# Racial and Ethnic Disparities and Health Inequities in Oncology Care

# CMEO Podcast Transcript

**Edith Mitchell:**

Good evening. I'm Dr. Edith Mitchell and welcome to our program on racial and ethnic disparities and health inequities in oncology care. This program is presented by CME Outfitters, an award-winning joint accredited provider of continuing education for clinicians worldwide and is supported by an educational grant from the Johnson & Johnson Institute and Johnson & Johnson foundation of companies.

Now, let me introduce our faculty for the evening presentation. Again, I'm Dr. Edith Mitchell. I'm clinical professor of medicine and medical oncology in the department of medical oncology and director of the Center to Eliminate Cancer Disparities and associate director of diversity affairs for the Sidney Kimmel Cancer Center at Thomas Jefferson University in Philadelphia. And, I am the 116th president of the National Medical Association.

Joining us today is, first, Dr. Ajay Nooka, who is associate professor in the department of hematology and medical oncology and medical director of the Winship Data and Technology Applications Shared Resource at the Winship Cancer Institute at Emory University School of Medicine in Atlanta, Georgia.

Next is Dr. Yaw Nyame. Dr. Nyame is associate professor in the department of urology at the University of Washington, program lead for Black and African American populations, Office of Community Outreach and Engagement at the Fred Hutchinson Cancer Center in Seattle, Washington.

And our third presenter is Dr. Ana Valazquez, assistant professor, division of hematology and oncology, assistant director of diversity, equity, inclusion, and accessibility at the UCSF Helen Diller Family Comprehensive Cancer Center at the University of California, San Francisco.

So let's start by reviewing the objectives for the program tonight. And these objectives are, one, to analyze ethnic and regional disparities resulting in health inequities among communities in oncology care. The next is to improve recognition of multiple myeloma, melanoma, prostate, and lung cancers. And third, to analyze the influence of social determinants of health in cancer care in order to improve equity and accessibility to cancer treatments and outcomes.

Let's begin with a discussion of the ethnic and regional disparities that drive health inequities in cancer care. In spite of the gain in decreasing the overall cancer death rates and cancer mortality rates in this country, there are still differences among racial and ethnic groups and consequently the need to further develop newer ideas, newer cancer research, participation in clinical trials and others. So, it's so important that we collaborate, work together and therefore have team plans for addressing cancer disparities and inequalities.

So, Dr. Nooka, I would like to ask you to first walk us through the current status of disparities in cancer incidents and mortality rates in the country and identify some of the contributing factors that drive these disparities, despite all of the new ideas, the new clinical trials, and the newer understanding of various cancers. Dr. Nooka, go ahead please.

**Ajay Nooka:**

Thank you, Dr. Mitchell. It's an honor for me to be here and thank you for having me. So, over the next 5 or 10 minutes, I'd like to focus on purely the learning objective number one, identify what the incidence differences are and the mortality differences are, and why exactly are there disparities that exist in the first place. So, it's almost like a bird's eye view of seeing why even that there's a question of the disparities. So, I'll start with the incidence rates and the mortality rates for a few selected cancers. So what you see on the left side are the incidence rates for five selected cancers. What you see on the right panel are the mortality rates of the same exact cancers that we described in the left panel. So, if you watch more closely, you would find these scales to be different for the first two cancers versus the next three cancers.

So let me talk about melanoma and myeloma first. So, the incidence of melanoma is very, very lesser compared to the incidence in the Caucasians, in the white population. In fact, if you look at the epidemiology, the incidence is 20 times higher in the white populations than the black populations that you see. So, the more common melanoma that you see in the black populations is the acral lentiginous melanoma, that is higher. And if you look at the mortality on the right panel for the same cancer of melanoma, you'd see the mortality, again here, the scale is around 3% mortality for the 30% of what you see in terms of the incidence. The incidence is 30 in a hundred thousand people with melanoma in the white people. And the same number is 3% for mortality in a hundred thousand. Those numbers for the black population are slightly higher, as you see, when it comes to the mortality, and this is a topic for discussion as we go. Why do you see these to be in higher numbers? And we'll talk more in detail about melanoma as well.

So next one is myeloma. Myeloma is my specialty, and I did have a lot of insight into what exactly happens at the individual patient level as well. So, I'd be happy to discuss more in detail in this aspect as well. And biologically, myeloma, multiple myeloma is more common in African Americans than the Caucasians. The incidence rates that you see in the Caucasians or the non-Hispanic White population that you see is close to six in a hundred thousand people. In the black population, it is around 14 in a hundred thousand people. Yet when you look in the mortality rates, the non-Hispanic Whites had three in a hundred thousand mortality, and the non-Hispanic Blacks had greater than six in a hundred thousand mortality. You see these to be coinciding well. When you talk about the biology of the disease, Blacks have lesser aggressive disease, yet we don't see a huge amount of survival improvement. So, not talking about the biology of the disease now, but clearly there is a discrepancy of what we see from the incidence to mortality, if you account for the disease aggressiveness.

So, the next three cancers that you see have a very different scale. So, these are more common. Lung cancer is almost six or seven times more common than myeloma melanoma. So, that's where you see these scales to be what you're seeing in the bottom line. So, in the lung cancer for the non-Hispanic Whites, it is around 50 in a hundred thousand. And yet, as you see for the non-Hispanic Blacks, you see that in the range of around slightly lesser, but almost 60, 50 to 55 in a hundred thousand people. If you look at the mortality rates, these are again, simply mimicking what you see in the incidence rates.

