Dr. Hubbard McCree (00:01):

Hey, good afternoon. It's about 1:02 in the afternoon, and we are ready to get started. So we'll turn it over to Dr. Jonathan Mermin. Thank you.

Dr. Mermin (00:09):

Great. Thank you. Thank you very much. Dr. Hubbard McCree and good afternoon. I'm Dr. Jonathan Mermin, Director of the National Center for HIV, Viral Hepatitis, STD and TB Prevention at CDC. And it's my pleasure to welcome you to the 2023 Dr. William Bill Jenkins Health Equity lecture, hosted by Dr. McCree's NCHHSTP, Office of Health Equity. Today's lecture, 'Taking Seriously the Systemic Nature of Health Inequities: Implications for Understanding, and for Action', by our guest speaker, Dr. Ana Diez Roux, is consistent with the goals of our Center's equity initiative. The initiative released in 2021, is a transformational long-term strategy to help our center achieve equity within our workplace, and eliminate health disparities in public health in the country. The initiative is designed to strengthen our programmatic, scientific, and workforce efforts, get more done faster, share successful approaches across the center, and involve all of our staff.

Dr. Mermin (01:19):

And it includes an implementation plan that outlines the first steps of a long-term strategic process to place equity squarely at the forefront of everything we do internally and externally. And the plan also allows us to refine our processes in systems for designing, funding, evaluating, conducting research, implementing programs, designing policy, and having partnerships to ensure that our work is intentionally, systematically and consistently focused on improving the social and structural causes of health disparities. We've seen some progress with our work at the center and continue our efforts to produce great outcomes. For example, in the 2021 HIV data release this month, estimated annual new HIV infections were 12% lower in 2021 compared to 2017, dropping from about 36,500 infections to about 32,100. And the decline was driven by a 34% decrease in new infections among 13 to 24 year olds, mostly among gay and bisexual men.

Dr. Mermin (02:18):

And we saw the greatest absolute reductions among African American MSM, the group previously with the highest incidents. We've also documented reductions in other health inequities, such as racial and ethnic differences in sexual risk behavior among youth, TB among people experiencing homelessness, HCV mortality and geographic disparities in HIV. But we continue to see massive disparities in some areas that call for work, not only on the ground, but at the highest level of policy and social determinants, including insurance coverage for PrEP and Hepatitis C treatment, expansion of expedited partner therapy and use of doxycycline based PEP, supportive laws regarding syringe service programs and drug paraphernalia, and screening for latent TB infection. We continue to work against health disparities by having this ensconced in the fabric of our work and explicitly stated in our strategic plans and our funding announcements. And because of this, I'm delighted to have our innovative game-changing speaker today, Dr.

Dr. Mermin (03:12):

Dr. Ana Diez Roux. She's the Dana and David Dornsife Dean and Distinguished University Professor of Epidemiology at the School of Public Health and Director of the Drexel Urban Health Collaborative. And Dr. Diez Roux is internationally known for her research on the social determinants of population health and the study of how neighborhoods affect health. And her work on neighborhood health effects has

been highly influential in the policy debate on population health and its determinants. Her research includes social epidemiology and health disparities, environmental health effects, urban health, psychosocial factors, cardiovascular disease, epidemiology, social environment, and gene interactions, and multi-level methods and complex modeling. And she's led large NIH and foundation funded research and training programs in the United States and overseas. Originally trained as a pediatrician in Buenos Aires, Argentina. She completed public health training at, at Hopkins. And before joining Drexel, she served on the faculties of Columbia and the University of Michigan. So I'm honored to introduce and learn from Dr. Diez Roux's presentation today and look forward to collaborating in the future. And now I will turn the mic over to her.

Dr. Diez Roux (04:24):

Thank you so much, Dr. Mermin, for that very kind introduction. I'm really delighted to be here and very honored to be able to share some thoughts with you as part of the lecture series honoring Bill Jenkins. I remember reading his work very early in my career when I was actually working on my dissertation at Johns Hopkins on Neighborhoods and Health, and being inspired by what I read. And I had the good fortune to meet him many years later at a workshop, I think it was perhaps at the American College of Epidemiology, on diversifying and increasing the representation of underrepresented groups among epidemiologists. So it's a great honor to be here with you today. So what I thought I would do is share with you some reflections on what it means to really take seriously the systemic nature of health inequities and what the implications are for understanding, for research and also for action, for policy and interventions.

Dr. Diez Roux (05:44):

So in my talk, I will cover four topics. First, I will give a brief overview of common conceptual models of the drivers of health inequities. Then I will talk a little bit about exactly what we mean when we say systems are systemic, cause these words are used a lot now, and I'm a big believer of being very precise in language. So talk about exactly what this means. Reflect on why population health should really be thought of, and also health inequities as emerging from the functioning of a system. And last, but not least, spent most of the time talking about what the implications are for research and action.

