Podcast Episode 080

Perspectives on health disparities through an epidemiology lens.

Featuring Dr. Leigh Callahan.

Dr. Leigh Callahan is Professor of Medicine & Executive Director at OAAA. As an epidemiologist, Dr. Callahan seeks to understand how outcomes of osteoarthritis are influenced by factors such as race, ethnicity, gender, age, location, and social determinants of health (such as socioeconomic status). In this week's podcast Dr. Callahan shares some important findings and discusses how a range of disparate outcomes and health disparities could be addressed. Dr. Callahan also discusses how it is vital that everyone has access to fundamental healthcare services, physical activity, and nutrition. She also considers the importance of health literacy, and the role of systemic bias. Hosted by Eileen Bodie

All views and opinions are participants own.

Eileen: Welcome to the Health Disparities podcast. A program of Movement is Life Caucus, where we have conversations about health disparities with people who are working to eliminate them. I'm Eileen Bodie and I've been a member of the Caucus for 10 years, and I'm delighted to be hosting today's conversation with Dr. Leigh Callahan. And we will be talking about her research and her not-for-profit patient support organization. Dr. Leigh Callahan is Mary Link Briggs Distinguished Professor of Medicine at the University of Carolina Chapel Hill. She is also the director of the

Osteoarthritis Action Alliance (OAAA) and Associate Director of the Thurston Arthritis Research Center.

Welcome to the Health Disparities podcast, Dr. Callahan. We're going to start off with a couple of introductory questions and then delve deeper into the more specific discussions. Can you tell me exactly what you do as an outcomes researcher?

Dr. Callahan: That's a great question and one my mother probably wondered. I primarily look at a range of things associated with musculoskeletal disease. So, I'm interested in disease prevalence, how many people might have the disease and if it varies by different characteristics such as age, gender, race, ethnicity, socioeconomic status. I'm interested in how people survive with the disease. Do they have more pain, particularly in the conditions I'm interested in, musculoskeletal disease? Do they have more functional limitations? Do they have more difficulty in performing their activities of daily living? And then, I'm also interested in mortality. Do individuals with musculoskeletal conditions have increased mortality due to their particular type of arthritis or whatever the problem is.

Eileen: I'm sure with doing 30 years of research, you have a tremendous amount of research about outcomes. And so, what have you learned about social determinants and outcomes?

Dr. Callahan: A lot, and I'll focus today primarily on osteoarthritis since that's been my most recent area. But we've noted that in African Americans compared to Caucasians, they're more likely to have knee osteoarthritis and to have more severe radiographic findings with that arthritis. They're also more likely to have more pain and functional disability, but less likely to have total hip replacements.

Eileen: So what about the Hispanic population versus Caucasian?

Dr. Callahan: Well, the Hispanic population is interesting because the prevalence of the disease is actually a little lower and we can't just lump the Hispanic population as one whole group. It differs according to country of origin. So, individuals who've came originally from Cuba versus individuals who came from Mexico have different prevalences of arthritis. Although they have a lower prevalence than Caucasians, Hispanic individuals have more pain and disability and functional issues. So, their disease severity is worse once they have the musculoskeletal condition.

Eileen: This is a phenomenal amount of research that you've done over the last 30 years. Have there been any surprises that you've encountered?

Dr. Callahan: Well, and I won't take credit for all of the research because you do it with a lot of collaborators and colleagues. And actually looking at the Hispanic population, that's done at the national level by the CDC. So that had been done there. Once I got into this research, 30 years ago, and looked at what had been done around the world, in not just musculoskeletal disease, but cardiovascular disease, diabetes, all chronic conditions, you find consistently that individuals with lower levels of socioeconomic status, whether that's measured by education, income, occupation, or where they live have worse outcomes and more prevalent disease than individuals who live in higher socioeconomic status. Your zip code matters in terms of your outcomes.

Eileen: Why is that?

Dr. Callahan: It's not so much the five numbers of the zip code, but the zip code is a representation of the community and it could easily be a representation of, it's a marker for what's in that community. Whether it's the ability to walk safely outside your home, access to green spaces and being able to go to parks, access to affordable healthy vegetables and fruits, access to healthcare. It represents a constellation of things. And people have even found that if you are an individual with a higher level of your individual socioeconomic status. So maybe it would be someone with a college degree. If they live in a neighborhood that is a more deprived

neighborhood, they have poorer outcomes than if they lived in a neighborhood where they had more resources in that neighborhood.

