Ruth Adewuya, MD (host):

Hello, you are listening to Stanford Medcast. Stanford CME's podcast, where we bring you insights from the world's leading physicians and scientists. If you're new here, consider subscribing to listen to more free episodes coming your way. I am your host, Dr. Ruth Adewuya. This episode is part of the COVID-19 mini-series and today's episode will be centered around a conversation in COVID-19 vaccine misinformation. In this episode, Jennifer John, a junior at Stanford university, majoring in human biology and Stanford Medcast intern. We'll chat with Dr. Atul Nakhasi and Renée DiResta. Dr. Atul Nakhasi attended John's Hopkins school of medicine for his medical degree and Harvard Kennedy school of government for his policy degree, where he was named a fellow at the center for public leadership. He completed his internal medicine training at Ronald Reagan UCLA medical center, and now serves as a primary care physician for the underserved communities of Watts Compton at a government run public clinic.

Ruth Adewuya, MD (host):

During the pandemic, he also served as a frontline physician in the LA COVID search hospital, resurrected by the governor. Dr. Nakhasi advises the office of governor affairs and policy for the LA county department of health services, the nation's second largest public health system. And he is the co-founder of hashtag, "This is our shot," the country's leading vaccine trust movement by frontline healthcare workers. Renée DiResta is the research manager at the Stanford internet observatory. She investigates the spread of malign narratives across social networks and assists policy makers in understanding and responding to the problem. She has advised Congress, the state department and other academic, civic, and business organizations, and has studied this information and computational propaganda in the of pseudoscience, conspiracies, terrorism, and state sponsored information warfare.

Jennifer :

Thank you for joining us on the podcast today. We're really excited to have you here. First, we'll start off with Renée. Your research on vaccine misinformation began long before the first COVID-19 outbreaks took place. I'm curious when you first realized the challenge that vaccine misinformation would pose in this pandemic and how you thought about those challenges in the context of your previous research and advocacy.

Renee DiResta (guest speaker):

It was pretty clear actually very early on. It was still January 2020. They were just reporting about these bad cases of pneumonia emerging from Wuhan. The anti-vaccine activists, there's a certain contingent of them, that fall into the very conspiratorial. And anytime there is a new outbreak, anywhere in the world, Zika, Ebola, you name it, the conspiracy theory [inaudible 00:02:55] up and they say, "This is an engineered outbreak. This is caused by someone. This is deliberate. And it's all part of a plot to mass vaccinate us," right? And so, then they start to issue these dire warnings. The vaccines are coming, the vaccines are coming. And this is January 2020 that this is happening. This is of course an echo chamber. Most people don't pay attention or didn't two years later, the audience for that kind of stuff has really expanded. But on January 20, there wasn't a whole lot of people paying attention to that kind of content.

Renee DiResta (guest speaker):

At the same time, we were at Stanford internet observatory noticing that state media from Iran, from China, to some extent from Russia, all had very strong opinions about the pandemic and as it was hitting

their countries and they were responsible for having some kind of response to it, the conspiracies about the pandemic perpetuated, because it allowed them to put responsibility for the disease landing on their borders onto someone else. They could abdicate responsibility or reduce their culpability by making this something for the people to unite around the outside force was doing to them. This was very, very common. It wasn't even just unique to those countries. And there was just this proliferation of conspiracy theories. So fast forward, maybe two months later, when the disease was in the US, you started to see anti-vaccine activists from the normal-ish part of the spectrum, more pseudoscience based community, start to talk about how this was going to be a fantastic opportunity for them because there was eventually going to be a vaccine.

Renee DiResta (guest speaker):

It was going to be a rush job. People were going to get hurt. They claimed they could use this opportunity to wake up the masses to the idea that all vaccines were harmful. To use the COVID vaccine experience as a way to claim that all vaccines were insufficiently tested. All vaccines were going to hurt you. All vaccines were inherently dangerous. And so, they really saw it as a huge opportunity. And they worked with the networks of communities that they had built up over time, since around 2015 in California was where it started, but very prominent in Texas and a few other states, that the kind of strain of the anti-vaccine community, that argued from a libertarian political standpoint, vaccines or vast government overreach.

Renee DiResta (guest speaker):

And so, those networks were in place. They became very activated about mask mandates and lockdowns providing this sort of dual energy, one coming at it from a libertarian political standpoint, another from conspiratorial angles, another from pseudoscience angles. It was clear watching these different groups converge that when the vaccine would be rolled out that these groups would be activated and ready to try to make it both a political and a, almost kind of an identity based point of pride, to refuse it by just consistently undermining trust in authorities, the medical establishment. The CDC didn't exactly perform particularly well in the early days of the pandemic on a COMS front. There are a lot of things that kind of came together.

