

Hi there! I'm Haley and I'm Sophie and we're your Perspectives podcast hosts. The Perspectives podcast is a graduate run program exploring various public health topics in an effort to learn from experts in the field and the community from varied backgrounds and areas of inquiry. We explore topics within and outside of standard public health discourse, but our conversations relate to subjects that impact all of us on various levels of wellbeing. We're glad you're here and we're excited to learn alongside you.

Sophie: Thank you for joining us today, today's topic is vaccine equity. I am joined by a dear friend and colleague Marali Singaraju, so to kick things off, thank you Marali so much for joining us today. Can you tell us a bit about yourself?

Marali: Yeah, I can introduce myself a little bit, but my name is Marali, I use she/her pronouns, I was born and raised in Minnesota, but my parents immigrated from India about 22 years ago now. So most of my background and growing up was really in an Indian household. So, I, you know, don't really consider myself American. It really has impacted the way that I see the world and see things in general. So, I did my undergraduate here at the University of Minnesota - Twin Cities, I finished my undergrad in 2020, with a BS in psychology with minors in public health and sociology, and throughout my undergrad education I really focused on building experience in public health and understanding health inequalities and generally just looking into the field of global health which is something that I'm really interested in. But that is my general background overall. And now for my master's I am in the community health promotion program here at the School of Public Health. I'm also minoring in epidemiology and global health and partake in a lot of different commitments to say the least.

Sophie: Thank you so much for that introduction Marali. So in addition to your master's of public health education, what public health efforts are you involved in?

Marali: Yeah, so I've kind of been involved in a lot, but I can just highlight a few that really mean a lot to me. Really at the start of the pandemic, I started working for the Minnesota Department of Health. I no longer work there anymore, but it was a really enlightening experience to see how politics really impact the way health structures and governance really work. And so I particularly worked for the vaccine data unit, so immunizations and information systems unit, and our unit puts together the dashboards and data that the public sees when they're looking for COVID-19 information, whether that's on cases or vaccines. And we also did a lot of vaccine planning work and just looked into all these different aspects of the COVID-19 response. So it was just a very enriching experience, but also very overwhelming and very draining experience as well to be part of a pandemic response, especially with governance structures that are really stubborn to change, but a really good experience to see how politics influences health and I'll definitely carry that experience with me in the future.

Otherwise, I've also been a part of a community health field station in Kenya, that's on Mfangano island, which is part of Lake Victoria if anyone is familiar with that region. But right now we're focusing there on doing maternal and child health research related to barriers and factors that are impacting access to care for neonatal and maternal emergencies. So that is one part of our work at the field station and the other part of our work at the field station is also helping to run the COVID-19 response for the field station, so we've been putting together educational materials and radio scripts, and working with community members on the ground to really you know promote prevention guidelines, but also

vaccination uptake, with the series of vaccination events that are now taking place on the island. So really we're focusing on community mobilization and with COVID-19 the research we're doing is trying to integrate both of them as well, to really, you know, be able to bring research and our [community-related neonatal] work together to gain more resources for funding and to expand programs on the island. So that's probably been one of my most rewarding experiences I would say, for this part of my public health career, I guess is the way to put it. And then, other than that, I've also been part of a short-term vaccine confidence campaign with an organization, non-profit design studio called IDEO.org, as part of their youth design collective, and helped to provide feedback to develop resources and tools for youth in refugee, immigrant, and migrant communities to educate their peers on the importance of receiving COVID-19 vaccinations and to be able to have those non-judgmental conversations with their peers.

And then lastly, probably the most important part of my journey has been the International Working Group for Health Systems Strengthening or also known as IWG, and really with this organization I've done a bit of mental health work, in creating a mental health film just capturing the experiences during COVID-19, and also recommendations for improving our mental health systems, but the other part of it really largely has been vaccine equity, which you've been a part of Sophie, so you definitely have really contributed to our team and committee, but that's kind of my overview I guess, which is a lot.

Sophie: No, it's absolutely wonderful, thank you Marali. It's been such a privilege to see you grow and to watch your work, and to also be able to work with you in certain projects and circumstances. So, today's episode is focused specifically on vaccine equity. So, what is vaccine equity?