Dr. Diez Roux (06:29):

So I'd like to start just reviewing some conceptual frameworks of the drivers of health inequities that have been used in the field for quite a while. And many of these, I'm sure will be familiar to you. And these conceptual models sometimes emphasize different aspects. For example, the one here on the top left of the slide, emphasizes the role of factors at different levels of organization, from societal, social, economic policies to institutions, to neighborhoods and communities, et cetera. Second formulation here on the right highlights the pathways and the multiple pathways through which distal factors related to socioeconomic position, et cetera, influence health.

Dr. Diez Roux (07:20):

A third model here emphasizes the impact of social conditions over the life course and even before birth, and how they influence health throughout the life course and much later in life. And this is another example that differentiates basic and surface causes. Basic causes, which will have also been referred to as fundamental social causes, are these underlying drivers that operate in many different ways that can change over time and affect the surface causes, which are more proximal. And then those surface causes affect health through specific behavioral and biological mechanisms. And all these

models have been very helpful in understanding health inequities. This is another formulation of health from Healthy People, 2030. Another example of thinking about multiple domains and how they all impact health. Well, what are some characteristics of these of these models?

Dr. Diez Roux (08:25):

Well, first of all, as I said many of them really highlight the role of factors at multiple levels and really go beyond healthcare and beyond individual level characteristics alone. And really highlight the importance of multiple disciplines for understanding the drivers and multiple sectors, the healthcare sector, but many other sectors as well for action. They also emphasize the life course, and often even an intergenerational perspective, the long reach of the past in generating health and health inequities. They emphasize the presence of multiple causal pathways and mechanisms. This is why this is complex to study, of course, this intersection of domains, neighborhoods, socioeconomic position, minoritized status, for example. And all these things are very positive aspects of these models that have really, I think, been very useful in broadening the scope of what, you know, what was often traditionally a very biomedical oriented paradigm in health research.

Dr. Diez Roux (09:34):

But even these models, I think, have had some unintended consequences. Sometimes they tend to emphasize, or you know, inevitably we end up focusing on factors rather than processes. So the social determinants of health become a set of factors instead of a set of processes. And I'll come back to this idea. They also tend to highlight linear relationships. There's an arrow going from A to B, independent effects, simple processes of mediation and moderation. There's often little focus on conditional effects that are sometimes referred to as context dependencies. The fact that the impact of a particular factor may depend on a whole constellation of other factors. And also little focus on dynamics. And I'll come back to this. Dynamics, things that have to do with feedback loops, for example, or interdependencies, people influencing each other, neighborhoods influencing each other. And I think in some cases, this has promoted sometimes a simplistic and perhaps naive approach to policy solutions and effectively has narrowed the policy space instead of broadening it, which is really what we need to do.

Dr. Diez Roux (11:01):

So I think a challenge for us is to continue to broaden the perspective to encompass structures and systems explicitly, both in our conceptual models and also in thinking, you know, critically what this means for our understanding of etiology of causes and what this means, of course, most importantly, for the actions that we can take. So, if we think about it, the causes of inequities are structural and systemic. And what do I mean by structures and systems? So I told you I was a real big fan of being precise in the language. So here I have some definitions from the dictionary, from Webster's dictionary. Structural means relating to the arrangement and relations between the parts or elements of a complex whole. So arrangement and relations. System, a regularly interacting or interdependent group of items, forming a unified whole. Interacting or interdependent, and interacting meaning more than what we call interaction and epidemiology. It has to do also with feedbacks, reinforcing feedbacks or buffering feedbacks, for example. And systemic means relating to a system, especially as opposed to a particular part. So we really need to think about the system as a whole.

Dr. Diez Roux (12:33):

And the term dynamic systems is used in complex systems theory and complex systems work to really reflect situations in which there are factors at multiple levels and long causal chains. Heterogeneous and

interdependent units, as I said, people, individuals influencing each other, sharing norms. Things being transmitted not only infectious diseases, but also norms and behaviors and attitudes being transmitted from person to person, and interdependent units. Recursive relationships, feedback loops, endogeneity, something that we often try to control for in our analysis, is actually part of the system that we want to understand.

Dr. Diez Roux (13:21):

All of this leads to what are sometimes referred to as non-linear effects. So a particular intervention in the system can lead to consequences at other locations and at other times, much later in life or even generations down the road. And also can lead to unanticipated effects that we cannot predict if we only think linearly. Dynamic systems are also characterized by situations where we have multiple paths to the same outcome. People can get cardiovascular disease with very different causal paths, depending on their context and history. Or similar distal causes of multiple different outcomes. Neighborhood deprivation can relate to multiple different health conditions.

