Transcript Details

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Anemia of Chronic Kidney Disease: Erasing Health Disparities in the Most Vulnerable Populations With Mitigation Strategies

Announcer:

Welcome to CME on ReachMD. This activity, titled “Anemia of Chronic Kidney Disease: Erasing Health Disparities in the Most Vulnerable Population with Mitigation Strategies,” is provided by Clinical Care Options, LLC and is supported by an educational grant from GlaxoSmithKline. Prior to beginning the activity, please be sure to review the faculty and commercial support disclosure statements, as well as the learning objectives.

Dr. Puritz:

Hello, and welcome to today’s continuing medical education webinar, Anemia of Chronic Kidney Disease: Erasing Health Disparities in the Most Vulnerable Populations with Mitigation Strategies. My name is Erin Puritz, Scientific Director at CCO, and I will be moderating today’s program. This webinar is provided by Clinical Care Options, and this educational activity is supported by an education grant from GlaxoSmithKline.

Joining us today are our expert faculty, Dr. Santosh Saraf, Associate Professor of Medicine in the Division of Hematology and Oncology in the Department of Medicine at the University of Illinois at Chicago in Chicago, and Dr. Milda Saunders, Associate Professor of Medicine in the Department of Medicine at the University of Chicago Medicine in Chicago. Our faculty disclosures are listed here.

The learning objectives for today’s program are: Identify patient populations and causes of health disparities with respect to anemia of CKD; discuss the impact of health disparities on patient outcomes in CKD; and apply mitigation strategies that can help reduce health disparities in patients with anemia of CKD. Now, before we begin our presentation, let’s get started with a few questions to help us assess the educational impact of this activity. We will not be showing the results of your answers now, but we will be revisiting these questions later in the presentation.

The first question is a poll to tell us a bit about you and your colleagues. For the first one, it’s “how many patients with CKD do you provide care for in a typical week?” A-less than 10, B-10-25, C-26-50, D-51-100, or E-greater than 100?

And now, for some baseline questions to see where you stand before the program begins. For the first question, “Which of the following is a patient level risk factor for developing CKD-related anemia?” A-being female, B-higher socioeconomic status, C-non-Hispanic, white race, or D-receiving hyperlipidemia treatment?” Please vote.

And now for our next question. “Which of the following interventions was shown to improved CKD outcomes in Native American patients?” A-awareness of implicit bias, B-decreased utilization of telehealth services, C-implementation of interpreter services, or D-providing culturally relevant patient education materials? Please vote.

Now for our last question. “J.L. is a 49-year-old Latino patient with stage 4 CKD, who was prescribed oral iron therapy for anemia. He stopped taking his oral iron therapy due to concerns for potential adverse events, although he was tolerating the therapy before self-discontinuing. He speaks English when talking to his healthcare professionals but is more comfortable conversing in Spanish. Which of the following is a strategy that can be implemented to improve this patient’s adherence to iron therapy?” A-provide implicit bias training to all staff in your healthcare facility, B-switch to IV iron, as this is associated with lower side effects and lower cost, C-switch to over-the-counter iron supplementation for lower cost and similar efficacy, or D-use interpreter services or healthcare professionals to provide education on oral iron therapy? Please vote.

So with that, let's get started. It's my great pleasure to turn things over to our first presenter, Dr. Saunders.

Dr. Saunders:
Hello. Today, we will talk about raising awareness of health disparities in patients with anemia of CKD. Before we delve into the facts, let's define some terms. So when we talk about health disparities, we mean multiple things or multiple causes. So a health disparity is a difference in either the quality of care or outcome for our patients of a minoritized group. In this case we'll talk about both racial ethnic and gender minorities., So the health disparities are the difference in the outcomes or the incidence, prevalence or complications related to CKD across different population groups. There are multiple causes for this, so some are larger institutional-based discrimination by prejudice as well as larger social factors – residential segregation, reduced economic opportunities, reduced educational opportunities. We call those social-based health disparities, or structural inequalities. But there are also disparities that are directly related to the healthcare system and are differences in quality or outcomes related to healthcare.

And those are health care disparities. They can be related to individual people so stereotyping bias or uncertainty with clinicians as well as things related to the healthcare system – access as well as the larger operation of the healthcare system. So, today as we talk about anemia of CKD, we will look at both levels – health disparities overall related to structural inequities and healthcare disparities related to operation of the healthcare system. So both are important. They are interrelated but have different causes.