Marali: That is a really good question, I still ask myself that question. I think you know when people hear equity, they first think of all sorts of different things. You know, people always think of the difference between equality and equity. But when specifically talking about vaccine equity, I think people just first immediately see it as the sharing of vaccines, making sure everyone has access to them, but to me, you know, it's really about going beyond that. It's about respecting your health care workers, protecting children from child labor and child marriage, and preventing the exploitation of women, improving mental health, ensuring that children are able to go back to school. It's just more about the daily life functions that we are able to do, but vaccine equity is really impacting those daily life functions, and so it does go beyond just giving someone a vaccine in my opinion.

Sophie: Absolutely. So why does vaccine equity matter to you?

Marali: So for me, vaccine equity, I think really working with the health department here locally and seeing our response and just how the state government was responding to our communities in need, really made me want to focus on vaccine equity a lot, which was why when the project was proposed at IWG, I kind of was like I really want to be a part of this and shape the movement we're working on, and so to me, this pandemic has really revealed that a lack of equity is continually putting us in danger as new variants formulate, become stronger, threatening the progress we've made. We've seen waves with Delta, we've seen waves with Omicron, and there's still more new variants to come if we don't collectively invest in equity now, and the health disparities will also continue to worsen and so if we want our future to be regenerative and prosperous, we're always thinking about the future, right, for the most part, but this future needs to start in the present, right now, with equity as a central focus.

Sophie: Yeah, that is such a great point. I think the pandemic's revealed how connected we are as people and how we can both spread, you know, illness and disease, but we can also spread healing and change, and so the decision is really ours to make.

Marali: Yes, that is a really beautiful way of putting it. I think people forget that you're not only the citizens or your not only the resident of the place where you live in, but really we're all impacting each other across the globe, because when you take an airplane you're going to a particular destination, but you don't consider what you're bringing there, what you're bringing back with you. And so I think people really forget that at the end of the day we are part of a larger global system and a larger global community, and this virus has shown that it can reach wherever it wants to reach, so yes, really beautifully said Sophie.

Sophie: Thank you Marali. So, can you give us an overview of what vaccine inequity currently looks like during the COVID-19 pandemic?

Marali: Yes, I most definitely can. The numbers are changing a slight bit since the vaccine rollout first started, but unfortunately I can't say they've changed that much. So today, recently, I was just looking at data from Our World in Data site, so basically what we're looking at right now currently is that to date 62.7% of the world's population has received at least one dose of the COVID-19 vaccine, however, of those who have received at least one dose, only 12.3% of people in low income countries have received at least one dose, so these percentages really reflect the greater income inequities that impact access to vaccines. And recently, Partners in Health published an article where they talk about how Africa's been hit the hardest by global vaccine inequity, and according to their article as of December 2021, which I can guarantee even though it's February 2022 [when we filmed this episode] has not changed that much, 80% of people in Africa have not received a single dose, and I'm 80%! Unfortunately, this does not surprise me since our current COVID-19 structures such as COVAX, are reliant on rich countries donating their excess vaccines to other countries, or financing schemes, which are not sustainable models for improving equity, and oftentimes can increase the inequities.

Sophie: Wow, yeah, those numbers are staggering. Can you describe a bit, who is most affected by vaccine inequity?

Marali: Yeah, so, kind of like what I touched on in my previous answer a little bit, I'll go into a little bit more detail there, but really we're looking at people who are living in the lower income countries, so really the global South countries. And consistently, these populations have been exploited and taken advantage of over time, so I'm talking about going back in history, but are rarely given access to essential resources. So oftentimes in these countries, even frontline healthcare workers don't have access to protective equipment and enough vaccination coverage, and something that I noticed with our work in COVID-19 response work in Kenya on Mfangano Island and in general for the research we had done for the country as a whole, was that there was always a demand for vaccines, but there wasn't enough for the priority populations even, and vaccines would not arrive on time for coordinating the next dose, so what we would have is this gap and challenge of someone's received their first dose, but now they don't have access to get their second dose and there's fall through and people aren't being fully vaccinated. And this is really due to the government only being able to afford a limited supply of vaccines in a time where

funding is becoming less and less available. And already healthcare workers are going on strike and we're seeing things that typically happen in less frequency increase in frequency. And so there's just a lot of lack of resources, a lot of systems that are not able to come together because there are not enough resources available.

Sophie: Wow, thank you for sharing about that. It's hard to even conceptualize at times, but I really appreciate your answer. So, what do your current vaccine equity projects look like?