Dr. Diez Roux (14:09):

The role of history, and I put history in quotes because it's personal history, but also societal history. And so all of this leads to emergent patterns that are not easily reducible to independent effects. And all of this, of course, characterizes population health and characterizes health inequities. So this is what we're dealing with when we're trying to understand the causes of health inequities. Another feature of dynamic systems is what's been referred to as policy resistance. So, and these are two quotes from a paper by Sterman many years ago now in the American Journal of Public Health, the tendency for interventions to be defeated by the system's response to the intervention itself. We have many examples of situations where we have attempted to correct health inequities, reduce health inequities, but it's not enough. These inequities reproduce themselves because they are driven by the underlying system, or when obvious solutions fail or even worsen the situation.

Dr. Diez Roux (15:16):

So examples of interventions that have actually increased inequities instead of reducing them. These are all features of dynamic systems. To give you an example of a very simple dynamic from work that my group has been involved in for a number of years, we've been very focused on identifying neighborhood or place-based features as contributors and perpetuators of social differences in health. And a big emphasis of this work has been to really separate the place effects from the compositional effects, from the fact that people are segregated into different neighborhoods for a number of reasons. And sometimes people have talked about this as separating context from composition. So we really focus on adjusting away the effects of composition. But in fact, of course, these things are influencing each other place. Residential segregation creates place-based features because of differences in resources and power across neighborhoods that generate different environmental conditions, and environmental conditions across neighborhoods in-turn reinforce residential segregation because those who have the means and the power and the resources can choose to live in areas that have better environments. And so this is really a system, it's a simple system that we need to think about as a system, putting back together the evidence to understand how it fits together and how these things are reinforcing each other.

Dr. Diez Roux (16:48):

Broadening the picture a little bit to think more broadly, using, again, the example of neighborhoods and health. What would a simple dynamic model of this look like? Well, of course, racism and inequality generate differences in personal resources and discrimination processes that influence where people end up living. Residential location and the composition of the area affects the resources in the area, including material, social and advocacy resources, and these things feedback into residential composition. These resources affect the location of health services, the location of healthy food stores, the location of recreational facilities, which in turn reinforce neighborhood conditions. They affect health behaviors, behaviors themselves also reinforce and and influence neighborhood environments and so on. So here we have a system in which we begin to see some of these feedbacks and reinforcing mechanisms that we need to consider and understand in order to really comprehend the drivers of health inequities and how different interventions might work.

Dr. Diez Roux (18:03):

So, if we think systemically, if we begin to think systemically about he processes that we are studying in health inequities, what are some of the implications? And I'd like to talk first a little bit about the implications for research for conceptual models, and I talked a little bit about that already, for research questions and for the methods that we use. So I'll talk a little bit about each of these. So the first implication for conceptual models is really broadening the conceptual models, the rich conceptual models that we already use to encompass dynamics. So expand models so that they reflect levels of organization, times, pathways, many of which already do, but also dynamics. And the challenge here is not necessarily to include models that have absolutely everything in them, but to develop focus models aimed at explaining specific phenomena. So parsimony is still important here, but what we have to do, and this is a big challenge, is abstract what the fundamental dynamics are and create models that are testable and refutable because that is what science is about. So this is challenging. It really forces us to think differently in a way that is not as linear as we are used to thinking. And really challenges us to think to think conceptually about what the fundamental drivers might be and the dynamics of the health inequities that we are studying.

Dr. Diez Roux (19:50):

I wanted to share this language from the Community Preventive Services Taskforce, that I had the pleasure to serve on for several years, where we went through an exercise of updating the definitions and concepts related to health equity that the task force uses. And you can see on the slide you know, the first paragraph is the traditional approach. Health inequities are caused by the uneven distribution of the social determinants of health. Social determinants of health are conditions and the environments where people are born, live, learn, work, play, et cetera. But then we went on to specifically highlight that exposure to social determinants of health is influenced by structural and systemic factors, and lay out what some of those processes and systems might be. So really beginning to place emphasis on structural and systemic processes.

Dr. Diez Roux (20:49):

So expanding our conceptual models and also thinking about the language that we use and what language we can use to communicate the systemic and structural nature of these problems. The second implication for research that I wanted to talk about has to do with the way in which we formulate questions. Because inevitably what happens, I think in research is that sometimes over time our questions start to be driven by the methods instead of the methods responding to the question. So, for example, again, using the example of neighborhoods and health, moving from questions like are neighborhood characteristics independently associated with health after accounting for individual-level

SES. This has been an important question that many of us have focused on a very important first step, but it is a question about linear, you know, pre-linear effects and independent effect, moving in a next phase to a more complex question that acknowledges some of the dynamics and that ultimately is more action oriented.