I'd like for you to focus more on the breast cancer group in the last patient population where you see the scales to be flipped. So, non-Hispanic Whites have breast cancer rates of close to 140 in a hundred thousand people. And yet the mortality rates are very lesser, 20 in a hundred thousand. Whereas in the non-Hispanic Blacks, the incidence is much, much lesser, close to 125 to 130 in a hundred thousand people, but the mortality is

significantly higher. So, this is what I call as the clear disparities that you see and will shed light on why we see these disparities. So prostate, I think that it is the specialty of Dr. Nyame, and you see, we can get a lot of input from him as well. And yet you see the same exact differences that you see in terms of the incidence and mortality.

So, focusing mostly on the melanoma incidence and the survival patterns in the U.S. over a 20-year period, what I alluded to before was the acral lentiginous melanoma, which is more common in the African Americans, don't see that as much in the Caucasians. If you specifically look at the ALM, the 5-and 10-year survival rates are significantly higher in the non-Hispanic Whites compared to the Black population.

So, what contributes to this? When you look at the different aspects, whether this is a localized disease, whether this is a regional disease, or the distant disease with metastasis, as you see in the incidence and the 5-year survival rates for melanoma, lung cancer, and prostate cancer across all these groups, by the race, you see a significant difference. If, for example, you take the incidence in the non-Hispanic Whites for a localized melanoma versus the 5-year survival rates for the same is close to a hundred percent, yet at the same time for the 5-year survival rate for the Blacks are not reaching close to 90% in the same group.

So, comparing these groups, these are the incidences, and these are the groups in the 5-year survival. If you see the difference between the regional, by the race, if you see the local, regional, distant, they're not on the same par, both for melanoma, lung cancer, and prostate cancer across the board. So, there is a delay in the diagnosis of... Delay making the diagnosis, delay in receiving the first treatment, the time from the diagnosis to the receipt of the treatment, delay in a surgical procedure. Every aspect that you see, there's a significant delay from the time of diagnosis to the time that a first action has taken place, which probably contributes to all the differences that we see.

There are several other factors, contribute to these disparities at multiple levels. So, the society's role in it, in such a way that the disparities exist at the individual level, at the organizational level, at the community level. And as you see, the knowledge, the attitudes of people and the education, all at the individual level contributes to having these disparities that you see, and they should be magnified in a perfect environment that you expect. But unfortunately, they're not. The other layers of organizational, interpersonal relationships, and the community, these are all contributing to the disparities that you see for the differences.

So, if you look at some of the examples, the best example we could give is the contemporary red-lining, which … sorts people into the resource-rich and the resource-poor neighborhoods. And when you look by the redlining index value, the one with the least index value has the hazard ratio of one. And, you see a marginal increase with the lower redlining index indexing value, and it continues to increase with the largest hazard ratio that you see for the all-cause mortality for people with living in the high redlining indexing value. And again, this is an example with women with breast cancer and no comorbidities to equalize all other contributing factors.

Another example is the rural communities. So, patients who live more than 50 miles from a hospital have difficulty in the transportation and reaching the healthcare, and they present with more advanced disease at the time of diagnosis. And basically, not receiving a treatment when the patient should be receiving a treatment has multiple cascading effects and you see the patients having not the best quality of life, as well as the prognosis to be not the best.

 

And when you look at the social determinants of health, what contributes to the education, the access and quality, the healthcare access and quality, all of these, the economic stability, the social support that people get, all these contribute to the health of an individual patient. And the resources and the supports available in the homes, the schools, the neighborhoods, the communities, all of these play a significant part in the differences that you see.

So, this is a slide that is depicting the cancer death rates with the gradation that you see, the darker red showing the death rates per 100,000 of 250 to 525, and you see it mostly in the Southern States, where there is an enriched patient population of Blacks and low socioeconomic status. And there are several other contributing factors that potentially could result in this increase that you see in the death rates. And it is multifactorial, as you see, all the way going from the health risk behaviors, the environment, the clinical factors, as well as the policies currently governing these.

And what you see in the same patient, in the same population that you see the hospital closings, what you depict with a yellow dot is that 43 hospitals have closed between 2005 to 2010. And what you see in the blue dots are the ones that are three or four times higher from 2010 to 2020, mostly concentrated in this area where you saw the higher death rates, where the highest number of people living in poverty. So, I would stop here and probably initiate a discussion to talk about the opinions of my colleagues.

**Edith Mitchell:**

Dr. Nooka, thank you so much for your great presentation and we'll come back to you later with some questions. So, I'd like to move to our next learning objective, which is number two, and that is to improve recognition of multiple myeloma, melanoma, prostate, and lung cancers. So, in this section, we will work to describe some of these entities. And at this time, I would like to introduce my colleague, Yaw Nyame for discussing the next objective, learning objective number two. Dr. Nyame.

**Yaw Nyame:**

Wonderful. So, hi everyone. I'm Yaw Nyame. I'm a urologic oncologist here at the University of Washington in the Fred Hutchinson Cancer Center. I'm tasked with discussing a few cancers that I don't treat. So, if there are any questions, I'll make sure that our expert panelists have an opportunity to get in the finer details. But I think one of the big take homes from today's session is that a lot of the things that apply to the cancers that I manage of the genitourinary tract have the same issues as the other cancers that we see, whether they're blood disorders or other solid tumors.

