

Preventing Diabetic Foot Ulcers

Second, I want to welcome everyone and thank you all for joining. My name is Lauren Korshak, a nightly translation activities for VA's office of HealthEquity. The office of HealthEquity was established in 2012 and it champions the advancement of HealthEquity and reduction of health disparities in veterans. My job means that I get to tell stories about all the data and the work that we have about veterans and their health. Today on the HealthEquity and Veterans Podcast series will be discussing how VA is working to reduce leg amputations by leveraging technology to help prevent diabetic foot ulcers. But first, I'm really excited to introduce today's speakers. Doctor Ernest Moy is the executive director of the Office of HealthEquity. This office supports and coordinates to understand and reduce disparities in health and health care affecting veterans. Ernest is a graduate of Harvard College, New York University School of Medicine and Columbia University School of Public Health. Following internal medicine residency, he was at general Internal Medicine fellow at Columbia University and Robert Wood Johnson, Health Care Finance fellow at Johns Hopkins University. His research interests include disparities in access and quality of care, particularly the application of electronic health records, machine learning and system science modeling to improve health care. He was selected to serve as the first Academy Health innovator in residence. Doctor Jeffrey Robbins is the director of the Veterans Health Administration Central Office, Podiatry service, where he writes national policy is involved in program development and oversight of Podiatry services and Podiatry residency programs. Dr Robbins is a diplomat, American Board of Podiatric Medicine, founding member, a diplomat, American Board of Podiatric Public Health, and a fellow American College of Foot and Ankle, orthopedists and medicine. He has 48 major publications and received the Distinguished Service Citation from the American Podiatric Medical Association and the Hall of Fame award from Ohio College of Podiatric Medicine. Now Kent State University College of Podiatric Medicine. Suzanne Shirley serves as the director of partnerships and community engagement with the Veterans Health Administration Innovation Ecosystem. In this role, she works to expand VHS Veterans Health Administration's partnerships with industry and academia to promote design thinking in solving veteran challenges, test and validate emerging tech solutions within VHA, and scale new care models throughout the enterprise. Through engagement, such as hackathons, community summits and innovation. Demos, Suzanne nurtures and develops strong and impactful innovation community that spans across government, academia and industry, improving the lives of those we serve at VCA. So I want to open and just ask you all why should we be concerned with diabetic foot ulcers? So this is Ernest. I think we should be concerned about diabetic foot ulcers because they are very, very common complications of diabetes. It's estimated that about a quarter of patients with diabetes will ultimately develop one during their lifetime, and many of these foot ulcers don't heal completely. They can recur, and about one in 20 leads to an amputation, which could have severe severe impact on an individual's function in life. In Office of HealthEquity, we're particularly interested because research has shown that black, Hispanic, and American Indian patients are more likely to develop diabetic foot ulcers. In addition, rural people that live in rural areas may be more likely to develop diabetic foot ulcers. So it's a really a very important disparities issue. The reasons for these differences are unclear. Many patients in general have difficulty recognizing a diabetic foot ulcers at an early stage when they are much more credible, but certainly improving early detection of diabetic foot. Osrs is critical both to prevent diabetic foot ulcers and the resulting amputations, as well as reducing disparities in general. Let's say we know less about what's happening among veterans, but we have every reason to believe that the same things that plague diabetics outside of VA also occur within VA. When we look at diabetes care inside of VA, we find that we are very good at delivering processes. We care, but the complications and outcomes of diabetes still show differences related to race, ethnicity