Dr. Diez Roux (21:58):

So for example, to what extent and under what conditions does residential segregation generate and reinforce health inequities for minoritized populations? So a much more nuanced and complicated question, but that I think broadens understanding and opens up more avenues for action. Here's another example. Moving from questions like, is proximity to supermarkets as a proxy for healthy food availability associated with better diet after adjustment for individual-level SES, a very important question to answer. But in this next phase, what is the plausible impact on health inequities of a strategy to subsidize the location of supermarkets under various different spatial patterning and segregation scenarios? Again, a question for which we need to understand dynamics in order to be able to provide a valid answer. And this is hard to do. This is hard to do because we have become accustomed to asking questions that are very much driven by sort of the independent effects paradigm, which comes of course, from the biomedical paradigm, which is focused on isolating, say, the effect of a treatment, as opposed to understanding a system and how it affects an outcome.

Dr. Diez Roux (23:22):

A third implication of taking systems, taking seriously the systemic nature of health inequities, has to do with embracing the utility of complimentary methodologic approaches. So, and this means, you know, the fact that we have multiple levels of organization, long causal chains, many different kinds of factors, conditional effects, dynamics, means that a single methodologic approach is unlikely to be sufficient. We need multiple methods working together in concert to generate the kinds of answers that we need for understanding and also for identification of effective actions. So in public health, of course, we are very used to learning from observations, from observational data. And this has been and continues to be very powerful, from description, from precise description, all the way to rigorous causal inference that can often be drawn from observational studies. But of course, observational studies also have challenges, and many of these have to do with causal inference.

Dr. Diez Roux (24:37):

And sometimes these can be addressed through experiments. And there are some examples of situations, which even for social determinants of health experiments or exploiting natural experiments has been feasible, but many times experiments don't provide a full answer to the question. The moving to opportunity experiment that some of you may be familiar with, where families were randomized to move to a low poverty neighborhood, found important effects, and yet raised important questions about, well, what is it about the neighborhood that is important? And so many times after the experiment, we need to return to observation to fill in the gaps, to understand why the experiment may have unexpected results or why it worked or why it didn't work, or under what conditions it work. We need to go back to observation. So experiments and observation both complement each other. In addition, the implications of findings from observations and experiments can often be put together and interrogated using systems approaches or systems modeling.

Dr. Diez Roux (25:46):

So we can put different kinds of information together and understand the implications of it working altogether. Now, anyone who has done any systems modeling also knows that systems modeling itself can make knowledge gaps visible, starkly visible, how much we actually don't know and motivate more observations or more experiments to fill in the gaps. So here we already have a system itself, a knowledge generating system that we need to fully understand health inequities. And of course, in public health, we often must act even in the face of incomplete evidence because it is our ethical risk and social responsibility to do so. And so these evidence from these methods can often lead to action, but action itself can be evaluated. And the evaluation of that action, of course, teaches us whether the action worked, but can also shed light on the system itself. And I put this wonderful quote from John Powell here at the bottom, where he says, rather than thinking of evaluation simply as a means to understand whether or not an intervention worked, we need to think of evaluation as a way to better understand the system itself.

Dr. Diez Roux (27:13):

And last but not least, we of course have all of this is grounded in history and historical and qualitative inquiry, can also help us put these pieces together and compliment all these approaches. So really for health inequities, because of the systemic nature, we really need to think of an evidence generating system itself that combines and integrates and quadrangleates or quint, quint - I don't know how to say cause it's five different approaches, how they can all be put together to really increase our understanding and comprehension. Much more complicated than understanding the effect of a treatment or of a gene.

Dr. Diez Roux (28:00):

So these are my three implications for research of taking systems, the systemic nature of health inequity seriously. It has implications for our conceptual models, for the kinds of questions that we ask, and also for the methods that we use. Now, I'd like to turn and talk a little bit about three implications for action. And three, the three that I think are most important from my perspective, are the fact that we need to consider a broad range of policies and actions, that the evidence on policy impacts may be challenging to assess using traditional methods. Similarly to what I just talked about in terms of research. So multi-method approaches are needed, and also thinking more broadly of a broad approach to influencing policy, which is not only about generating evidence from, of the effect of intervention X, but thinking more broadly about the narrative that we construct about what the fundamental causes are. And I'll return to that and hopefully make it a little bit more clear and more concrete in a few minutes.

Dr. Diez Roux (29:13):

So if we think about the social determinants of health, there is a broad range of policies and interventions that can act on the social determinants of health and therefore impact health inequities. And in this schematic, I've categorized different policies on a continuum that goes from, at the top, from the stage of the social causation process at which the intervention operates from more proximal to the health outcome to more distal to the health outcome. And also along another dimension, which is the level of organization at which the intervention is implemented at the level of individuals, work context, neighborhood, society. There may be, there could be other levels here. So this includes interventions in the top left, like targeting behavioral interventions at certain social groups using community health workers, which are very quite proximal to the health outcome and focus on individuals all the way to interventions at the bottom right, like income redistribution through progressive taxation and ensuring anti-racism and all policies, which is really focusing very upstream, very distal, and also at the level of society.