When we think about disparities in cancer screening, I think there are a few important things to think about. The system 2015 data that you're seeing in the slide that shows that screening rates are in accordance with USPSTF guidelines, are low. They're especially low for lung cancer here. But one of the things that I always think about when it comes to screening, especially in prostate which I deal with, is if we have a population who's particularly at risk is equal amount of screening really what we need? Do we need equitable screening, which might mean more? And so when we look at some of these numbers, we can see that the relationship might give you some percentage that's off, but really what we need to be thinking about is how much screening do we

actually have to have to create early enough detection to have the mortality benefit that we seek when we're thinking about having equitable outcomes?

I think when it comes to eliminating disparities in cancers there are multiple strategies have been proven to be useful. I think public health campaigns that are comprehensive. And I think beyond comprehensive, really are centered around communities that are at-risk in making sure that their members are involved in not only the creation of the messages, but the dissemination of those health campaigns is important. I think that touches on this culturally-tailored care. And that's, again, making sure that we understand all the nuances, whether that's culture, tradition, values that impact the way that someone utilizes care. I think Dr. Nooka very eloquently described structural determinants of equity in his talk and really understanding that whether it is our economic and public policies, whether it's the structural and systemic racism that exist in our communities, that there are these structural factors that really impact the social determinants of health.

And so if we're thinking about a cancer screening campaign, we can't just look at the statistics, how efficacious is the screening tool. We also have to understand what the context in which that screening intervention lives, and then, again, making sure that we figure out ways to improve that dynamic between the patient and the provider. And one of the things that I've really been thinking about lately when it comes to communication and disparities is really power, because a lot of what disparities is centered around, is power. And if you think about the patient and the provider relationship, there's a tremendous power imbalance. So, creating tools and opportunities for language and shared interaction to bring more equity around that power imbalance is really important. And then I think that's something we need to think about when we're having these shared decision discussions about whether to screen or not screen.

**Edith Mitchell:**

So thank you, Dr. Nyame. I really appreciate that. Before we go further, I would like to ask our participants some questions. So, first of all, in what portion of your patients do you utilize tumor biomarker analyses to direct care? So please select your choice.

So thank you and note that less than 10% answered, and we have the numbers for others. Dr. Nyame, if you will talk about biomarker testing in underserved patient populations, please.

**Yaw Nyame:**

Yeah, absolutely. So, I think part of the journey of detecting a cancer and improving the detection of cancer is also risk stratification. Obviously, we use genetic and genomic testing, both in risk stratification and in treatment. And I think that the combination of that information is really changing practice. Now, when I see that the majority of people don't test, I think maybe it's a room full of urologists, because in prostate cancer, we have no guidelines that support strongly the use of genomic markers. But certainly in other cancers, breast, I know, for instance, that that's considered guideline-concordant care.

If you look at this study that's done in lung cancer, we see that there's a racial difference in the rate of using genomic testing. We see that the use of next generation sequencing is even lower among individuals who self-reported as Black. And again, if we have new therapies that are beneficial and if we're making guideline

decisions on how we treat and who we treat based off of this information, we really need to understand the context in which people have access to things like genomic testing. And again, we've started this discussion with a foundational understanding that a lot of our disparities are driven by structural and social determinants of equity and health. And so, when we introduce disruptive technologies, which automatically equate to expensive inter-diagnostic... I should say, when we introduce disruptive diagnostic and therapeutic interventions, which equate to cost, we have to really understand how that's going to impact disparities.

This sort of, some general outline from the American Cancer Society of how we can integrate genomic testing. And I think if we wanted to overlie a conceptual framework on disparities, we could see how, at each step of the ladder here, as you go up towards getting a target therapy, there is going to be some structural and social determinants and even healthcare factors that can create a tremendous amount of inequity, both to access to care and outcomes.

And then transitioning a little bit into clinical trials, which I think is important. I, oftentimes when I give talks, talk about screening trials for prostate cancer, there are two main screening trials in prostate cancer. One was done in the U.S. and the other in Europe. The Europe trial had about 0% of individuals who were non-white, U.S. trial had 4%. And I think you saw in our first slide from Dr. Nooka, that incident prostate cancer is 60 to 80% higher in men of African ancestry, and certainly the mortality differences over twofold.

So, what do we do to improve clinical trial enrollment in cancer studies, whether those be diagnostic or therapeutic? I think it's important to really think about what the barriers are. Again, thinking of perceptions and view of medical research, which are really important, but sometimes overstated. And I think that's important that we not always lean on mistrust and distrust as reasons for a lack of clinical trial participation. There are certainly tremendous costs and social barriers to utilizing and participating in clinical trials, whether that even be our physical location of where our cancer center is in relationship to the communities that have disparities in accessing clinical trials.

But perhaps one of the things that I find most interesting is when you do a deeper dive and you try to understand what is happening when it comes to clinical trial enrollment, oftentimes some of those barriers that we may either perceive or see, lead us to not ask people to participate. And when individuals that are minoritized and marginalized populations are asked to participate in trials, it seems like they often do. So with that, I will hand things over to Dr. Mitchell again.

**Edith Mitchell:**

So thank you so much, Dr. Nyame for that great presentation for our learning objective two. And now we'll move on to learning objective number three, and that will be to analyze the influence of social determinants of health in cancer care in order to improve equity and accessibility to cancer treatments and outcomes. We find that it is not only important that we identify these, but we also want to identify and develop therapeutic interventions for implementation that will allow for potential improvement in overall survival and overall information. And I'd like to say that what we have will be to promote activities that will allow us improvement. And I'm going to ask our next speaker, Dr. Ana Velazquez to discuss our number three. Please go ahead, Dr. Velazquez.