And then, also, an important thing to define is chronic kidney disease. So, on the left, we see the typical definition. The percent of normal kidney function. I like to think that it's the percent of kidney function you have left. So, stage 1, you have more than 90%, stage 2 – 60 to 89%, stage 3 – 30 to 59% and then stage 4 –15 to 29%, and stage 5, end stage kidney disease – less than 15%. however, there are also ways to think about it using KDIGO guidelines, where albuminuria is taken into consideration for risk for progression for end stage renal disease. As well as dividing stage 3 CKD so that there's stage 3A which is 40 – an EGFR of 45-59 which again is in the lower risk category and stage 3B which is 30-44, which is more advanced CKD. So, when we talk about CKD anemia, we're thinking about stage 3B and above, where patients – individuals with CKD – have a greater prevalence of anemia.

And then, when we talk about disparities related to CKD, it's important to look at the relative prevalence of the disease itself. And so for patients of different racial ethnic groups, the relative prevalence in early stage CKD is about the same, or even lower, among some minoritized groups. However, as we think about how patients progress to end stage kidney disease, we see that relative to white patients, or white populations, there is about 4 times the relative prevalence end stage kidney disease in black patients, about 2 times the prevalence of end stage kidney disease for Native American patients, and about 1.5 greater prevalence of end stage kidney disease for Asian and Hispanic individuals. There are a variety of causes, including both increased survival and faster progression to end stage kidney disease which is again separate lecture in itself, thinking about all of the social healthcare-based

And now, to the part of our talk when we think about anemia in CKD progression – CKD disparities. So there may be racial variation and the relationship between anemia, morbidity and mortality, in that there's a different threshold in which different patient groups start to experience symptoms. We're – as we think about that regardless, we do know that anemia is more prevalent in black patients with CKD versus their white counterparts. Um, back, there's maybe hemoglobinopathies as well as iron deficiency.

In addition studies – and clinicals experience has found differential responses in doses for erythropoietin-stimulating agents (ESAs) to treat anemia that differ by race and ethnicity. In black patients require a greater ESA dose to reach a similar hemoglobin level. In addition there is a greater likelihood of anemia in racial and ethnic minority patients with end stage kidney disease versus their white counterparts. And there have been recent changes in Medicare reimbursement that may have widened this disparity.

And taking a step back, when we think about race or ethnicity, we want to think about it as a social construct based on some historic ancestries as well as appearance, that sort of defines people, and how they interact with society, and with the world it may define different traditions. However, we don't want to, as we go forward, think about race just as this biologically defined construct.

So. when we think about more end stage or CKD disparities related to race and social construct, we know that black patients on average have a lower mean hemoglobin compared to white patients. And were less likely to receive pre-end stage kidney disease nephrology care so, you know, low over – all of our patients are lower than we would like, but about 63% for black patients versus higher white and Asian patients, about 70%, see a nephrologist prior to end stage kidney disease. So we'll note for no group is it as high as it should be, but certainly it's lower for patients who are black.

And then, delving deeper into some of the consequences of that overall, black patients are less likely to receive ESAs and have a low, percentage who receive IV iron prior to dialysis. So black patients, again, are less likely to receive ESAs prior to end stage kidney disease so about 13% of black patients compared to 15% of patients from other racial ethnic groups, particularly their white counterparts – and, however, are equal likely to receive IV iron poor quality. And then, we see that patients who are receiving hemodialysis there are a higher percentage of black patients who have a hemoglobin less than the goal – so hemoglobin less than 10 – so about 24% of black patients compared to a 22% of white patients, and 23% of Asian patients.

And so, we want to think about what are some patient-level factors that are related to these differences in observed outcomes.

So, for patients, regardless of race, we know that some factors that are associated with CKD related anemia include having a relative erythropoietin deficiency related to decreased kidney function having iron deficiency increased blood loss reduced erythrocyte survival and then inflammation, infection for some patients underlying the hematologic disease as well as hyperparathyroidism for patients on dialysis. There can also be hemolysis, particularly for patients on hemodialysis related to blood flow through the dialysis catheters, as well as nutritional deficiencies. And as you can see, from the diagram, there are multiple spots in this cycle where either inflammation or blood loss or decreased EPO production plays a role related to overall factors that relate to decreased hemoglobin levels.

In addition, there are patient level risk factors that are potentially less related to, biology and more related to other factors. So, for example, anemia overall is more common in women more common in black patients more common in patients with low income and patients who have low health literacy. It's also par – associated with additional diseases, comorbidities related to CKD, including diabetes as well as polycystic kidney disease and again, diabetic nephropathy higher CRPs related either to kidney disease or other factors, and then having a lower phosphate. And when we think about these different factors many of these are all interrelated in terms of diet access to a high quality diet control of diabetes as well as patients who have low income or low health literacy. Um, those things are often co-occurring.