Dr. Diez Roux (30:35):

So this is a big challenge to that we have, in terms of documenting the health impacts of such a broad range of different kinds of interventions that we could think of to address the social determinants of health. So the range of interventions and policies that can be investigated, the hypothesized health impacts, the timeframes over which they can be expected to occur are varied and far ranging. For some of these policies, we might expect effects immediately or within a few months or even a few years. And so they are relatively tractable using trials or randomized experiments or you know, rigorous observational studies, but others like income redistribution or ensuring social justice and racial equity in all policies, for which we are not going to see effects maybe even for generations. And so it's not realistic to expect that we are going to be able to document the impacts of these policies using traditional and simple approaches. And if we do that, we run the risk of not being able to show much at all. And I think this is a big danger.

Dr. Diez Roux (31:47):

So because of this range and complexity, what has happened, I think a little bit in terms of the investigations of policies and interventions focused on social determinants is that there has been very relatively limited systematic exploration of the policy space. Mostly we have been opportunistic, which is natural because that's what's easy, you know, that's what's feasible to do. So looking for opportunities where, like the moving to opportunity experiment, actually, you know, where we could add a health outcome to a randomized trial that was happening for another reason, and that's good and that's useful, but it may not be enough. So I think there has been limited systematic exploration of the policy space mostly, and it has been mostly opportunistic and driven by methodologic feasibility. What can we do within a relatively short timeframe? I think the equity focus has also been relatively limited.

Dr. Diez Roux (32:45):

We often look at health outcomes and we may look at health outcomes in different social groups, but the impact on equity itself is the intervention or policy magnifying or reducing health inequities. So equity as an outcome is not as frequently explored, and yet we know that policies or interventions may have positive effects or even adverse effects and can increase inequities. And so because of all this, I think the conclusions from a lot of the work looking at the, you know, social interventions or policies to address the social determinants of health, the conclusions have been challenging. And I think there's a danger of concluding too quickly that nothing works. And I think this of course would not be a good thing and not truthful to reality, I think. Not scientifically rigorous.

Dr. Diez Roux (33:44):

So what can we do to advance policy research in this area? Well, I think we have to broaden the range of the policies that we look at. And I've put some examples here, and again, these are hard to look at and we're going to need complimentary methods to look at them. So broaden the tools that we used, similar to what I was talking about in terms of research understanding fundamental causes. Similarly for policy evaluation, we also need to use complimentary tools. I think there's really also opportunities to look at interactions between policies. We don't do this very often, but a simple example, and I think there has been some work in this area already, interactions between healthcare and neighborhood interventions, how they could perhaps act synergistically to reduce health inequities. Impact on inequities themselves, and last but not least, figuring out ways that we can better support and incentivize this work.

Dr. Diez Roux (34:49):

You know, traditionally many of the funding sources, including NIH, you know, broad social policy impacts on health is not something that was a priority, or easy to get funded. And I think this has been changing and there have been many efforts to do this, but I think it's an area, it's hard for researchers also because of the systems that we live in, that reward, you know, fast publication, which is much easier doing big secondary data analysis than doing a very complex policy evaluation that may require a lot of time, and for which we may not see results for a long time. So I think figuring out ways in which we can really support and incentivize this kind of work. The gaps that we have in this area is really, really important. We saw this in the Community Preventive Services Taskforce, many times you know, the death of evidence on some potentially important policies and interventions on the social determinants of health.

Dr. Diez Roux (35:58):

Now, there are some examples of this work. I don't want to say that there aren't. These are a few examples that I mentioned. The moving to opportunity study, many efforts to leverage natural experiments, which can be very useful. This one on the top right is an example looking at neighborhood greening, vacant greening actually in Philadelphia. Leveraging state differences in policies to look at impacts on various life expectancy and other outcomes. Or even country comparisons, this paper on the bottom right, looking at the impacts of welfare state, welfare policies in different countries. And it has been very interesting and I think really great to see how in fact, you know, in part spurred by COVID, increasing focus on housing and work policies. And many researchers leveraging opportunities to look at the impact of things like eviction moratoriums on variety of health outcomes, or work, you know, paid sick leave or family-to-leave policies on outcomes.

Dr. Diez Roux (37:07):

So I think this is a very promising trend that I hope will not, will continue looking at other health outcomes. They're also modeling approaches to look at policy effects that could be particularly useful in these kinds of complex policies. Of course, they have to have, they have to be grounded in valid data to drive the assumptions that go into these models. But here are a couple of examples. An example modeling the impact of the evictions on COVID. And on the right, an agent-based modeling approach to look at the impact on depression among older adults of free bus policy, for example. So lots of opportunities I think, to think creatively about how to investigate the whole range of social determinants policies. The last implication for policy that I wanted to talk a little bit about is this idea that I think we really need to embrace a broad approach to influencing the policy agenda.