Eileen: So, the key to changing outcomes would be to provide more support services to lower socioeconomic zip codes?

Dr. Callahan: That is necessary, but not sufficient.

Eileen: Can you explain that?

Dr. Callahan: The key is everyone should have access to affordable fruits and vegetables, safe places to walk, appropriate health care, all of that's necessary, but there's also an element that comes from an individual's level of education, where they may feel that they have more agency, and they can make different choices. So, it's a combination of, we need to provide everyone with a certain base level of all of these various aspects that are good for health, that we all need for health. But we also need to make sure that our systems work for everyone at whatever education level they're coming in as well, or that our systems don't have implicit bias. So that even though, yes, someone might have access to healthcare, that healthcare may be different based on the color of their skin and the way their approach may be different and the provider might not even realize that bias.

Eileen: So you're saying sometimes the implicit or unconscious bias exists, which can create lesser quality of care for minorities or people of color?

Dr. Callahan: Yes. And that's not my area of research, but I certainly have looked at that. In the past, people would lump race as a socioeconomic measure, and they're really different things. I've been involved in studies with rheumatoid arthritis, where we looked at an all-African American cohort of individuals with rheumatoid arthritis who had gotten the disease within two years of diagnosis and there was a range of socioeconomic status among all of those individuals. You had individuals who had less than an eighth grade education, you know, professionals, physicians, the whole range. We found a gradient in outcomes were status in the individuals with less education, lower incomes and occupations that were non-managerial than the individuals with higher education, higher incomes or managerial professions. Also, we found differentials in home ownership. Individuals who own their homes had better outcomes than those who did not, and this was an entirely African American population. So the differences tend to be socioeconomic status and your ability to access things many times, not race. Then on top of that, there are many individuals who have shown that there's still an implicit race bias that shows up in healthcare. I have certainly seen that. So, I think there's not a simple answer. There are a lot of issues and I think that's one thing that Movement Is Life really tries to

look at, all of the different aspects that make a difference, so that we're not just thinking, “Okay, if we fix this, we'll take care of this problem because that's not the way it's going to be.”

Eileen: How can you use your research and your outcomes to affect change?

Dr. Callahan: Through the public health arena and through the Osteoarthritis Action Alliance. I'm focused on more behavioral things that people can do to improve their musculoskeletal disease and it also ends up improving their cardiovascular disease and diabetes as well. I focus on physical activity, getting people to move more, weight management, self-management and then injury prevention. And those are four public health interventions that can make a difference in terms of some of those interventions can help reduce the incidence of the disease. All four of those interventions can also improve some of the outcomes and I'm particularly interested in outcomes of pain and function. I've done a lot of work establishing that physical activity interventions are appropriate for people with arthritis and can reduce their symptoms, can help their pain, improve their function, help them get down on the floor and play with their grandchild, if they're interested in that or take a walk in the park with their spouse and can help their overall mood. We see improvements in psychological distress in people who are physically active. So, my mission and goal is to get these programs out in the communities and out into the hands of everybody who

needs the programs, not just people who can go to the fancy gym, where they're providing the programs, but in community centers or in rural areas where people may need to do self-directed programs.

Eileen: So, what are some of these programs that you're trying to get out into the community? Is one of them Walk With Ease?

Dr. Callahan: Yes. Walk With Ease is a program that can be done in a group setting where people come and meet three times a week and walk together and then they try to work through a workbook. It's a six-week program and they work through a workbook to learn to walk safely and comfortably. This program is targeted for people who really haven't been physically active before, or are nervous about participating in any type of physical activity. And they're afraid that if they do that, it might exacerbate their pain or various problems associated with their arthritis. So, it guides people into picking comfortable shoes, to thinking about where do I need to start and the goal is to get people to think about walking in 10-minute bouts, even. So, if somebody has not been walking at all, we're encouraging them to think about walking 10 minutes a day.

Eileen: Has the program been successful?

Dr. Callahan: It's been highly successful. Well, one, the initial study that we did in North Carolina, and we did it in about 30 counties across North Carolina. So, we did it in rural counties and in urban counties and we had 465 individuals. We had about 20% of those who were African American. In that study we showed that the people who completed the six-week study, they could either be in the group or they did it alone with the self-directed workbook. Because a lot of people just aren't interested in a group or they don't have time. They're caregivers or they're working full-time or they can't go meet at the times. We saw decreased stiffness, decreased pain, increased function in performing their activities of daily living, decreased depression in six weeks by the individuals who were doing this.