And why do we care about CKD-related anemia? So, both as clinicians or as a larger healthcare system overall? So anemia has important negative impacts for people, but particularly for patients with CKD. So we know that anemia is associated with reduced physical activity and reduced physical function. It's associated also with reduced cognitive impairment, as well as increased morbidities, particularly cardiac morbidities including important cardiac outcomes, MI heart failure. It's also increased reduced hemoglobin level – increased anemia is associated with increased mortality, and in some studies it's associated with a faster CKD progression. But there are also important non individual symptoms, outcomes associated with CKD-related anemia, including an increased caregiver burden related to this increased cognitive impairment, reduced physical function, as well as higher medical costs in part related to increased hospitalization but also increased medical visits, both to primary care and subspecialists. And then, an overall reduced quality of life.

And talking about strategies to mitigate health disparities in patients with CKD, I will hand off to Dr. Saraf.

Dr. Saraf:
Thank you very much, Dr. Saunders, for that overview and next we'll talk about some strategies to help mitigate health disparities in patients with anemia of CKD. So, first let's start off with a case. R.M. is a 68-year-old black female, with CKD stage 3 managed by her primary care provider. Her hemoglobin is 9.6, transferrin saturation of 15%, and serum ferritin of 120. Her primary care provider prescribed ferric citrate, but she was unable to afford the prescription, so she returns to her primary care provider 6 months later, and informs primary care provider that she has not taken ferric citrate due to cost.

So what interventions could have improved this patient's anemia treatment? A-enrolling patient on a clinical trial and prescribing ESA therapy; B-improving patient-healthcare provider communication and use of patient navigators; C-improving awareness of gender biases; or D-implementing interpreter services and using a visual medication schedule.

So healthcare disparities more common in chronic kidney disease, is really important because racial and ethnic minority patients are less likely to receive recommended care related to chronic kidney disease risk factors, they're more likely to progress from chronic kidney disease to end stage kidney disease, and they're less likely to be under the care of a nephrologist prior to progressing to end stage kidney disease. So addressing healthcare disparities can improve healthcare outcomes, especially in chronic kidney disease, and this was shown in Native Americans. So previously, they had very high rates of diabetes-related end stage kidney disease, but the Indian Health Services applied certain population healthcare bridges to help reduce this disparity. That included developing clinical education programs and tools, developing culturally relevant patient education materials both to improve awareness of chronic kidney disease and monitoring for it – and then, integrating the electronic medical record population management tools for things like screening for kidney disease and for certain recommendations for when to initiate therapies. And with those interventions, they've reduced the rate of progression to end stage kidney disease by over 50%.

Now let's talk about some of the different components of what might lead to healthcare disparities. At first for healthcare providers, it's awareness of inclusive bias. So, what's really, kind of consistently demonstrated, that although healthcare providers may not have high levels of explicit bias, they still exhibit same level of implicit bias at the general population.

And this might be due to multiple factors but one is that healthcare providers often have a time pressure, so we have to use population norms, or generalizations to help us sometimes with clinical decision-making. We also learn about diseases based on population risk factors, and both of these factors might reinforce stereotypes. Awareness is key and the Implicit Association Test is a very nice, test that can help identify how much of a bias you may have. It's a computerized, timed, dual categorization that bypasses conscious processing. So what it's doing is, you're beating either people based on white or black, but also certain, um other factors associated with it. One example was the Race and Weapons test. So here you have different images of white and black people, but then also objects like weapons and non-weapons that are white and black then you have to rapidly categorize them into a good or bad bin. And then, it's not necessarily whether you answer those questions right, it's the speed at which you answer those questions. That difference in milliseconds can correlate with your degree of implicit bias.

Internal medicine residents, emergency medicine residents and pediatric residents have had this testing And, what was surprising was that there was a higher rate of pro-white implicit bias, even though they did not have a difference in explicit bias, and some of the things that came out those studies were that black patients were considered uncooperative, or white pash – patients were considered more compliant.

So mitigating implicit bias is critical, and awareness, again, is really the first step. Having being aware of your implicit bias can increase your ability to engage in new, desirable behaviors. And going back to one of those, instances where they did the implicit assessment test, this was in internal medicine residents that were first administered an implicit association test get their implicit bias were. Then they were given a vignette of a patient presenting to the emergency room with chest pain. And they looked at how frequently were the patients recommended for thrombolytic therapy, and what was surprising was that higher implicit bias score was associated with a lower likelihood of patients receiving thrombolysis for acute coronary syndrome. But, if the residents were aware of their implicit bias, that led to more equitable care with more black patients receiving thrombolysis.

Another way of mitigating implicit bias is individuate. So this is when you have a conscious effort to focus on the specifics of an individual, rather than that social category information, or those – those broad generalizations or stereotypes. And here in it – was another example where they looked at gender bias, detecting COPD. And here, about 200 primary care providers – three-quarters were men, were given 6 hypothetical cases.