Dr. Diez Roux (38:19):

And what do I mean by this? I found this, some of you may be familiar, but I found this wonderful article by Carol Weiss back from the late 1970s, where she lays out the ways in which social research can influence policy. And so I adapted it a little bit for thinking about social determinants of health and social epidemiology. And so she lays out, she identifies several models that can help us think about the influence of evidence or research on policy. And the two most common ones are the, what she calls the knowledge driven model and the problem driven model. So the knowledge driven model, as she describes it, basic research identifies an opportunity for application, applied research test the practical application, and technologies and applications follow. And the problem driven approach, a policy problem is identified, a decision has to be made, research is conducted or identified and synthesized that sheds light on the problem and helps identify the best policy option.

Dr. Diez Roux (39:33):

And so I put a couple of examples there on the slide of how, you know, social determinants kinds of examples. And this is, I think this is the the two models that we are most comfortable with and very familiar with in terms of thinking about how research drives policy. But there are also other ways, and I think particularly for health inequities. And because of the systemic and structural nature of health inequities, we need to think about the other ways too. So she identifies four other models. One, she calls the interactive model, where those engaged in developing the policy seek information from a variety of sources, including scientists, but not only scientists. All pooled their talents, beliefs and knowledge to make sense of a problem and identify a solution. So research enters into this, but it's not the only factor.

Dr. Diez Roux (40:29):

This is probably pretty realistic in terms of how this really works. And it's not based on a particular single study or even a sophisticated meta-analysis of multiple studies. It's based more on a general understanding of the process. Even on ideologic research. There's a political model, which she calls a political model, where policy makers have already taken a stand on a particular policy based on history, experience, their view of the world, ethics or the past debates. And research is used to support the position. Now, this can be good or bad, depending on whether research is used accurately, and rigorous research is used. But this is also an example of a way in which research influences policy. The tactical model, in which policymakers use lack of research as justification to delay action. Or use existing research as a way to defend an unpopular decision.

Dr. Diez Roux (41:31):

This is also something that happens in the real world and is another way that research influences the policy agenda, which may be for good or maybe for bad. And last but not least, and this is the one that I want to highlight because in some ways I think it's perhaps the most important, is what Carol Weiss calls the enlightenment model, which is when the concepts, theories and basic understandings that scientist generate permeate the policymaking process. It seems kind of obvious in general, but I think it's really important because the systemic and structural nature of the problems that we are dealing with when we're talking about health inequities cannot be addressed with single studies, or even collections of studies. They have to do with a fundamental understanding of how the world works and what we can do as a society to improve life for everybody.

Dr. Diez Roux (42:27):

And so I put the example there on research on race, differences in health and the multiple ways in which racism can impact health, motivates policies that promote racial change, changes the thinking about what we have to do, and creates sort of an enlightenment as she calls it, about what we as a society can do. So I think we really have to be open to these multiple ways in which research can influence the policy process to address health inequities if we take the the systemic nature seriously. So these are my three implications for action. Consider a broad range of policies, multi-methods, and recognize the difficulty in studying the impact of policies on health inequities. And a broad approach to influencing policy, which moves beyond traditional models of randomized trials or even well conducted observational studies of meta-analysis to encompass other ways in which we as producers of information can influence policy.

Dr. Diez Roux (43:30):

Of course, the example of systemic racism and its policy implications is a perfect example of the systemic nature of inequities. And as you all know, there has been a movement in the field to really grapple with systemic racism as a fundamental cause of health and health inequities, moving from race to racism, expanding the research agenda, implications for theories, concepts, questions, measures and study designs, public health practice and policy. And also even perpetuation of racism through existing theories, research questions, data collection measures, and even analytical approaches. And many scholars working in this area, including many emerging scholars that are really pushing the field to really think systemically about racism as a fundamental cause of health. And of course, many of the concepts that I've talked about I think are highly relevant to this.

Dr. Diez Roux (44:31):

There's a quote, again going back to John Powell, who I quoted earlier today, who has also talked about the systems thinking, as applied to health inequities. And he said in short, a systems approach to evaluation, he focused mostly on evaluation. But of course, this is relevant to understanding as well. A system's approach to evaluation is needed, because racial conditions must be seen as not simply an outcome of certain attitudes or policies, but as dynamic, interconnected processes that are part of our larger socioeconomic and political system that creates racial meaning and constraints or enhances wellbeing for everyone. Attitudes can be important, but even when focusing on attitudes, it is often more useful to examine unconscious attitudes in society rather than conscious attitudes of individuals. And I would say the unconscious attitudes in society are the systems that we have, that we have created as a society because these are not natural systems. They have been created by us.

