health, where people live, the stresses of having disadvantaged economic status, health understanding, having appropriate literature available, which I mentioned earlier, and we

need to put more emphasis on that.

At Tulane where I'm a professor, I do do an elective seminar for the senior students in which I give a full presentation, it's a whole 2.5 hours seminar on health disparities. And the message is understanding the science, it affects life and living across all populations and it leads to shortened life expectancy, especially among certain ethnic minorities and a waste of healthcare dollars because people who don't control blood pressure get care. What type of care do they get? They get dialysis, which can cost anywhere from \$90,000 to \$100,000 a year and is paid for by Medicare. They get multiple admissions for heart failure, which is the leading cause of admission into the hospital and the Medicare population. They get heart attacks, which leads then to very costly interventions such as angioplasty and stents, bypass surgery. So we will save healthcare dollars, we will save disability and suffering, and I think in the long-run, we'll improve the longevity statistics that you hear so much about the United States being 16th in the world, specifically by addressing these disparities, and as we're talking about today, I think treating hypertension is one of the best things we can do to address some of those adverse outcomes.

*John Clymer:* Thank you very much, Dr. Ferdinand. Your comments, your insights, your recommendations, I think are all valuable, and to me they're exciting because they are actionable. So thank you very much for sharing them with us today.

*Keith Ferdinand:* It's my pleasure.

*John Clymer:* I want also to thank my colleagues at ASTHO, Alicia Smith and Josh Berry, and at the National Forum, Jennifer Smith and Julie Harvill, for their work in putting together this podcast, and I especially want to thank Dr. Keith C. Ferdinand for sharing his expertise and insights. To me, some of the key takeaways are that treating hypertension is one of the most important things we can do to reduce or eliminate cardiovascular health disparities and to improve everyone's health, that it is actionable, it is possible, and some of the tools to help one do that are available on the Million Hearts web site. You can access that site via links that are available to you on the ASTHO and National Forum web sites where you obtained the podcast to which you're listening, and I would call your attention as well to a slide deck that Dr. Ferdinand prepared, which is an excellent resource and something that you could use to share the information that Dr. Ferdinand shared with us today with your colleagues in practice.

For now, thank you for joining us, for taking part in this learning. Thank you for your commitment to the Million Hearts initiative and preventing heart disease and stroke. This is John Clymer with the National Forum.

*[End of Audio]*