Clinical presentation was sustained for and tobacco history. They just differed by age and gender of the patient. In the initial phase, COPD was the most probable diagnosis in men, compared to women, and only 22% of the primary care providers went on to get objective measures requesting spirometry. In the second phase, the primary care providers were given the case, as well as spirometry and response to oral steroids. Here with more objective measures, specific to the individual the providers were able to have more equitable diagnosis of COPPD, between the 2 gender groups.

Third way to help mitigate implicit bias is perspective taking, and this is where you take a conscious attempt to envision that person's viewpoint. And pain medication recommendations was one example that was cited. This is really near and dear to me because a lot of times in sickle cell disease, a lot of patients have very high levels of pain, but often cite that they don't get the same degree of pain medication and treatment. So here, in this study, nurses were shown pictures of white and black patients in pain. First they were asked, in their best judgment, to recommend pain medication dose. The white patients received higher pain medication doses than black patients. And in the second phase, nurses were instructed totake a specific perspective of each patient. So imagine how is that patient feeling, and then administer the patient dose. One nurses did this perspective taking approach, this as a for recommended virus.

So, in addition to being aware of implicit bias and some of those steps, other healthcare disparity, barriers include effective communication. So, effective communication between patients and healthcare providers may improve patient satisfaction, understanding a compliance with treatment recommendations, and ultimately and most importantly, health outcomes. And so, some steps include avoiding verbal dominance, so use open-ended questions when you can. Ask about their understanding of their illness, their experience and unmet needs – and this helps with the shared decision model, so patients feel valued and things that are most important to them are being addressed. So incorporate the patients in the decision making process, and use evidence-based scripts.

Another area where barriers can develop is in the clinician-to-clinician communication. Here, in our case, for anemia with chronic kidney disease, there are multiple layers of healthcare providers that are involved. So first, you have your primary care providers that are monitoring kidney function, and a count. There's primary prevention for kidney disease, also for healthy foods and diets to make sure you have the nutrients for anemia, detecting kidney disease in anemia, diagnosis.

Then, in collaboration with the specialists developing a treatment plan and a surveillance plan. And this also involves patient navigators and community health workers, as well as the renal and hematology nursing team that's going to be helping monitor and administer the therapies.

Health literacy and language barriers are another important cause of healthcare disparities. So health literacy is defined as the capacity to obtain, process and understand basic health information, and services to make appropriate health decisions, and limited health literacy is associated with an increased disease burden. So, and I've been guilty of this, too – but, asking a person just about their school or grade of completion is not a proper assessment of health literacy. Some clues for low health literacy – and these are things that I've read, and use in practice – include when people are reading or filling out forms when you start hear excuses like, "I don't have my glasses," or "I'm too tired to read," or "I'll fill this out later when I get home." When people are reading things that we're providing them, and you see them holding it very near to their eyes or pointing along to the text that they're reading, that could be a clue of lower health literacy. And then when you get the intake form, if there's an incomplete medical history that could also be a clue. And if patients often miss appointments, or make errors about their medications, these aren't necessarily people that are just being stubborn, or noncompliant. This could be a red flag for problems with health literacy.

So there are some tools that can help us assess that developed by the Agency for Healthcare Research and Quality, in English and Spanish forms. There's also the newest vital sign that is in English and Spanish, that screens for general literacy, numeracy and comprehension skills. One of the things that I like to ask is I have the patients bring their prescriptions and their bottles with them. Then I ask them to read that, and tell me, why are they taking it and how are they taking their medication, just to make sure that they're understanding what's on that prescription bottle. And then investigators have come up with a shortened panel of different questions. The question, "How confident are you in filling your medical forms out by yourself?" That question was replicated in a separate study as one of the strongest ways of evaluating for health literacy.

Other language barriers that you want to or practices that wanted to take to help mitigate the language barriers include, focusing on the important points and avoiding medical jargon. After each case you do want to pause and ask if the patient has any questions and then have the patient repeat that material back to you. This part of the teach-back technique, this is where the patient repeats information, in their own words.

And this has been shown in multiple studies to help not only improve retention, but also to improve medical care. So in a study of primary care providers, where people were observing whether the teach-back technique was used, those that used the to – teach-back technique, those patients had a ninefold higher odds of having better glycemic control. So it does impact health care.

Another thing that can help is a visual medication schedule, and here on the right, is an example. We have the days of the week, and then the pills, so people can look at it visually. And this was studied in people that were receiving warfarin, or Coumadin. So in this study, people were given an education with a teach-back component as well as a visual medication schedule, and those patients that received this intervention, more likely to have a concordance between the provider and patient, on medication usage, as well as a more rapid therapeutic INR so both important for the improving health literacy, but also important for health outcomes.