**Ana Valazquez:**

Thank you so much Dr. Mitchell, and thank you everyone for joining us today. As Dr. Mitchell said, I'll be discussing learning objective number three. I'm Ana Valazquez and I'm a thoracic oncologist at UCSF, so I treat lung cancers. And I'm very excited to follow our two prior speakers and think of how are ways in which we can actually address some of these disparities as a society, as a medical community, but also as providers and within our own healthcare settings. And I think one very important piece is how do we try to ensure or increase the access to our patients to receiving high-quality care. And that can span from our own responsibility as providers of being in the most up-to-date and current guidelines, making sure that we're trying to order the genetic and molecular testing that we know drives enrollment into clinical trials, through selection of treatments, but also in how do we advocate for policies and speak with our politicians and even choose to vote.

We know that having medical insurance, for example, and improving access to medical insurance leads to improved outcomes, it leads to patients having access to healthcare. If we think back of those two maps that Dr. Nooka showed earlier, looking at disparities in mortality in cancer in America and disparities in hospital closures, those are very similar to, for example, the map of what states have Medicaid expansion and which ones do not. And the data that we have seen in states that have had Medicaid expansion and have increased access to insurance have on patients who primarily for lower income really has led to improved outcomes, improved diagnostic access testing, therapy for cancer. And those, of course, correlate at the end with improvement in survival in our patients.

And as we think, not only as a society of ways in which we in our own institutions can help our patients, is by ensuring that we have financial counselors or patient navigators and other resources that can help decrease that financial toxicity that may come with higher costs or inability to work while having a cancer diagnosis and that allows patients to receive the care of all the drug discoveries that we're making.

The other part is, and Dr. Nyame mentioned about clinical trial participation, is thinking about strategic ways to actually improve recruitment of different patient populations. And that starts with knowing who are our patients that we're treating, who is in our areas surrounding our clinics, and making sure that as we think through how do we develop strategies to increase knowledge of the clinical trials that we have open at our own institutions, or how do we actually develop and design these trials, that we have people at the table who can talk out of experience. For example, at our institution, we have our Clinical and Transformational Science Institute (CTSI), our clinical research infrastructure has consultations with the office of community engagement. So you can get local leaders from different community organizations to review your protocols, and to think of ways in which clinical trials can be made more friendly from the point of even design and implementation, that would allow us to make sure that we are recruiting our patient populations that are more diverse and in need of these novel therapies.

And also thinking of all of these in a social determinants of health lens. So, we know that many of these issues are structural and are not necessarily, are not a barrier of the patient specifically, but barriers that are created by the systems that exist in our society. So, thinking about how do we address our own biases and the biases that our institutional rules may have, for example, of taking or not "X" insurance, thinking about how do we promote that our institutions are friendly to other patients? So, is our electronic patient portal in different languages, is our signage in different languages? When a patient calls, asking for questions, they may not speak

English and speak another language, do they have a way to communicate? And all of those things are different ways in which we can address some of these structural barriers that lead to disparities.

And one great example is screening for social needs. So, when we think of social determinants of health, we know that these are structures that are at a larger level from society, but these have direct impact on patients at the individual person, but we not routinely necessarily address or know what those are. If we think of having somebody who needs to come for cancer care, but they may not have access to transportation, or they're a young woman who has breast cancer, her children are in school, and she has nobody to take care of them or childcare while she needs to come for a 6-hour infusion of chemotherapy. Well, all of those are going to be barriers that they're different services that our navigators, social workers can help actually connect patients with resources within our communities, within our healthcare systems that would allow them to address some of these needs.

There are many screening tools that can be used for this, that are surveys, and they have been developed in primary care settings, in pediatrics, in emergency rooms and are very much applicable to cancer care. Similarly, ask patients about things like having insurance, having transportation, having money to pay utilities. Do you have electricity? Can you put food on the table for you and your family? And all of those are extremely important when we think of what is our day-to-day lives. And imagine being somebody who has cancer and is unable to have food on top of having all the symptoms or side effects that they may have from their cancer and their therapies.

Many times we may think, "Well, is this something really that the oncologist should be necessarily the person addressing?" Sometimes we're not. And that is fine, because if my patient may ask me about support groups within our community, I may know the answer, but I may not know the answer to every single patient-assisted program for financial or copays that exist. And that's why thinking about our teams and our healthcare teams, then how do we provide care? Leveraging the expertise of the different members that we have within our institutions is important and is shown here. If we're going to screen and ask patients for what needs they have, we would have a multidisciplinary approach in which, for example, our medical assistants are the first line in patients, making sure to collect some of those surveys and needs, making sure that they are safe, whether it's on the electronic health record or some other centralized system that we communicate with the physician, and with the social worker, and with patient navigators to address what some of those needs are. Because if our patients, for example, are experiencing homelessness, which have other issues that are going to determine what type of therapies they're going to be able to participate in and receive. We want to make sure that we know those and at the same time, address them.

Another important part, and Dr. Nyame mentioned part of this already, is also thinking about concordance between patients and providers and healthcare teams. And we know that America is becoming more and more diverse every day. And the percent of the population that comes from minority backgrounds is increasing, as well as those who may not speak English as a primary language at their home, or who may have some limited English proficiency. So, seeking towards making sure that our whole healthcare team, our providers also represent both ethnically in different identities, whether it is also gender and/or speak the languages of our population is important.