Jennifer :

What I'm hearing is that the misinformation didn't appear in a vacuum and it wasn't unexpected either. It was built on top of this context of politics, on preexisting communities, on communication structures that were all just leveraged in this new case. So, thank you for that. Dr. Nakhasi, I'm curious if you could speak a little bit about the response that you took to this emerging threat of vaccine hesitancy that Renée was describing in this context. You co-founded this advocacy coalition called "This is our shot." Could you share a little bit about how this response started?

Dr. Atul Nakhasi (guest speaker):

What we discovered Jennifer, in those very early days in December 2020, when the first early use authorization was given by the FDA was that, our patients were already having a significant amount of information moved from fringe to mainstream that was challenging the adoption of the vaccine. That's what we discovered the anecdote, the stories, the struggles of our patients that moved us clinicians to mobilize and organize a viral grassroots movement digitally to combat this misinformation. And so, I'll give you a very real example. I just saw a patient last week. She's a patient of mine in her sixties and her blood pressure was higher than normal.

Dr. Atul Nakhasi (guest speaker):

And I asked her, "Is anything wrong?" She looked at me, she said, "Dr. Nakhasi, I lost my life partner." And she said "He had underlying conditions with his heart. He ended up getting COVID. It turned into pneumonia in his lungs and he didn't make it." And she said, "Dr. Nakhasi, I took him to our clinic here to get at the vaccine the months before that tragic August episode." And she walked up to the clinic and got her vaccine. He came with her and at that doorway, he turned around and he said, "I don't trust what's it." And that decision was his life. We as trusted messengers, saw this as a moment, as a calling, as a duty as physicians to mobilize around that, because we know we can help save people's lives by equipping them with accurate information.

Jennifer :

You describe a viral movement that you and other clinicians launched to be able to combat this misinformation. Were the clinicians, who are a part of this movement, did they have any previous training in combating this information or in social media? And if not, how did you get everyone up to speed in techniques that they might not be familiar with?

Dr. Atul Nakhasi (guest speaker):

They definitely did not. It is a massive gap. We need evidence based communication, just like we have evidence based medicine. I would never give a treatment to a patient that I didn't have strong evidence for that it was going to help them more than hurt them. And we don't have those methods in communication. How do you respond to misinformation? We have never once in my training, across four years of med school, across three years of residency, across four years of practice, have I had a skills-based training or evidence based training in these effective communication methods. Yes, we did have several superstar influencers who were leading the way and had larger followings, but the vast majority of us were ordinary doctors in clinics, in communities who were seeing the travesty of misinformation and removed to action, but with very little training. So, we have much work to do, but the motivation to get this right is certainly there.

Jennifer :

Turning it back to Renée. How did your research at the Stanford internet of observatory and the Virality Project support advocates like those at "This is our shot?"

Renee DiResta (guest speaker):

One of the things that we tried to do was build multi-stakeholder relationships, so that we could help support "This is our shot" folks and other entities like them. As I was listening to you speak, I was reminded of, back in 2016 or so, I had done a bunch of work to try to help pass the bill SB-277 in California, which was to eliminate vaccine opt-outs, personal belief exemptions, very particular type of exemption that had been growing and use over time, and then we had outbreaks of measles, like the Disneyland measles outbreak. And so, California chose to push back against this. I was asked to give a talk about how this had happened with a few of the other folks who had worked on passing the bill. We were speaking to this Berkeley school of public health class and they asked the question, actually, "Some of the work that you guys did, when you were talking about the bill showed that the vaccine conversation on Twitter was almost exclusively anti-vaxxers. Should we be spending more of our time on Twitter?"

Renee DiResta (guest speaker):

And at the time, I thought in 2016, God no. Why on earth would you want to do that? It was a hell scape. People were getting harassed right and left, and I got docked and it was a mess. I felt like, in good conscience. I couldn't say "Yes. Absolutely. Go on there and fight anti-vaxxers on Twitter." Because it's a war of attrition, they're never to have enough hours in the day to combat all of it. And there didn't seem to be a really good answer. So, fast forward to what we tried to do with the work in SIO in 2021. So, this year, Virality Project. We tried to better understand the dynamics of narratives. So, at the time when we were looking at SB-277, we could see that all of these people were talking about SB-277, but we didn't have very many effective tools for looking at the information cascade.