So if there are language barriers, family members can be of assistance. They can be a liaison between the patient and healthcare providers, and family members are often integrated in the day-to-day care. They know what the demand is off – of the disease on the patient. They know how anemia might be impacting their energy, their ability to engage in activities and their work and other things. And sometimes they're useful because professional interpreters are not available in less common languages. There are some caveats of using a family member for language assistance. They might not have the appropriate language skills or knowledge of medical terminology. They might also fail to translate complex information correctly, and sometimes they might withhold certain information that they think might upset the patient. And then this reduces patient confidentiality, so there are some caveats, and when interpreter services are an option, those should be preferred. In the U.S., 1 in 5 people speak a language other than English at home, and 25 million people have limited English proficiency. Also, because of that, the National Standards for Culturally and Linguistically Appropriate Services have come up with 4 core – ponents, that each healthcare institution should have, and having a communication and language assistant is one of those 4 components. It's very surprising is in a survey of hospitals, only 13% had all 4 measures for language barriers. 19%, or 1 in 5, met none, meaning 1 in 5 hospitals didn't have interpreter services to help for their patients. Interpreter services improve preventive screening, improve the quality care adherent to guidelines. They help improve the prescriptions being written and filled. They also decrease the delay in treatment initiation and management, and they reduce unnecessary medical testing.

Inadequate reimbursement is often cited as a barrier to interpreter services. I think one way to overcome it – one thing that we do at our institution is we use telephone and video interpreter services. That is a much more affordable option, that can make sure that language interpreter services are available. And then also having written educational materials translated in preferred languages can help overcome that.

So, access to pharmacies and medications is another barrier that impacts healthcare disparities. Here on the left, here is some really staggering numbers. 370 billion dollars is spent on retail prescriptions in the U.S. per year. Out of pocket costs are about thousand, 100 per year. There are 29 million people that are uninsured in the U.S., and so this population especially rural black and Hispanic individuals, have higher rate of medication cost related-delays and lower access to health high quality medication. So Dr. Essien and his group came up with a – a term, coined “pharmacoequity.” This is ensuring that all individuals, regardless of race, ethnicity, socioeconomic status or availability of resources should have access to the highest quality medications required for their health. A bit to achieve that there are 3 different pillars. One is enhancing access to medication, so this includes things like the Universal Healthcare Plan and in those states that expanded Medicaid, there is a higher use of evidence-based meds and this was shown in studies that looked at cardiovascular medications. Also, increasing access to pharmacies, so a lot of communities have pharmacy deserts and so making sure that pharmacies are present in places where people can travel to is important. I think differential prescribing practices, including the biases that we mentioned, are important. And whether these new therapies are relevant to different races and ethnicities is critical, and increasing underrepresented groups in the clinical trials can help address that. Uh, in terms of reducing costs, things like caps on out-of-pay costs and having the federal government help with price negotiation might help. And then, improving quality me improving the quality of medication, so having quality care initiatives to make sure that the providers are using the best in high level medications, and then understanding what the priorities might be for that.

Also, the subspecialty care might be another barrier and about a quarter of people that come to community health care centers require referral to a subspecialty care and therapy. And so there are different models that might help improve that. And this – this study here, or this review here by Nehaussen al., looked at some different approaches. First was the tin cup, and this is where you just listed care from kind of an unofficial network of providers that you might know.

But, probably more successful approaches could include things like hospital partnerships, where the community healthcare center contracts with the community hospital that has access to a specialist. This was a good option for those that health centers) with hospitals. Telehealth can overcome some of the physical and cost barriers and this is where health centers contract specialty providers either at an hourly or the clinic rate. Having the teaching community integrated and this is where you have the healthcare center affiliated with a teaching institution – for example, here in Massachusetts, the Family Health Center of Worcestershire had University of Massachusetts family residents that trained there would rotate through there, and then they would have access to the specialists through the University of Massachusetts system, and an integrated system where the healthcare center has an integration with either a local government health systems or safety net hospitals – and Denver has a nice example of that.

Now to improve evidence-based therapies, there are things like population health incorporating evidence-based assessment in treatment, and the example that we had talked about earlier, from the Indian Health Services is a good example. So this is where in a population, integrate in the electronic medical records testing for kidney function, like EGFR and urine albumin concentration. are built into that EMR is like prescription evidence-based therapies are suggested. Education tools are important. Education is key for our patients to understand their disease, but also what the therapies are that are available. Making sure that you have culturally relevant education material is important. Make sure that it’s an easy-to-understand language, and translated into common languages. Then clinical education programs – this is where we go out to the community and help educate the community about their disease and what the treatments are. And this can be either locally at disease-focused meetings through collaborations of healthcare providers and community programs healthcare fairs are a good example – and then peer support groups.