Marali: Yeah, so our vaccine equity committee at IWG, which you've been a part of since last year, has been, you know, we've been working on a youth led movement to strongly advocate for world leaders, policy makers, industry actors, and health organizations to urgently act and provide equitable distribution and access to COVID-19 vaccines. Last Fall, we published a youth led demand in which we emphasized the impacts of the pandemic on youth and vulnerable populations and proposed new strategies for increasing equity that are focused both on the short-term, but also the long-term. This year we are really focused on amplifying this work by working with influential global health leaders and increasing momentum across the world, by encouraging everyone, regardless of who they are to be a part of this people's movement towards vaccine equity.

Sophie: Thank you Marali, that is so beautifully stated. In developing the vaccine equity work that you've done, was there anything particularly striking that you think viewers of this podcast should know?

Marali: Absolutely, a lot of interesting things, not just like one little thing. But I think I'll highlight two main things that really [stuck] out to me personally, and obviously you're a part of the research process, so I'm sure you have your own thoughts on this and definitely we can discuss this further. But oftentimes when we think about the impacts of the pandemic we think about we're really focused on the immediate outcomes of [things] like death, illness, hospitalization and of course, you know, the big one where everyone's debating it constantly, the economy. However, what people don't really see are the secondary consequences, which was something we largely focused on to really highlight the importance of vaccine equity, we discovered in our research that lack of access to vaccines that school closures and economies will continue to struggle, especially in low income countries this puts children and young girls at risk. We are seeing increased rates of child labor and child marriage, as well as sexual exploitation, and this is very concerning given that the progress in the last decade, is being erased by the pandemic in just a short amount of time, and this will continue if we don't have vaccine equity.

And then another aspect of our research that we found really astounding was the economics behind vaccine equity, the ability for certain, you know countries, to produce and sell vaccines really creates a power hold on who has the access to really take care of their health essentially. And you know this complexity is driven by the pharmaceutical industries that have a profit mindset, and global organizations such as the World Trade Organization (WTO), that make it really difficult for global South countries to gain rights to equal access to resources. And so this dynamic between looking at the populations that are being really impacted and also who's holding the power to determine whether these populations have access to these vaccines, makes this a really challenging, complex problem to address essentially.

Sophie: Absolutely. Something like a pandemic really reveals the divisions that exist in our world and also the divisions that exist in our economy. What are your thoughts about public health leadership during the pandemic?

Marali: Yeah, I think, you know, the pandemic revealed where our systems are not the strongest, and I think every country does healthcare really differently, but I think the strongest healthcare systems always have a really good structured system where, you know, there is a good engagement of community, but there's also a good engagement of leadership from the top, and the top and bottom meet together in the middle to make this work out, and you know especially where healthcare systems where universal health care exists or you have a good integration of medicine and public health, and also intersectoral collaboration of public health with other sectors is really important. But what we're largely seeing is that we have two kinds of things, especially in the U.S. that I've noticed, is that we're seeing leaders not be willing to stand up against political leaders and industry in regards to advocating for the pandemic and resources that their people need. Here in the U.S. we are largely influenced by the political context of this pandemic. But also at the same time we're seeing leaders step up to meet the challenges of this virus that are consistently changing so rapidly. But they're also trying to navigate the needs of the public and our most vulnerable populations. But it's just really disheartening to see the lack of respect, especially in the U.S. and appreciation towards the public health workforce, which also makes it really difficult for health leaders to make progress in mitigating the negative impacts of this pandemic. So really it comes down to the structures, but also the resources that public health leaders have, and how we are functioning in the larger system of things that are working as a pandemic response.

Sophie: So, what needs to change?

Marali: That is also a very good question, a lot of things need to change, just kidding. I mean there are tangible changes that can definitely be made immediately. But in the past year and a half of pandemic work that I've been involved in, I've also noticed that sometimes public health leaders are also hesitant in changing or reimagining current health systems and leadership, and oftentimes leaders are reorganizing structures and leadership rather than deeply assessing how our healthcare systems that are not working can be recreated to be more efficient and effective and in doing so public health should also be collaborating and engaging with other leaders who have influence in developing policies, health research, and pharmaceutical development, which is where really all of pandemic response is coming towards, and this is also to ensure that there is intersectoral collaboration to provide the necessary resources to everyone such as vaccines, to everyone across the world. But really, what we're looking at is, you know, if we're going to transform leadership structures, we also need to look, how are we going to work to prevent the next pandemic, versus let's just only create crisis response modes, and I think right now we're just stuck in this cycle of let's just keep responding to the crisis versus how can we also prepare to make sure we're ready for the next variant, but also ready for the next pandemic, and make sure that we can even prevent a next pandemic, because the way our world is headed, the next pandemic is inevitable. Like I hate to say that, but it's true, you know? And so I think we, not only in the public health sector, but just across the healthcare world and in general people in power really need to come together and have these talks of how can we really come together to make sure that we're not only providing resources, but we're preventing what is to come next and making sure that our people and economies are safeguarded.