There're studies showing that patients and providers who are able to communicate in the same language, for example, have better interpersonal process of care, have better outcomes. We know that patients and

providers who share the same background or ethnicity really have better connections. And then there's data, even from babies in the Neonatal Intensive Care Unit (NICU), from the moment they were born showing that, really, provider and patient concordance in ethnicity, culture, and understanding some of the nuances that may affect particular populations leads to better engagement, better reporting of problems of side effects of treatments, and overall better outcomes.

Now, not necessarily are all of our providers going to be diverse and we know that. And so again, going back to how do we implement this now, and today is by leveraging the use of other members of the team. An example, our patient navigation services, which are broadly known. And as we know, there's plenty of data in multiple, multiple studies that have shown that navigation services improve outcomes of patients, improve screening, improve engagement with healthcare. Yet, we all know that sometimes it is hard in terms of being able to one, have navigations staff, and at the same time, our healthcare system may not see it as a priority because, of course, it's costly in terms of having more employees or bodies to be part of the team. So we, as providers, and as we think of people who are maybe in leadership within our teams is also advocating to have these resources for patients, because if we increase outcomes, we of course are doing the right thing and navigation is one of the ways in which we can easily streamline processes and improve care for patients who may have challenges trying to access our complex healthcare systems.

So, as we think of all of us as working, again, in teams is, what is really our role? And I think we sometimes think as oncologists, as healthcare providers, where there are other people who are better equipped to do this, and it's not necessarily my problem. And I think that's... We need to kind of shift from that mindset and know that everybody in our healthcare team has a role and everybody actually can help and improve our patients' connection with different community resources, social services, healthcare services that we may have that, improve their ability to receive high quality care.

So, whether it is through our role in increasing the understanding and making sure that as we are explaining and talking about shared decision making, like Dr. Nyame said, we are addressing this power dynamic. We're addressing that there may be differences in the level of education that a patient has. And I may be using medical terms that are very difficult to understand, and which may lead to patients not understanding really what their treatment options are or what I'm talking about. And all of those things are very important in our ability to explain to the patients their actual options and for them to be able to engage and navigate cancer care.

Now shifting a little bit gears, we're going... I mentioned briefly earlier that patient-provider concordance is important, and we know that diversity of our workforce is limited, and our oncologic society has made statements or recommendations over the years, the last one in 2017, trying to improve the diversity of the workforce. So we, as oncologists, that's another way to also give back is thinking how do we improve and expand mentoring opportunities for people who may come from underrepresented backgrounds, whether that is from socioeconomic status, from being first generation or racial, ethnic minority. And that may include not just participating in teaching medical students, but also even talking in your church or whatever social circle and community organization with high school student who may be interested in going into science about what is your career like and making sure that you are modeling as a leader and mentoring and providing opportunities for others.

 

Why is that important? As I said before, we know that the population, unfortunately, of our medical school graduates is still not diverse and does not reflect the U.S. population. We have made a lot of progress over the years, and this is data from 2019, but still today, as you can see, Hispanics represents only 5.3% of medical school graduates and Black students are only 6.2%. And those are definitely not reflective of what the U.S. population are. And it's particularly important because we know that, for example, Black men are even at... you can see it at the right graph, are even a lower percentage of those numbers, being only 2.5% of all medical students who graduate medicine. And this is a clear example of how there are structural barriers that, overall, limit access to education within communities and limit the ability of people of color and from minoritized backgrounds to get higher education, become part of the healthcare system, and provide care for patients. If we think of oncology, radiation oncology, urology, all of our specialties are even less diverse than these numbers. Within, for example, hematology, oncology fellows, actually Black fellows are only 3.8%. So, that is almost 40% of what the actual medical school graduates are.

So, we have a lot of work to do and not just in recruitment but thinking through also how do we teach and how do we actually apply what we're learning during medical school. And this is a very busy slide, but thinking of... And you probably have heard a lot over the last couple of years of examples, like how do we calculate estimated glomerular filtration rate (eGFR) or how do we calculate pulmonary function tests and using, historically, “race” as a biologic variable that may predetermine what are some differences in how different racial groups practice diseases.

And that really leads to healthcare bias and provider stereotyping and has really promoted and propagated inequities and disparities over the years. And we have to move towards a more race-conscious medicine and way of education and how we practice and understanding that race really is a social-empowered construct that has been defined and implemented and perpetuated by our society, and not something that by somebody having a different skin of color or ethnic background, means that their body is, or their genetics are, necessarily different in terms of how they live diseases and have them. So, we have to think of analyzing and understanding that there's structural racism that drives some of our policies that affects how patients have access to education, to food, what their health is going to be like, and be able to become... and to reduce inequities by addressing those and providing care that is open and understanding instead of promoting more health inequities.

So in summary, we've discussed a lot today about structural racism, social determinants, and how biases contribute to cancer care disparities from screening, from mortality, from access to clinical trials to biomarkers. And as we talked about over the last couple of minutes, it is going to take very complex approaches to be able to address and narrow some of these disparities. And there's no one size fit all. And I really look forward to hearing from some of... During our discussion, what on the other institutions, some of those examples are accessing to medical insurance, to high quality care, to diagnostics, to screening and biomarker testing is going to be really important to ensure that we're improving outcomes for all our patients. And again, having discussions between providers and patients that take into account cultural nuances, language, and how do we develop relationships and gain trust and takes the patients within their own context and environment.