Eileen: Now, I know this to be true because my husband has severe arthritis, and he swims about five or six times a week. And he said to me one day, and I gasped, he says, you know, movement is life. And I looked at him and I said, “Really?” He says, “Oh yes, I have to do this.” So you find movement to be important for people's recovery with arthritis. Is that correct?

Dr. Callahan: Yes. And the CDC, a few years ago, had the tagline, 'Physical activity is the pain reliever'. And I think it makes a big difference and many individuals with arthritis find swimming the most effective physical activity to engage in. There are others who don't want to put on the swimsuit or

get their hair wet, but it's great for not putting stress on your joints. So, it's an outstanding exercise to be involved with.

Eileen: Well, it sounds to me like you're passionate about this. So is this your passion?

Dr. Callahan: This is my passion.

Eileen: So, tell me a little bit more about your passion. So, what do you want to accomplish? I mean, what more do you want to accomplish with all of this?

Dr. Callahan: I want to have programs like Walk With Ease, the aquatics program for arthritis, fit and strong, enhanced fitness, all these arthritis appropriate evidence-based interventions covered by CMS and all the private insurers and offered around the country at an affordable price or for free.

Eileen: Do you think it can happen?

Eileen: Yes. We've established the first step, which is efficacy. These things work. The next step is effectiveness. You know, can you get them out there in communities? Well, all of these programs have been delivered in communities with varying degrees of success, but they are being delivered

around the country in communities and actually, the Action Alliance has a portal for Walk With Ease, where people can go online and access and get the workbook for free. And we have people from 50 States who have gotten the workbook and are taking it. We demonstrated that and we've demonstrated that it makes a difference in people's lives. The next is to start to do cost effectiveness or cost value studies to show the payers that it will be worth it to invest in this. You know, another payer or other individuals that I'd like to see investing this, are work sites. I would like to see work sites offering these programs for their employees, because there are some data, we showed this with Walk With Ease that individuals who were working had more presenteeism six weeks after taking the six weeks course. So, I think working with people who are the decision-makers and providing them what they need to see to make those decisions, is the next step and that's how we will get this done. I think if you first get, you know, a few big companies or a few payers on board, the others will say, oh yes, this is going to make a difference and we'll get on board as well.

Eileen: It sounds like going from research to action and it was a natural progression. So, can you talk about how the value of research enabled this action?

Dr. Callahan: I would say I have a unique background that sort of made me think about all of this. I had been a researcher for 30 years, but I've also been an

active volunteer in the Arthritis Foundation for all of those 30 years. So, although I don't see patients, I saw people with arthritis all the time, and I thought about policy from that perspective. And in the public health arena, you do think about policy and sort of how can this make a bigger difference? So, directing the Osteoarthritis Action Alliance has given me a platform to pretty seamlessly translate my research into action.

Eileen: What would be your dream in terms of realizing this on a nationwide basis, this call to action?

Dr. Callahan: That people embrace the 2020 update of the osteoarthritis public health agenda. This has nine strategies for what we can do to think about osteoarthritis as an important public health problem. It's not a problem just of aging. Young people have it as well. It is a problem that affects 54 million individuals in this country, and or arthritis does musculoskeletal conditions with osteoarthritis being the largest portion of that. But arthritis, you know, is 54 million. I want us to stop thinking in silos and realizing that the majority of people with cardiovascular disease have osteoarthritis. The majority of people with diabetes have osteoarthritis and osteoarthritis may be limiting those individuals from doing the very things that would make a difference for their conditions - being physically active, losing weight, self-managing. And so, I want us to join together as a chronic disease community and put forth strategies to help people be more physically

active, manage their weight appropriately and know that there are mechanisms and ways that they can be self-empowered and manage their disease.

Eileen: Dr. Callahan, thank you so much for your time today. We really appreciate your thoughts and I appreciate your passion. I think it's something that this country needs, and I hope that all of your dreams come true.

Dr. Callahan: Thank you.

Eileen: And thank you to our listeners for joining us for this episode of Health Disparities Podcast. We hope you found it interesting. Please remember to subscribe on iTunes or you can sign up on our website to receive notification of future broadcasts. I'm Eileen Bodie and on the behalf of Movement Is Life, we thank you for your time.

(End of recording)