Sophie: Thank you Marali, that definitely is rooted deeply in public health, that emphasis on prevention and thinking forward to make the future better. So what role does general inequity contribute to vaccine inequity?

Marali: Yes, so I don't really see vaccine equity as an isolated or stand alone issue. That's because I'm the kind of person who really likes to look at the larger broad picture and see how it trickles down to the little things we're seeing today, but one of the biggest things in my public health, and especially master's journey, has been, as a graduate student, to really learn about the impacts of our history. And by history, I'm talking about colonialism and capitalism. Both not only history, but also [the] economy in that sense. Capitalism feeds into colonialism and the structures of inequity that we currently have are really going back to the times of, you know, seeing those really complex power structures rising, [which] was during colonialism. And a lot of the countries we're seeing impacted today were countries that were former colonies of global North countries, or rich countries, that we have in the world today. And so we are seeing it continually repeat in history whenever we have crises or an issue, these countries in the global South are just greatly more impacted because they've been consistently deprived of their own resources. Most people see colonialism as a thing of the past, I don't. In my opinion there is still modern colonialism. I encourage people to really look into COVID-19 vaccine patents because this will just show you the complexity of these long lasting power structures where rich countries are dictating which countries can produce vaccines, which countries can distribute vaccines. It's like India was largely providing vaccines to not their citizens, but to everyone else in the world, and now they're slowly catching up on their vaccination rates, but they were really hit hard last April with the Delta wave, and they totally could have avoided that if they also had their own rights to produce these vaccines. And so that's one thing I encourage people to really look at, and if you are interested more so in how colonialism and capitalism really feed into these power structures, I encourage people to read this book called *Inflamed, Deep Medicine and Anatomy of Injustice*. This book does a really good job in highlighting the current health problems we face today and how they relate to these structures and really contextualizing what can we do to really address these problems.

Sophie: Thank you so much Marali. That is such a good and comprehensive answer. Something I've been thinking about a lot just in my own public health journey too is how vaccine hesitancy, or pro-vax versus anti-vax, is framed in such an individual framework. Whereas sometimes we neglect to look deeper, where even in situations where vaccines are accessible and there is the choice and option to get vaccinated, where do those hesitations come from? Why is there the distrust and fear of government leadership and public health leadership, and how is that rooted in historical inequities and current inequities that exist?

Marali: Yeah, that's a really deep question and I think that's something that I've really noticed working at the health department too is most people just kind of make assumptions about what communities need, they're like: "Oh, they're hesitant because of their religious beliefs, they're hesitant because of X, Y, and Z." And what we're really seeing, especially among like Black and Native communities or even immigrant communities is that people are scared and hesitant because they've been experimented on, their ancestors were killed, their ancestors were tortured to death by the governments, and so how can you trust an entity that's promoting something such as a vaccine when you know that people related to you or you've heard stories of people you know being experimented on or tortured with medical products. The

challenge is that it's not only related to health racism, but also generally, especially for Native communities, they've been here for generations and generations, but over time people don't even know that they exist as a community, right? And so it's really hard to even bring resources to those communities oftentimes or for those communities to feel like they [are] heard to even give the chance of any leadership coming in. And I think the biggest thing we need to learn in terms of leadership is learning how to work with communities and really being aware of how are we impacting these communities and empowering these communities to lead their own? And the biggest thing, especially with working with tribal communities during this COVID-19 response is that communities know what they want, they know what they want, they know the decisions they are capable of making, but they want to hear it from their community leaders, they want to hear it from people they trust within their community. And so even if it's hard for them to trust the government, us as public health [workers] can bridge this gap of showing that we are willing to show up for you and provide the resources that you need for your community, we will let the community leaders handle what's coming next, in terms of just providing the resources the community leaders need to help their community out. And I think it's really finding that balance between how do we intervene and how do we provide that support, but in order to do so you have to understand the history of that community. And so, it just goes deeper than just religious beliefs, it goes deeper than being an anti-vaxxer, you can't just make those assumptions as to why people are making the decisions that they do, and I think one of the beauties of working with the vaccine confidence campaign, is that we were really trying to create these resources and tools to have those non-judgmental [conversations], because people have fears for many reasons and this really comes down to the psychology, but it's rooted in history, it's rooted in experience, it's rooted in pain and trauma, so if you're trying to really get someone to invest in their health, sometimes you have to tackle those underlying factors first, but you have to do that with an open mind and an open heart.