**Edith Mitchell:**

Thank you so much for that discussion. That was perfect. And as we discussed earlier, we wanted to discuss some implementation strategies that we can all, as clinicians, other office and healthcare providers do too, therefore,

implement some of these strategies that can improve access to care and to think about specific ideas, measurable goals that are attainable, relevant, and timely. So, I'd like to encourage everyone in the audience tonight to think about our goals. First of all, to advocate for guideline-concordant care. So, making sure that we are giving the latest and greatest in diagnostics, as well as therapeutic interventions to all patients and therefore very important.

It's important that we follow guideline recommendations for screening and care of all patients. There are differences in screening rates for various cancers, as we have discussed. There is also less use of diagnostic procedures such as biomarker testing and making sure that our patients have the latest in therapeutic interventions for care, so that we are giving the latest and greatest in therapies. We need to ensure that all patients with cancer receive comprehensive biomarker screening and utilize that screening in development of therapeutic plans. We also need to be more inclusive of shared decision making so that we are involving the patient, one, in the receipt of information and two, in the decision making for care, and then support and advocate for patient navigation. That's really an important concept because the navigators can do tremendous work in reaching the patients and discussing with the patients and therefore should see the navigators as really an extension of our office procedures and our connections with patients.

We also need to make sure that we are working with our health policy-making individuals to make sure that we have access to care and access to the cost of that care so that patients have that access. We also need to look at the social determinants of health to make sure that we can use community resources where needed, for example, for childcare, for travel to our centers and making sure that we are adding dimensions that address the social determinants of health. So again, I'm going to thank everyone for participating in the program tonight. I'm going to ask Dr. Nooka, if you could talk about myeloma and monoclonal gammopathy of undetermined significance (MGUS). If you could explain that to the audience, please, I would appreciate that.

**Ajay Nooka:**

Absolutely, Dr. Mitchell. So, I always say myeloma and the precursor lesions of MGUS are one of the prototypes of where you see the disparities are so studied. So, I always use this as an example. The differences that you see are multidimensional. Number one, there are biological differences that you see, and the disparities that we see as outcomes are much more than what you see from a biological perspective. So, I'll start with what is MGUS and where we end up with myeloma and what we see across the spectrum. So, MGUS is a precursor lesion, starts with an abnormal myeloma cell in the bone marrow. A plasma cell is a white cell, and an abnormal clone emerges and from the time this abnormal clone emerges to a clinically significant myeloma defining event happening because of this abnormal clone, there's a history that the natural history takes almost three decades.

So, the average time of what you see for a myeloma patient at the time of diagnosis is in the range of 70 years. So, if a myeloma patient is diagnosed at 70, so the myeloma initiating event may have happened three decades before. So, it may have happened in a specific patient in their forties.

So now, where do you see the differences? In the Black patients, the timings that I'm talking about, 70 years and 40 years is most like 5 years upwards. So the time that the average diagnosis or median diagnosis of myeloma in an African American is 65 years old, and the same happens for the MGUS as well. So, you see a higher

proportion of patients having a higher proportion of the demographic, like having a MGUS, higher in the African Americans compared to the Caucasians.

One of my colleagues did a longitudinal study for close to 10 years, looking at what is the rate of progression from MGUS to multiple myeloma and does it differ by the race. And he was able to clearly show that at a 2-year mark when the median follow-up was for 2 years, even though this was a Southwest Cancer Chemotherapy Study Group (SWOG) study that was done over a 10-year period, and they were able to show there's a 15% conversion from small, multiple myeloma to symptomatic multiple myeloma in the Caucasians, whereas in the African Americans, that rate was 5%.

So, not only it appears early, the rate of progression is much, much slower in the African Americans compared to the Caucasians. So this is what I was alluding to before as having less aggressive disease. So, when you look across the spectrum, so talking about what are the triggers, what are the triggers from conversion to small to multiple myeloma to multiple myeloma? So, there are two major factors that he was able to show. One is an Epstein-Barr Virus (EBV) exposure. The second one is a gene exhibition profile that was significantly lesser, just like I was talking about a less aggressive disease. So, these are the only two factors that were different by the races and when you see the patients having multiple myeloma. So, the presentation of multiple myeloma is also different by the groups. So, there is a higher rate of kidney failure among patients that have symptomatic multiple myeloma in the African Americans compared to the Caucasians. There is lesser risk of fractures in African Americans compared to the Caucasians. There's a higher rate of anemia in African Americans compared to the Caucasians. So, these are the differences that were outlined at the time of the diagnosis.

Now, what we can clearly talk about are younger patients and differences in presentation, lesser aggressive disease. So, if we treat them right, they should probably be the ones that should get the best long-term outcomes. But in reality, it is not the case. The differences were significant, but over time, over the last 30 years, you see that there there's a closure of that gap coming to equal, equalizing, equal outcomes at this point in time. However, from a biology perspective, if everyone has to get the same access to care, in reality, these numbers should be much better for the African Americans. So, from the time of the diagnosis to the time that the patients receive care is significantly higher among both African Americans, as well as Hispanics. From the time of diagnosis to the time of receiving a surgical procedure for stabilization is significantly higher for the African Americans and the Hispanics compared to the Caucasians.