Dr. Diez Roux (45:34):

And so to conclude, I'm a big fan of quotes, I would like to conclude with yet another quote by Forrester, who's often thought of as one of the founders of systems thinking. And he said, in the complex system, causes are usually found not in prior events, but in the structure and policies of the system. And this is really a challenge that we have in health equity research and action. That we have to understand the system, so that we can figure out how to nudge the system in a direction that is more helpful and more equitable for everyone. So a lot of work to do, but lots of exciting opportunities. Thank you all for the opportunity to speak to you today, and I look forward to hearing any reflections, thoughts, comments, questions you may have. Thank you very much.

Dr. Hubbard McCree (46:29):

Oh, thank you very much for that very thought provoking presentation. You gave some very, very helpful nuggets for those of us who are involved in this kind of work and moving the work towards from doing just the research into action, which is what you mentioned to quite a bit. So thank you very much for that. We have some very, we have several questions in the chat, so I'm going to go right to those. And you see all of the wonderful emojis at the bottom of the screen about your presentation. So thank you for that feedback. We're going to start and answer as many as we can. I'm going to remind you if you have questions, please use the Q&A feature for those questions. Okay. Here's the first one. Given the dynamics, can you share your thoughts about controlling for demographics like social economic status and analysis that is intended to speak to disparities?

Dr. Diez Roux (47:24):

Well that is a - that's a very important question. And I guess my answer, I think you have to think critically about what the question is that you're trying to answer, right? And what it means to control

and what it means not to control mm-hmm. <Affirmative>. So I think there could be a good reason to look at it both ways, right? So I think that thinking critically about that before doing it sort of as a knee-jerk reaction control for everything else, right? Is the right thing to do. And thinking, you know, trying to develop, well what is your conceptual model of what you think is going on? And that can help you decide if you need to control or not, or what controlling means, right? Exactly. Yeah. So I think being thoughtful about that is really the first step.

Dr. Hubbard McCree (48:18):

Okay. Great. All right, so we'll go on to the next one. So, and I think this question was in regards to something you talked about working in different types of systems, so should we work on them all at the same time because, each one feeds on the other?

Dr. Diez Roux (48:40):

Well, that's one of the features. Yeah, that's one of the features of complex systems, which is what we're really dealing with here. That there are many parts and they're all interconnected. But we can't let that deter us and like, throw up our hands. Oh, no, it's impossible. It doesn't mean that we don't have to take pieces at a time. We do have to take pieces at a time, because that's the way that we're going to make progress. But we have to look at those pieces keeping in mind the big picture, right? That's sort of what we have to do. So I know this is not, may not be a very satisfying action, but I think we have to look at pieces while keeping the rest of the story in mind, right? <Laugh> and maybe, you know, in different groups, different disciplines, different teams can focus on different aspects, right? So I think we need to look at everything sort of at the same time.

Dr. Hubbard McCree (49:39):

Got you. Great. Okay. Next question. Thank you for this great presentation. Would processes be considered political social determinants of health, since processes and systemic activities are provoked by policies in the sociopolitical environment? Your thoughts on that?

Dr. Diez Roux (50:01):

Well, certainly I think politics and political dynamics have a lot to do with the processes that lead to health and health inequities. Mm-Hmm. <affirmative> and so I've been using the term processes in a more general way. So processes can involve many different kinds of things. But certainly if we're talking about the more distal drivers of health inequities, of course politics has a lot to do with it. Because it drives policies, right? And health inequities emerge as a result of the presence or absence of certain policies. And so, of course, the political process and the political context writ large, not just the parties, but politics in the broadest sense that has to do with how we live together as a society, right? What we choose to do, and what we choose not to do. What we choose to prioritize and what we choose not to prioritize or close our eyes to. All that, is of course, very important to what we're talking about.

Dr. Hubbard McCree (51:10):

Yeah. Great. And we did have a couple suggestions, like one saying maybe we need a reactionary model in which political agents attack the whole concept of science-based policy. And there's another, maybe we should consult with our friends and colleagues in political science and history. So that's a context. So I want to get that out. Here's another great question that's looking at the context of recent intervention that's attributable to social determinant inequities. 90% to individual factors. Should policy makers allocate resources proportionately by assigning just 10% to address social determinants and inequities?

Dr. Diez Roux (51:58):

So I'm reading the question now, in the context of resource allocation, say 10% of effectiveness. Well, I guess I would question how that effectiveness is partialed out like that. You know, what is that based on mm-hmm. <Affirmative>. What is that based on? I think you know, I think the case that we have to make is that it is not possible to fraction out these pieces like this. I mean, we like to talk about that, but in reality, in a system, t's all connected. And I think the fundamental issue is that if we want to, if we want to be scientifically rigorous, right? Yeah. If we want to do science, this is not about, this is not about what we believe, it's about truth, it's about true and real science, then we have to understand these systemic causes and systemic processes. Because that is what we as scientists need to do to understand reality <laugh>.