Sophie: Thank you for that answer Marali, bringing equity into our local circumstances and our global circumstances.

Marali: Essentially, yes.

Sophie: So how can students and others get involved in vaccine equity work?

Marali: That's a good question. I'm the kind of person where I [don't like] talking about things, I like acting on things. And it's just really hard, I feel like there's really direct ways to make an impact, there's indirect ways to make an impact, but as students, especially students going into health, we're going to be the future health leaders of the world, whether we like it or not or want it or not, that's just the way we're headed and especially in public health, as emerging leaders and professionals we're really positioned in a unique way to hold our fellow peers accountable, but also the current leadership accountable. We oftentimes see ourselves as oh we're just students, or oh we're just really young, we don't really have much power, and true, like we cannot hold the same power as like the WHO director does or the secretary general does or anything like that per example, but we can still make an impact, and that's something we need to focus on, like no matter how small it is, it's working towards something, and I know it's really hard to see it that way these days especially when things continue to just go in cycles and cycles, but the thing is really finding your voice and joining the movement towards promoting vaccine equity in your spaces, whether that's looking into what IWG and supporting our work such as being a signatory on our

position paper, our youth-led demand I should say, or continuing to keep on track with what we're promoting. But it's important for everyone, whether you're in the health field or not, to understand the impacts of vaccine equity, and advocate to ensure leaders national or local are invested in ensuring that the most vulnerable and underserved populations are able to have access to the same resources. This could mean contacting your representatives to discuss the importance of vaccine equity and how they can work to move efforts forward because last year especially there was a lot of pressure on the U.S. government to really donate vaccine when other countries such as Nepal and India and other countries were going through big waves and were really demanding the help. Putting collective pressure can really make a difference and I think people really underestimate that power. But also supporting any local and global vaccine equity is also impactful, but especially in public health the more voices coming together to support a movement, the more likely we are to see progress.

Sophie: That's a great answer. Something else I can think about too is because the current inequities that we're seeing are so rooted in history, even informing yourself about history both locally and globally can make an impact and can make a difference, even in how you might see a situation.

Marali: No, I completely agree with that. I think there's a lot to learn out there, especially being in the field of public health and it being a diverse field, is that you might be only working with one population, but especially in the U.S. where we reside in a very diverse, you know melting pot of communities and populations, is to really be aware of which communities are being impacted, how can I get involved, which organizations can I support. You know it's challenging to be in public health and to be in a field where we're not really respected and [we're] under-resourced, but there are ways for us to still come together and I think what people forget is that there is a lot of power when people come together. And it's really hard to do things when there are just fragmented efforts, and that's kind of the goal of our IWG vaccine equity movement is that we want to bring people together regardless of where they are, who they are, because the more people we have voicing their concerns and uplifting the concerns of people who are unable to use their voices, the more likely we are to push forward. Whatever change we are able to bring is still better than just sitting silent in my opinion.

Sophie: Hm yeah, collective action towards good is so refreshing to see, especially in this difficult time when we've seen so much division. Yeah, that's something that really inspires me about you Marali. So I really appreciate everything you've said today and all that you've contributed and yeah, is there anything else you'd like to add?

Marali: I just want to say thank you for this opportunity Sophie and I've really appreciated having you on the vaccine equity team and all the work and insight you've brought in especially from a health economics perspective, and I just want to encourage everyone on their public health journey to keep their head up and always have hope because there's a beauty in public health, we really are here to serve the public and I think as hard and as challenging as it can be there is a lot of hope when we see communities coming together and you know trying to uplift their own communities, and being part of any kind of movement you are and hopefully finding a joy in making an impact no matter how small is it. But yeah, thank you so much for this opportunity and I'll always be here to answer any questions about vaccine equity I guess. But I hope to see, you know, more and more people joining this movement and really promoting kind of a global sense of community.



Outro: if you would like to learn more about this topic we've attached resources for you in the description of this episode. Thank you again for joining us today and we hope we'll see you next time.