Renee DiResta (guest speaker):

So, engagement doesn't tell the whole story. It's not enough to say people on the internet are talking about a thing. People on the internet are going to talk about any remotely controversial or sensational thing. And particularly in the context of the pandemic, there was 30 different news cycles on a given day, right? There's fights between different factions that have an opinion or somebody's finding is found to be wrong, or a media headline is bad, or, you name it. A new video comes out. There's just such a proliferation of this type of behavior since 2016. And so, what we set out to do was really say, "Could we use more sophisticated analysis to not only surface that things were being said, that's not interesting by itself, but were they breaking out of echo chambers? Were they reaching the public, the mainstream reachable public?" You're not going to reconvert very many diehard anti-vaxxers on Twitter, but you might be able to reach fence sitters.

Renee DiResta (guest speaker):

And so, there was this kind of almost war for the fence sitter and one of the questions became, "Could we help physicians or public health activists, or advocates or those who are responsible for countering the false and misleading claims have a better understanding of what messages were resonating, with what clusters or communities of people." And that's the kind of work that we continue to do, not only with vaccines, but election misinformation is another area we've done this. It's more of a methodology or way of thinking about bringing different stakeholders together.

Jennifer :

And thinking about this gap between the online conversations and the real world consequences, I was struck by a survey from the Kaiser family foundation that found that Americans say that their personal healthcare provider is their most trusted source of information about COVID vaccines. Dr. Nakhasi, I'm curious how this trust translates to the social media outreach of the members of "This is our shot." Was there still some factor of that amplified trust that occurs with in person interactions with physicians that were carried over to online, even if maybe the patients they're interacting with have never met them face to face?

Dr. Atul Nakhasi (guest speaker):

Nine out of 10 adults, living in this country, were going to turn to their personal healthcare providers, more than celebrities, politicians, elected officials, entertainers. My average patient, who have underlying and conditions like heart disease, COPD, chronic kidney disease, or end-stage renal disease on dialysis. I may see them once every couple months. That's about six visits a year. Each visit's about 20 minutes. That's 120 minutes in an entire year. Two hours of time I'm spending with some of our sickest patients. The average American spent 2.5 hours, a day, on digital media. If we're going to reach them, educate and empower them with knowledge and beliefs about what impacts their health like the

vaccines, we have to go digital. And so, that really was the move for this campaign. Not only are we the trusted messengers, but we have to meet our patients at their digital doorstep.

Jennifer :

Thinking about the messages that those messengers are sharing online. So, I think that largely falls into two categories. One is to directly debunk the false narratives that we're seeing such as by explaining that the vaccines does not cause infertility and another might be providing positive information about the benefits of the vaccine saying that you'll be able to see your grandparents once you're vaccinated. I'm curious which of these approaches you view as more effective, or if they have different roles at different time points during the pandemic or for different audiences.

Dr. Atul Nakhasi (guest speaker):

You cannot always debunk strong held beliefs. What you can do though, is validate the emotion behind that belief. A patient may come to me and say, "I'm so scared of this vaccine because me and my partner are together. We're planning a family. I do not want this to affect my fertility Dr. Nakhasi." I'll turn to my patient and I'll say, "I understand you're afraid." I would be concerned too. If I had heard it could affect my infertility and I was planning to have a family. And once you validate that emotion, you are on their team. The knowledge itself may not be evidence based, but the emotion is authentic. And if you align on the emotion, not the belief that's false, then you can help move the patient to finding their own compelling reason to get vaccinated. The second step is I'll say, "Okay, on the scale of one to 10, how likely are you to get the vaccine?"

Dr. Atul Nakhasi (guest speaker):

He or she might say, "Well, Dr. Nakhasi, I'm only a three out of 10." Well, I'll say, "How come you're not a one out of 10?" From that question, you'll often surface their compelling motivation and personal reason to get vaccinated because you can have nine reasons why they don't want to get vaccinated, but you just need to find one that they do. This method of listening for the concern, validating the emotion, and then finding their compelling, personal reasons, we call it the three-five-three method, and those are the first three steps of the method, is what we train all of our heroes through "This is our shot." coalition to get to that. But there's still so much more science to really evaluate the effectiveness and impact of these methods to really get to the best practices.

Jennifer :

It sounds like establishing this emotional common ground is really key here. I'm wondering if you've found any approaches that do not work, that you would not recommend that clinicians try to encourage someone to consider the vaccine.

Dr. Atul Nakhasi (guest speaker):

The practice that physicians do the most I would discourage, which is just sharing all the facts and hammering the life science. Starting with the science often does not get the yes and, Jennifer, that's counterintuitive to us because we are trained to be science based clinicians. If you're coming from a place of different beliefs, if there's a gap in belief, if there's a difference in knowledge and belief, you can't just simply articulate the belief you feel is right. You need to really, really start with the beliefs who you're reaching, where they're at first. And that really starts with listening and acknowledging those beliefs and emotions. The science matters, but often leading with listening is more effective.