With regards to participation in clinical trials – this was part of that pharmacoequity model – clinical decision-making is often based on studies where the majority of research participants are white, so the relevance of these new therapies or emerging therapies in black, Hispanic and other underrepresented groups is not known yet but is very important. So strategies to increase participation could include cultural and linguistic adaptation of education and marketing materials – so making sure that you have marketing material in different languages – making sure that you have representative images of different races and ethnicities, and other cultural adaptations. Um, having patient navigators – this is important not only for screening patients, also for making sure that patients that are enrolled in a study continue on a study. And then, building community partnerships. I think this is really critical again.

And this is where you have a collaboration between the researchers, community members, representatives of community-based organizations. This could be churches, or other religious venues. And here you have a shared decision making, what the local health issues are. What is critical to this community? And so that way you have kind of a similar values between the community and what the researchers are investigating. And this can lead to long-term partnerships on capacity building, and for dissemination of the results. (pause)

Some additional approaches to improve risk factor management so, in children, education and early childhood development is critical. This helps improve access to high quality, improving access to high quality education, having structured early childhood education. Parental support group programs are key to improving education in early childhood, and these have been shown to both improve how health in those children that receive this, once they progress to adulthood, but it also helps improve healthy behaviors and reduces unhealthy behaviors in those children that received these kinds of support programs. Employment interventions are also important. Um, this not only helps improve people get better and higher level insurance care, but this has been shown to improve healthcare prevention utilization in areas where there have been employment intervention strategies. And then, urban planning and community development. This includes making sure that we have access to healthy foods – this is critical for kidney disease kidney-healthy foods, as well as for foods that are rich in the B vitamins, iron and all the things that help maintain hemoglobin production. Also things like urban planning, to help encourage physical activity, and reducing alcohol outlet density.

Now here's the framework that consider when evaluating patients, especially with anemia and chronic kidney disease. So first, identify multidisciplinary team members. This includes the primary care providers, nephrologists, hematologists, pharmacists and navigators. So having this multidisciplinary team, and developing it and making sure the communication is happening smoothly is important. Also with the renal and hematology nursing teams, having them involved with the care of the patients is critical. Educating the patients about anemia and chronic kidney disease. Here you can use learning tools that are culturally and linguistically appropriate, that avoid medical jargon. Have this, both at an individual patient level as well as at a community level. And then set the patient's health literacy to understand that medical condition. That's really important for the educational aspect.

Understand and address patients' social determinants of health. So the ability to pay for the medications – that was a problem in one of our davi – vignettes that we had presented earlier – as well as access to healthy foods and transportation for healthcare visits. Identify community resources that can address some of the social determinants of health. And then, assess the patient's symptoms. Here, be aware of implicit bias. Individuate, look at objective measures like the hemoglobin concentration, and then use perspective-taking techniques to understand that patient's symptoms are for the anemia, to help reduce or mitigate the implicit bias. And then follow standard guidelines for laboratory monitoring, like when how often to follow kidney function and hemoglobin concentrations. And then the treatment plan. Incorporate the patient and family caregiver preferences in the shared decision-making model, and then encourage a clinical trial enrollment.

So in summary, racial and ethnic minority patients are less likely to receive recommended care for chronic kidney disease and are more likely to progress to end stage kidney disease. Anemia is more common in racial and ethnic minority patients with end stage kidney disease, in part due to lack of appropriate treatment. Healthcare professionals may be unaware of prevailing disparities in their fields, or their role in perpetuating them. And the tailored strategies can be implemented to overcome healthcare disparities in anemia of CKD for more desirable outcomes.

Dr. Puritz:
And now, for some post-test questions to assess your learning throughout the presentation. For the first one: Which of the following is a patient level risk factor for developing CKD-related anemia? A-being female; B-higher socioeconomic status; C-non-Hispanic, white race; or D-receiving hyperlipidemia treatment. Please vote now.

Thank you for your response. The correct answer is A-being female. For our next question: Which of the following interventions was shown to improve CKD outcomes in Native American patients? A-awareness of implicit bias; B-decreased utilization of telehealth services; C-implementation of interpreter services; or D-providing culturally relevant patient education materials. Please vote now.

Thank you for your response. The correct answer is D-providing culturally relevant patient education materials. For the last question, we have: J.L. is a 49-year-old Latino patient with stage 4 CKD, who is prescribed oral iron therapy for anemia. He stopped taking his oral iron therapy due to concerns for potential adverse events, although he was tolerating the therapy before self-discontinuing.

He speaks English when talking to his healthcare professionals, but is more comfortable conversing in Spanish. Which of the following is a strategy that can be implemented to improve this patient's adherence to iron therapy? A-provide implicit bias training to all staff in your healthcare facility; B-switch to IV iron as it's associated with lower side effects and lower cost; C-switch to over-the-counter iron supplementation for lower cost and similar efficacy; or D-use interpreter services or healthcare professionals to provide education on oral iron therapy. Please vote now.