The number of … newer agents, this is an analogy to what Dr. Mitchell was talking about in terms of the biomarker abilities. So, I'll use a simple analogy in terms of the myeloma treatments, the novel agents, which are the proteasome inhibitors, as well as immuno module three agents, these are newer drugs. These are not chemotherapy agents. So, the rate of usage of these novel agents is significantly lesser in the African Americans and the Hispanics compared to the Caucasians. There is a transplant, the rates of transplant, the transplant is an option or a procedure to give the best depths of responses aimed at prolonging the PFS and the overall survival. And the rates of transplant received were much lesser for the African Americans, as well as the Hispanic populations.

So, when people are not getting the same kind of a care, this is the one that explains why there is a difference in the long-term outcomes, when, when you see … when you follow patients over a longer period of time, in a uniform space similar to the VA system, you see an equalization of the outcomes. So, actually the access

of care is not as much of an issue, but of course, there are other social determinants of how they play a role. But that is one of the systems where data was able to show that both African Americans and Caucasians have almost as similar outcomes.

We did an analysis at our institution. We took a thousand patients and gave the same treatment to everyone, and we didn't see any differences. We, in fact, were very happy that we were able to establish a new benchmark for patients who received the same kind of a treatment will have outcomes, be reaching, the overall survival, reaching beyond the ten-year mark.

**Edith Mitchell:**

Thank you. Thank you so much, Dr. Nooka for explaining that. So, bottom line is we need to make sure patients receive the appropriate care based on current guidelines, both for diagnostic criteria, as well as therapeutic intervention. That's a great explanation and thank you for explaining MGUS. So my next question is to Dr. Nyame. And that is, as prostate cancer occurs at a younger age in African American or Black patients, do we still treat all patients with prostate cancer the same? How do you differ treatment in a 35 or 40-year-old individual with newly diagnosed prostate cancer that is localized compared to the 75-year-old non-Hispanic White patient.

**Yaw Nyame:**

So, I'm going to take a little bit of a different spin on answering this or restructuring the question a little bit. And one of the things that's really fascinating when you think of prostate cancer disparities is that we know there's a twofold, increased risk of black men dying from prostate cancer compared to their peers. But if you look at younger men, that disparity is even wider. So, for men who are in their sixties and seventies, there's more parity in survival, or at least certainly the difference is less stark than there is for men in their forties. And so what that really points to is the importance of probably a couple of really key interventions, which is early detection. And if you look at the natural history of prostate cancer in Black and white men, black men seem to be diagnosed about a decade earlier. So average age is about 55, which hence the screen guidelines start around 55, but in Black men, it's around 45. And the second thing is that Black men in the United States are far less likely to receive definitive treatment for what I would consider curable, localized cancers. And so these two things I think have a very significant impact.

One of the things that we ended with, and I mentioned this in our pre-meeting, was that the topic of using race as a factor in treatment has become really confusing for people. So I think, is it okay, should we even consider race when we administer this diagnostic test or this treatment? And I work with this health economist that said, "It's like when … Let's take a big tech company says, 'We're not racist. We don't even factor race into how we hire people.'" Well, that has its own inherent problems. And so I think when we use race as a risk stratifier and we biologize it, that is a very different problem than looking and saying, "Okay, there is a population at risk." So race is not a risk factor, but we do have populations that are at risk and we need to design interventions to make sure that we have more equity.

And so when you ask that question, do we treat the Black patient any differently than the white patient? Well, I think what you treat is a disease. If they come in with a localized cancer that is of a high enough aggressiveness and we should and they are going to live long enough. So there's a reason why we probably

shouldn't treat every 75 or 80 year old with localized prostate cancer. Where then I think if you take all those things and you look at what the guideline recommendation is, probably what we need to do more of is earlier detection and more utilization of appropriate treatment in younger Black men.

**Edith Mitchell:**

Thank you so much. Perfect answer. And Dr. Velazquez. Question for you is how do you use precision diagnostics in the treatment of lung cancer? Do we need to evaluate patients before starting therapy? Or can we wait and look for progression? How do we add precision medicine to make sure patients with lung cancer get the first initial best treatment?

**Ana Valazquez:**

Thank you, Dr. Mitchell. That's a great question. And definitely in lung cancer, very important, because we have a growing body of targets that now we have agents for our newer drugs that are able to really improve the outcomes of our patients. As of today, we also have approval for use of some of those drugs, like EGFR tyrosine kinase inhibitors in patients who have early-stage lung cancer. So, historically this has been used only for patients who have metastatic or stage IV disease, but nowadays we're moving in immunotherapies, and this targeted therapies to preoperative settings, and also after surgery in patients who have stage II and III disease and even some with advanced stage I. So, it's very important that we start testing everyone and think about it from the first time of biopsy.

One big barrier in getting biomarker testing and molecular testing in all of these patients is particularly the quality of the biopsies that we're getting, because there may be insufficient sample for next generation sequencing or testing, and really thinking of making sure that we are trying to obtain a core or use liquid biopsies, which is a blood test, in people who may not be able to get a repeat biopsy if the first sample was insufficient. And it's very important because, for example, for somebody who doesn't have a molecularly-driven lung cancer, really the outcomes for receiving in stage IV chemotherapy and immunotherapy are still, we're talking about survival of median of around really 18 months or so, compared to patients who may have lung cancers that are driven by anaplastic lymphoma kinase (ALK) fusions, or that are EGFR driven, we're talking span of years. So, it's really important to select that first treatment accurately based on the presence or absence of a target and at the same time, making sure that we are selecting correctly.