Preventing Diabetic Foot Ulcers

and other demographic. Areas I think I'm going to ask, Doctor Robbins a chime in about his perspective on the VA. Thank you Doctor, May appreciate that and I agree with everything that you just said about health disparities. And from my perspective, the VA is one of the most unique organizations. I think health care organizations in America because we recognize the some of the social determinants of health and and we actually address. Some things like homelessness, travel issues, income disparity where we have means testing. Of course suicide prevention, and in this particular case amputation prevention. the VA has. Provided a patient centered care model for addressing some of those social determinants that I just spoke about and specifically the PAVE program, which is an acronym that stands for prevention of amputations and veterans everywhere the old program was preservation of amputation in veterans. So the pack model. This is a pave program and we've been doing this since 1993 and I think it's important that we understand that we don't. It's not a static program. We continue to look at this program critically. In fact, there have been six iterations of the directive. Each time we are assessing the strengths and weaknesses of the program and seeking to improve it. For example, we define quality as doing the right things right the first time. Well, in this particular case, the right thing may change over time, and so that really demands that we engage in quality improvement, critical quality improvement, and continue to look at what we're doing on a regular basis. Currently we're actually working on the 7th iteration of the directive and reviewing the program to see where we can make changes to improve it. One of the things we're most proud of is that we have almost 100% compliance with the program mandates in over 150 medical centers across the country. This includes things like every single program has to have a pave program. Each program has to have a model in place to identify those patients that are at high risk for amputation, and each program provides at least an offer of a behavioral health consultation for those having difficulty. Dealing with or adjusting to their amputations or their proposed amputations. So I described or referred to a model of care. A couple of seconds ago and it's really a classic public health program. What it does is it seeks to identify those patients at risk, and VA has a very unique and robust database from which we can identify those patients using ICD 9 codes, diagnosis codes as well as procedure codes. For example, those patients that we deem at risk for amputation include patients with diabetes, patients with chronic. Kidney disease patients with peripheral arterial disease and patients who have sensory neuropathy or the inability to feel of any cause. Once we identify those patients, we screen them for disease precursors at the entry point where healthcare system, which is usually primary care. But in the case of chronic kidney disease, for example, it could be a renal clinic. We then provide for timely and appropriate referral for proper levels of care based on at risk or. And then the last thing that we do is we make sure we track those patients from the date of entry into our system through the day to discharge. When we talk about prevention, I want to highlight something that I think is really important as well. There are three different types of prevention. There's primary prevention, which are actually preventing disease before it occurs. Their secondary prevention efforts, which are screening for disease precursors in our particular case, the foot screenings. So we have patients that are at risk because of their medical condition, and we again screen them on the entry point to the healthcare healthcare system to see where they fall in that risk scale. There are patients that are low risk, in which case we continue screening them on a yearly basis. Those at higher risk we send for referral for ongoing basic foot care. Or to vascular surgery. Orthopedic surgery. Wherever they need to go to make sure that we prevent the amputation from ever happening or the ulcer. In this case, that would lead to an amputation. Tertiary prevention is arresting and retarding a condition once it exists. And I think one of the more recent and exciting tools for tertiary prevention is the remote temperature monitoring. Matt monitoring Matt,