Thank you for your response. The correct answer is D-use interpreter services or healthcare professionals to provide education on oral iron therapy. Thank you to our faculty for that excellent presentation. We had a number of questions from participants, and we'll do our best to answer as many as we can now. The first question is from Wen Chingand the question is, "How do medical schools or residencies evaluate medical students and that they have effective patient and peer-to-peer communication that does not make poor health literacy situation worse, when residents or fellows are in the room with the patients on their own?"

Dr. Saunders:
So, start with that. So Wen Ching how do medical students and residents evaluate – how do medical schools or residencies evaluate medical students? Oftentimes, it's not done as often as it should be but within the medical school training, there can be traditional

modeling good behavior standardized patients so that you can actually objectively test to see that patients are hitting important educational points having some time where you observe either residents or students and then having educational modules within the curriculum that talk about some of the aspects that doctors have mentioned, in terms of teach back and having universal precautions. And then for residents, also evaluating systems-based care, making sure that in addition to communicating to patients, they are communicating with their clinician counterpart so that information is transferred as they go to a specialist, as they're discharged from the hospital or as they are handing off to their residents as they move on in their training. Dr. Saraf, any…

Dr. Saraf:
Yeah, I think those are great points, and I think some other patients that we sometimes do is 360 evaluations, where the patients actually provide a survey, and what their experience was with that provider. So I think that could be another important tool. Um, often our nursing staff are very keen and aware of the interactions between our students and our trainees and the patients, and they also provide feedback, so I think those 2 could also be good resources.

Dr. Puritz:
Great. And, the next question is from Erin. The question is, "At what level of language proficiency would you consult interpreter services beneficial? Should you ask the patient for permission to use an interpreter?"

Dr. Saraf:
Yeah, so that's a really important question, and I think that so often in our clinic the people that are scheduling them will call the patients as a reminder, and then ask the patient, "Would you prefer having it – a language interpreter available or not?" So asking the patient, I think, is probably the most critical step. But then also when you see the patient, if you notice that there are some areas where communication might be missed or any other problems, I think you as a provider – also another gatekeeper for when you think an interpreter service might help. And I always kind of err on the side of caution, andget an interpreter available so that nothing is missed.

Dr. Saunders:
I would agree with that. I would potentially add for some patients, there is a certainly, sometimes stigma, associated with feeling like you're not fluent in the language – or, you can be able to navigate in everyday situations, but health care is its own separate additional language with additional vocabulary, and so sometimes saying, you know, in – it is our practice to make sure that patients understand everything, and we will plan to have an interpreter unless you object. And so, people have to sort of affirmatively say no, I don't think that's something that I want – but you've had that precaution in place.

Dr. Puritz:
Okay. The next question is from Anna. The question is, "Are medical schools and residency programs developing formalized, implicit bias training programs, in an attempt to decrease the disparity? If not, do you see this as necessary in the future?"

Dr. Saraf:
Yes. medical schools , have staff training, and even for faculty, there are training programs. We are engaged in something called BRIM biased reduction in medicine as one of our learning tools but those are getting incorporated into both the curriculums for medical schools as well as for trainees and faculty. (pause) Dr. Saunders?

Dr. Saunders:
Yeah, I think, in addition to implicit bias training, we sort of want to think about outcomes, and so some additional ways to sort of mitigate that is to have people look at their outcomes by – you know, the medical record is really helpful for that – not just looking at what you think, but look at your outcomes by patient group – by race, by ethnicity, by gender, by insurance type – to see for – particularly for practicing clinicians to see if your outcomes are different. But then, also – you can also do that at a resident's level, not as much for medical students. So you want to sort of look at what people think initially, but then also the impacts that that has on patient care.

Dr. Puritz:
Okay. We have another question from Wen Ching as well. It is, "While universal healthcare may improve health care access, how do you balance individual autonomy, individual right versus government, having too much power, and healthcare tyranny, and force disagreed therapy or medications, just as in the case with the COVID vaccine?"

Dr. Saunders:
So that's a big question. (laughter) Some we'll see. Within this context there are a couple of things that we can do. One is just building trust. I think that even in the case – not always, but even in the case of the COVID vaccine people were more likely to opt in to that if they had a provided, if they had a trusted clinician recommend it, rather than something that they just saw in the medical center, or in television, and so then people have an opportunity to talk about their concerns, and to get more information. Within this context, it can also be educating patients, or asking them about some of the outcomes that they're worried about. Have you noticed that you're having

any symptoms? We have things that can help you with that. And so, you want to not just think about the things that we think are important, but often if you ask a patient what they think is important, we can help them reach that goal, whether they want to spend more time with their grandkids, they want to be able to go to work, they want to be able to stay up and talk to a spouse. And so, you can say, well, you know, this treatment that we have, we think can help you be more able to do those things. So I think it's both talking to the patient about their concerns, talking to the patient about their goals, and then trying to fit our treatment if possible, within that framework.