Jennifer :

You mentioned earlier that in clinic, you've seen the whole spectrum of misinformation that can be used about the vaccine. I'm curious if there are any differences that you saw in the misinformation you hear in clinic versus the misinformation that you'd see online, or if they're really quite similar.

Dr. Atul Nakhasi (guest speaker):

I will say online, I do see more outlier information. The misinformation I get on the ground and in clinic, as a doctor, it's more rooted in emotional need to address their fears. We do hear fringe thoughts and perspectives. I think the digital spaces tend to magnify and amplify fringe thoughts to a higher degree that, at least anecdotally, I see in my patients. I'll be honest, my un-vaccinated patients, the vast majority, they have valid concern. I would say it's actually atypical to get a patient that has such am outlier belief, not wedded to evidence based medicine or the facts of the vaccine, that it's impossible to bridge that gap. And I think online there tends to be a focus, especially on the media cycle, news cycle, on outlier beliefs as if they're the dominant prevalent belief. And actually that's not the case.

Jennifer :

Renée was mentioning earlier that an initial goal of online vaccine outreach was to target the individuals who are on the fence about getting the vaccine. And it sounds like what you're saying is that that proportion is much more representative in clinic than online.

Dr. Atul Nakhasi (guest speaker):

Totally. That population that we can move to, yes, that comes to our clinic. And I will say, Jennifer, that's not every patient. If you're already coming to the doctor, you already generally have some embedded trust. It's someone you're comfortable with. You're also coming in with a relationship that's generally trust embedded, which is why all the data says "Nine out of 10 are turning to their personal healthcare providers." So, we're also in a fortunate position to start with some level of trust. And if our patients are coming to us, they're also self-selecting for that they have concerns. They have questions. They want to hear from us. So, we're not reaching everyone though, that just comes to us clinically. And so, that sparks us to go beyond the four walls of this clinic I'm in today and go digital and reach folks where they're at digitally as well.

Jennifer :

Turning this back to Renee. I think you touched on this a bit earlier, but in this pandemic misinformation about the vaccine has been highly politicized and we see starkly different vaccination rates based on political affiliation and many politician statements about vaccines receiving widespread attention. Was this politicization unique to the political climate in which this pandemic occurred? Or have you seen this trend with prior vaccines?

Renee DiResta (guest speaker):

Well, with prior vaccines in the US most were in existence dating back decades. There had always been vaccine refusal. Their anti-vaccination league started during the Arab smallpox. The idea of an anti-vaccine movement is very, very, very old. It transcends politics. In 2015, in California, with the fight against SB-277, they managed to politicize it quite a bit. The tea party was happening. This was of course pre-presidential campaign, that kind of degree of vitriol and effective polarization hadn't quite taken hold yet. But in California, the Democrats hold a super majority in both houses. And the governor was a

Democrat. There were a handful of co-sponsors of this SB-277, who were Republicans. There were a number of people who were just Republican parents, who at the time could still co-sponsor the legislation. And what wound up happening, it became a differentiator even for the pro-vaccine Republicans, because saying, "I stand with parental rights. I'm not going to make parents vaccinate their kids to go to public school," was something that they saw as a differentiator from the Democrats.

Renee DiResta (guest speaker):

The bill was going to pass, but at the same time, the Republicans saw it as an opportunity to rile up the base. And then the anti-vaxxers, most of whom, in the olden days, were this sort of canonical, crunchy hippie mom, these sort of Southern California, was where a lot of the hotbed of the activism was, mostly Democrats, but began to say, "Well, we're going to vote Republican from now on." And the courting of that constituency who were going to be highly active in primaries was seen as a good political move for the Republican party at the time. Fast forward to now, where the tea party evolved into a variety of incarnations with the Maga movement, president Trump, et cetera, et cetera, the vaccine became highly politicized, but it was almost in some ways more of like an anti-authority dynamic that started to take shape.

Renee DiResta (guest speaker):

You can't tell me what to do. I don't trust your authority. I don't trust the media. I don't trust the government. I don't trust the public health. And it became very much a part of political identity. And this is born out by the tracking of county's vaccine uptake. We have such granular data, interestingly, on the COVID vaccine, where you can just see this by cluster of people who supported president Trump versus clusters of people who supported president Biden, relative rates in counties. It did become a very political dynamic, unfortunately. It didn't have to be that way. But again, the incentive structure of influencers on social media of media, [inaudible 00:21:45], it became advantageous for them to use this as a rile up the base, keep people outraged, gen up sensationalism. In some ways I feel like it's more attention opportunism than it is a real commitment to being anti-vaccine.