Preventing Diabetic Foot Ulcers

which allows us to use this technology and for patients to actually self monitor. Although it's not completely by themselves and I will let. I'll let Susie explain a little bit more about that. Yeah, thank you very much. And thank you so much for for hosting this discussion today. This is a really important topic and it's been a real honor. To work with Doctor Moy and Doctor Robbins on this initiative to improve prevention. Care for veterans? Yeah, I'll tell you a little bit about the initiative. So in in 2019 the VHA innovation ecosystem launched the initiative to end diabetic limb loss through remote temperature monitoring an. This initiative supplies the the at risk diabetic veterans with MATS that use thermal imaging to measure the temperature of a veterans foot. And that's what Doctor Robbins was just referring to there. This was an important commitment, of course. For a number of reasons already mentioned in this discussion, but I'll just go over a couple of the you know, a couple of the data points here. One in four veterans suffers from diabetes, and in the VA we treat about 115,000 diabetic foot ulcers per year. That costs about \$3.2 billion. And of course the financial cost is high. But the highest cost is to the veteran. When an ulcer does lead to an amputation, the five year mortality rate is 70%. So this initiative really has, you know, expanded the prevention of amputation. Program capabilities and we've been working closely with Doctor Moy from a HealthEquity perspective. Dr. Robbins and you know, internal partners within the organization program offices like Office of Connected Care, Prosthetics Service, and the National Center for Collaborative Health Innovation on evaluation metrics here so you know what we've done is. We've leveraged this innovative technology as an early warning system to detect and notify providers when a diabetic foot ulcers forming in this smart Matt. It's a remote monitoring device that's in the veterans. Home and when the veteran stands on this mat for 20 seconds per day, a temperature scan of the feet is captured and compared daily to identify hotspots or early signs of infection. When the hot spots are detected and they persist, the VA providers then notified and can intervene early in the provider and the veteran can work together to prevent the ulcer and ultimately prevent an amputation. Remote monitoring. Really, if you think about it, is the extra care and reminder to do the daily things veterans need to do on their own to take care of their own. But health we've been, you know, really excited through the evaluation of this new care model and the expansion of it through multiple quality audits as well as published research on this technology, we're finding significant improvement in clinical outcomes and cost avoidance. These mats that can detect diabetic foot ulcers up to five weeks before they would normally present. And through this this remote temperature monitoring practice we're finding in near elimination of diabetic foot ulcer and amputation and major reductions in hospital admissions. And ER visits earlier this year, in fiscal year 21, the innovation ecosystem secured \$7 million in funding to provide this in home service to high risk veterans, and this technology is now incorporated in paved clinics at, you know, close to 60 VA medical centers now and growing. And in addition to the positive veteran outcomes, you know, the VCA can expect to reduce associated Community care costs by approximately 50% in the facilities that fully adopt this practice. A full scale deployment. Across the VA over the next 10 years could yield \$3.8 billion in cost avoidance and benefits. So that's that's really what we've been working on together, and it's it's been an incredible partnership with the PAVE program, and it's been a great opportunity really, to leverage this. This preventative program, that the VA so uniquely offers to really explore innovative, you know, advancements, and how we treat and prevent diabetic foot ulcers with patients you know with veterans in their home, right where they are. So it's it's been great. Thank you so much. This is such important work. I have one final question for you all. If someone is interested in learning more about how to prevent foot ulcers, and if they're interested in learning more about connecting with this initiative, what are some of the things that they can do well? I think the first thing that that they need to do is to make

Preventing Diabetic Foot Ulcers

sure that they are partner with their primary care providers, whoever they may be. Whether it's primary care or renal to make sure that their underlying medical condition, whether it's diabetes, chronic kidney disease, peripheral arterial disease, or. Sensory neuropathy of any cause is controlled to the greatest extent that it can be controlled. That's at tertiary prevention. I talked about the other thing that patients need to do on a more at home basis is what I call win, which is wash your feet every day. Inspect your feet every day and never walk barefoot and again to work very closely with their health care providers, both in primary care and in my case, Podiatry any veteran with a history. Of a diabetic foot ulcer or if would ulcer or amputation of any cause, can go to their VA to work with again. There podiatrist and primary care to determine if remote monitoring might be appropriate. This is really important information. Thank you and and one of the things you might want to talk a little bit about where they might be able to go on the on the net to find out more information. Yes Sir, thank you For more information. Just about the initiative and and how we've addressed. You know this topic through, you know these innovative care models. And and work with our our internal and external partners. You know this past year and a half, you can read more about the initiative to end diabetic limb loss on the innovation ecosystem website which is www.va.gov/backslashinnovationecosystem and you know I mentioned earlier in the call that there are almost 60 sites now adopting remote temperature monitoring in in paved care, but that doesn't mean that the other sites in the VA do not offer it or cannot offer it. So any veteran who is enrolled in VA care can go to. His or her local Medical Center there and like Doctor Robin said, engaged with their primary care provider podiatrist, and if this remote temperature monitoring system is is right for them and they meet the clinical criteria, they can access this technology and engage in remote temperature monitoring no matter where they are fabulous. Thank you so much. I want to thank everyone who joined us and our speakers and I hope that you all will listen to our next episode. Take care.