Dr. Saraf:
Yeah, I agree. And in the context of this you know, there's still 29 million uninsured people in the United States of America, and those are the populations that have higher complications, chronic diseases and poor healthcare outcomes. So it's really just making sure that screening tools are available to them, and that the appropriate therapies. I think that's kind of how it applies in this context.

Dr. Puritz:
The next question is from Sharelle, and asks, "How will Medicare reimbursement changes widen the gap in health care disparities?"

Dr. Saunders:
So, Sharelle, that's a great question. It has to be studied. We know that there are things that CMS has done that have actually worked to reduce disparities and improve quality. And there are things that can widen it, and we know that the way to mitigate that is to measure to sort of set a policy particularly about, sort of, funding paying for ESAs, which led to some reduced use, reduced dosing perhaps more blood transfusion. So, both setting a policy, having a rationale, and then studying it to see what the effects are not just overall but with a disparity lens. So we saw that it reduced cost, but did it widen disparities? Did it decrease disparities? And so, I think for all of our funding and quality improvement policies, we should, you know, first try to make this a policy, but then also, step back and see what the result was, and to modify if it didn't.

Dr. Saraf:
Yeah, I agree completely. I think that some of the policies might not be specific to different races and ethnicities. An example is in sickle cell disease, the EGFR threshold is probably not relevant, and so ESAs and other therapies are not available, based on Medicare policy. So, I think having those policies in that, as Dr. Saunders mentioned, taking a step back and looking at are - is this excluding certain people that should be getting the therapy or not?

Dr. Puritz:
Okay, thank you. The next question is from James. In his experience, teaching doctors are not trained in implicit bias, and they are more – and the attendings are more likely to perpetuate biases. What is being done to improve the training of teachingdoctors? I believe you've mentioned this a little bit, but I just wanted to give you a chance to expand.

Dr. Saunders:
So I agree. I think that we certainly have less, ability to require things of doctors who are already practicing. I think both medical students and residents need to have more control over curriculum and teaching. There actually is their noontime sessions, there's coursework whereas once we are all in practice there is a challenge in making sure that the information that we receive is up to date, and that we are, sort of, practicing high quality care. Now, there can be – there is now a requirement for us to undergo implicit bias training as part of our licensing requirement, and so I think having regulations that say, "This is so important. This costs the system money. This leads to poor outcomes."

That we need to mandate training in this, just like we mandate training in the other things that can cause negative outcomes. So we know that already we have to learn about opiates and how to use them appropriately and correctly, and this is a similar thing. We – it is not yet done as often as it could and should be. But there are ways that we can both encourage and require it.

Dr. Saraf:
Yeah, I agree. I think I completely agree with the comment too. That implicit bias is very prevalent and that's been shown in many different studies. We still haven't done enough for training, and I don't think it's being implemented in all the places where it needs to be. The other thing that we kind of talked about briefly was that, you know, as providers, we're often time-rushed. You know, so we're kind of making hasty decisions and things, based on some of our, kind of, population-based knowledge and this kind of things might perpetuate stereotypes, so I think that it's a very important problem. I think we still have a lot of work to do. I think also that encouraging and promoting people of different races and ethnicities in the healthcare profession is going to help also mitigate the bias, so I think that's another step on pe – when people have looked at implicit bias, having a diverse healthcare workforce helped reduce that implicit bias, so I think that's another approach.

Dr. Saunders:

And I also want to add to that. I think in addition to being, sort of time constrained, sort of symptoms of burnout, it can actually make us provide less – uh, lower quality care because of cynicism, because of not, sort of, thinking as broadly as we could, and we know that, sort of, during this, prior to the pandemic, but certainly related to but there are more clinicians who are facing burnout and sort of are making less compassionate evidence-based decisions of and that is when our implicit biases are more likely to come out, both during time crunches and during, sort of compassion fatigue or burnout.

Dr. Puritz:
Okay, many thanks to our faculty for an excellent program, and an informative Q&A session. And to our learners, we thank you as well. Please go to clinicaloptions.com/cardiology/programs/2022/ckdfixeddisparities to access the online evaluation form. You can view and print your certificate upon completion of the online evaluation. Also, please go online for more CCO coverage of anemia of CKD. We have a downloadable slide set, and we have a podcast, and clinical thought coming soon as well. Thank you all for participating in this program. Enjoy the rest of your day.

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