So, one issue that we have realized, if immunotherapies have expanded and have been used broadly, is that in patients, for example, that may get immunotherapy because they had insufficient testing to begin with, and later on we discover that they have GFR and ALK mutation when they receive the adequate therapy afterwards, there is higher proportion of toxicity, and those toxicities can be life threatening. Things like terrible hepatitis or autoimmune myositis that may lead to cancer, patient death. And similarly, definitely decreases quality of life, increases cost, and other things. I had a question if you don't mind.

**Edith Mitchell:**

Okay.

**Ana Valazquez:**

Actually-

**Edith Mitchell:**

Oh, go ahead.

**Ana Valazquez:**

For doctor-

**Edith Mitchell:**

We have a couple of questions from the audience also. Go ahead.

**Ana Valazquez:**

Yes. It was one of those that is related to the prior question you asked Dr. Nyame about whether he would treat patients differently based on race. I think there's a great question from the audience on what do we think is driving some of that mortality. And I think prostate cancer is one of those diseases in which it's great to really hone in what do we think are drivers of mortality difference between Black and white patients?

**Yaw Nyame:**

Yeah, it's a great question. I mean, it's multifactorial, right? We have a lot of factors. Prostate cancer's probably the best example for how heterogeneous cancers can be. We have indolent cancers that we don't want to diagnose, and we have those that we wish we could diagnose early, that we, despite having a great test in PSA that can detect cancer that we miss. When you talk about what drives the mortality disparity, I think we heard discussion of VA as a potential equal access and environment. But when you look at the VA, when look at clinical trials where care is standardized, quality might be standardized, the outcomes for prostate cancer by race are equal. In fact, in some of our clinical trials, Black men do better. And similar to something that Dr. Nooka mentioned, I think we're starting to see some evidence that some of the prostate cancers that we diagnose in Black men are far less aggressive, biologically speaking. So, I do think that a big driver of it is in the healthcare interventions that we fail to utilize adequately in our patients. And obviously, if we can diagnose and treat these cancers in the same manner that we do for all men, it seems like we can really normalize the mortality differences.

**Edith Mitchell:**

So thank you so much, Dr. Nyame. That was a great answer and certainly a question that arises all of the time. What are the contributing factors to the disparities and what can we do about them that will allow for better care, better therapy and, of course, decreasing the mortality rates. So thank you.

**Yaw Nyame:**

So there's a question in the queue that I wanted to maybe pose to the whole group. Someone said, "In the past 50 years of my profession, my professional career, I've seen no differences in these disparities." And one of the things I always show in my talk is the difference that the relative difference in incidence and mortality for prostate cancer has been the same, despite marked improvements in mortality. We've had a 50% decrease in mortality over the last 30 years, but the relative difference has stayed the same as far back as we've collected cancer surveillance data. I have strong opinion about this. I do think that we have more opportunity for progress because this is a priority and there's funding, but I think I'd love to hear other's opinions of that, including you, Dr. Mitchell.

**Edith Mitchell:**

So that, I think there has been changes over the years. We've had better diagnostics, better therapeutic interventions and therefore, I think we have seen improvements not only in local cancer centers, but the overall mortality rate from cancer has decreased since the 1971 Cancer Act, yet there are still some disparities. But there has been continuous declines in the overall mortality rates. So, yes. So we have some time for just a couple of more questions here. I've got them now. One question says, "I've heard before that people don't like thinking about how they've behaved in the past and that the guilt associated with that impedes change. Is that something you've encountered with regards to addressing bias?" Dr. Valazquez, would you like to answer that question?

**Ana Valazquez:**

Thanks, Dr. Mitchell. Sure. That's a great question. Yes, I've definitely encountered that and I think we all have in different aspects, but normalizing the discussion and trying to hear where this is coming from, centering and sharing experiences, I think that is very important rather than having a judgmental approach and trying to provide solutions. And I think we need to meet people where they are, and our coworkers be open, address at the moment when different biases are occurring, calling them out and have an engaged conversation because many people may also not realize that what they're saying or the way they're behaving is biased to begin with.

**Edith Mitchell:**

Thank you so much. And here is another question, says, "This is for all presenters. Do you all think..." And actually it's y'all... "think that racial and socioeconomic disparities in cancer care can be improved in the near future? Racial disparities have existed for more than 50 years, as long as I've been in the profession." And again, I will say that if you look at the statistics, there has been a continuous decline in cancer mortality rates since the National Cancer Act of 1971 allowed for the initiation of the SEER database and with the SEER database, which was first reported in 1975, there has been a continuous decline in cancer death rates and overall mortality rates continuously. And I think we'll get more greater declines in the future as we incorporate a number of the social determinants of health. Anyone else wanting to come in?

**Ajay Nooka:**

I think you bring a great, great point, Dr. Mitchell. So, the mortality is getting down, so the gap is also getting better in my opinion, and there is a future for us. The way that I see is, education brings awareness and education brings access to the care closer. So, I think by improving that awareness, we possibly could achieve where we would be in the future.

**Edith Mitchell:**

Thank you. So this has been a great opportunity for discussions tonight and the presentations have just been tremendous. CME Outfitters oncology hub has other programs that may be accessed for information on other programs.

And at this time I would like to thank all of the participants tonight for your participation. I want to thank our outstanding speakers addressing the three learning objectives so well. They were all just great presenters. And I encourage the participants of the program tonight to go to the CME Outfitters oncology hub. Look at the other programs that are available for access. And I'd like to thank the CME Outfitters again for supporting this program tonight and the other supporters of Johnson & Johnson. And again, thank you to our speakers, thank you to CME Outfitters, and thank you as participants for joining us tonight. Have a good evening and thank you.

 