Dr. Diez Roux (53:03):

And that has implications for what we do as a society. You know, we can make choices as a society, and that doesn't have to do with science, that has to do with choices and ethics and politics, right? Mm-Hmm. <affirmative>. But we have to lay out the truth. And the truth necessarily requires us to think systemically because we cannot reduce the explanation to individual level factors. And I think that's the case that we have to make in compelling and understandable ways to policymakers, but also to the public. Because I think, you know, we have to sort of create a groundswell of understanding of how our health is the product of what we do as a society or fail to do as a society. And our health inequities are also a result of what we are doing as a society, to each other. So mm-hmm. <Affirmative>.

Dr. Hubbard McCree (53:54):

Yeah. Thanks. And there's some great questions. We probably won't have time since we only have about four minutes. But I'm going to ask this last one, and we'll try to get maybe Dr. Diez Roux, you can see the other questions. Perhaps we can sort of find a way for you to provide some comments we can share with those who attended. But the question here about your insights around how government scientists can avoid the chilling effects on analyzing policies and structural determinants. And it says that, you know, in the federal sphere we often conflate analysis immediately with negative criticism, and that can hinder us from improving our public service. So what are your thoughts about that?

Dr. Diez Roux (54:38):

Not sure I completely understand the question. It's about, can you repeat it again please? <Laugh>, it seems like an important question, but I want to make sure I understand it.

Dr. Hubbard McCree (54:49):

Sort of talking about, really, I think the focus is on doing the type of research that you talked about in your presentation in the context of the political environment in which we find ourselves and being federal scientist. That is, you know, how do we do this kind of work in that context? Yeah.

Dr. Diez Roux (55:13):

Yeah. Well that's a very important question. I mean, I think, you know, as I was saying earlier, I think we have to, you know, I think we have to ground ourselves in the fact that, you know, good science in this space requires this kind of systemic thinking. I mean that is what good science is. Mm-Hmm. <Affirmative>. And so if we want to deliver good science to the public and to the federal government and to our society, then these are the kinds of things that we need to do. It's not about, it's not about taking a political position. It's about doing good science. This is what good science requires, thinking

about these systems because these are the systems that we're going to have to change if we want to significantly change the big, you know, address the big health problems in our society, in the U.S., and all over the world, frankly. So I think leading with that. And I also want to emphasize that it's not about stopping to do all the other stuff that we do, which is focused on specific factors. That's also important, but it's about adding this systemic thinking to it so that we can move forward on the big challenges that have been intractable, like the challenge of health inequities, for example.

Dr. Hubbard McCree (56:36):

I think that's a great way for us to sort of close out the first of many, we hope, presentations on this type. And really do want to thank you for your presentation and the models that you suggested and the way forward, and the importance of good science if we're going to do the work that we're doing. So we have made it and we do have some more questions. We're going to do our best to try to find a way to get answers to those and get them back to you. This has been a wonderful lecture. We had more than 600 persons register, a really diverse mix of colleagues. We had folk in the state and local health departments, universities, national partners, community-based organizations, healthcare providers, and of course our CDC colleagues. So we want to thank you for dedicating your time to attend.

Dr. Hubbard McCree (57:27):

And most importantly on behalf of our Center, I want to thank our speaker and I have to thank all of those, my colleagues and my Office of Health Equity who coordinated this event, Mr. Greg Bautista, Dr. Terrika Barham, Dr. Ranell Myles. Want to thank the NPIN production team, Zikea McCurdie, D'ceita Daniels, and Jeanette Guzman. Of course, Dr. Diez Roux's assistants, Diane Becker and Emily Gallagher of Communication Team at Drexel University School of Public Health, for all of their work. And again, our very thought provoking speaker, for sharing your insight with us this afternoon as our guest speaker for the 2023, Dr. William Bill Jenkins Health Equity Lecture. And as Dr. Mermin mentioned at the beginning, this year also marks the 20th anniversary of the Office of Health Equity at NCHHSTP. So your presentation this afternoon was very timely. Thank you again for joining us. This concludes the 2023 Dr. William Bill Jenkins Health Equity Lecture series. I'm Dr. Donna Hubbard McCree. I have the privilege to serve as the Associate Director for Health Equity in the National Center for HIV, Viral Hepatitis, STD, and TB Prevention. Dr. Mermin, thank you for providing your opening remarks. Dr. Diez Roux, thank you again, and thank you colleagues for attending. Have a great afternoon.

Dr. Diez Roux (58:46):

Thank you very much. Bye.

Dr. Hubbard McCree (58:49):

Bye.