Jennifer :

Thinking more specifically about this pandemic, I'm wondering if you could describe how the misinformation evolved throughout the course of the pandemic, going from when vaccines were first under development to when they became available to a limited population at the end of 2020, and then finally in the spring of this year, seeing uptake from the broader population.

Dr. Atul Nakhasi (guest speaker):

In that December, January 2020, when it was largely healthcare providers who were receiving the vaccines, even my own colleagues, some of the best people I worked with had their own questions. We saw even the need amongst our own healthcare family, to bridge that gap of trust. Then we went to elder adults. Many of them did come forward for the vaccine because they also realized that they were more vulnerable. The vast majority of our elderly populations, 65 and up, in our clinic, in MLK clinic in Compton and Watts, is vaccinated. Then we had the opening to general adults. There we started seeing more challenges, particularly younger adults. I had a mother, she lost her son in December to COVID. At that time, the vaccine was just coming about and he was 21. He had underlying asthma. She lost her own son. She was just desperate for me to talk to her daughter who still after losing her own brother was un-vaccinated.

Dr. Atul Nakhasi (guest speaker):

Two weeks later, we had an appointment with her own daughter. And I talked to her. I try to validate those emotions and find what more meaningful reason, right, than saving the lives of yourself and your loved one, when she had lost her brother, to get vaccinated. We got her to agree to an appointment. She didn't make it to that appointment. I share that story to share just how gargantuan this gap is of needing to bridge through trusted messengers, to loved ones. Even with that story, what we've learned is that this is a journey of trust.

Jennifer :

That theme of trust, this was a topic that was discussed at length in the context of communities that may harbor more or less distrust towards the medical system. And I wanted to have a bit of a discussion about some fears that were raised and continued to be raised about vaccine hesitancy during this pandemic, within the black population. Renée, I'm wondering if you can describe a bit about the history of online misinformation about vaccines within the black community and whether these fears about low vaccine confidence in this community were realized, and what efforts were taken to address that issue.

Renee DiResta (guest speaker):

One of the things that we've observed again, with many, many types of misinformation and disinformation campaigns, is that certain groups are disproportionately targeted or targeted with narratives that have some historical resonance. For the black community, with a history of many people having very deeply personal experiences of not being taken seriously by doctors. And then the more systemic forms of medical racism. There was an awareness very early on a number of black health organizations began to be concerned that misinformation campaigns would target their communities, specifically. Everything goes back to 2015 in California, again. But during SB-277, we'd seen that anti-vaccine activist Robert F. Kennedy Jr. reached out to Louis Farrakhan of the nation of Islam. And told him a story based on a conspiracy theory that went by the name CDC Whistleblower. There was an allegation that there was a whistleblower in the CDC who had revealed the truth that vaccination disproportionately harmed black boys by causing autism in black boys, specifically.

Renee DiResta (guest speaker):

This has never been proven. This is one of these ludicrous vaccine autism claims, but it layered on an element of targeting to a very particular community. And the California Black Health Network, a group of black physicians in California were very aware of this dynamic because that narrative was making its way around social media concurrently with the SB-277 campaign, and what Robert of Kennedy Jr's goal was, was to make the anti-vaccine movement protesting public school vaccines in California, look less white. And so, it was a remarkably manipulative, craven effort to take a community that had experienced real harm and to push conspiracy theories and misinformation at them, particularly to this group that was sort of known for being a little bit fringe, very mixed perceptions of nation of Islam within the community as was conveyed to me when I reached out to a few black scholars who studied disinformation and said, "What do you all think of what is happening in this particular space?"

Renee DiResta (guest speaker):

There's excellent scholars like Sheree Mitchell. Her handle on Twitter is Digital Sister. She spends a lot of time looking at narratives targeting the black community, specifically black women. I had a conversation with her early on in the pandemic, and I said, "We're seeing Robert F. Kennedy Jr, again, putting out this documentary," and he called it medical apartheid. And again, taking this grain of truth, this real racism,

this real history of atrocities Tuskegee, a number of other moments that are raised in real historical tragedies and wounds and manipulating them to try to undermine vaccine competence in the black community, very directly in a very, very targeted way. None of that content is intended for any other community. One of the interesting dynamics was seeing on, Clubhouse was also very popular during the pandemic, particularly as we were all confined to our homes and people were spending a lot of time engaging in audio rooms. There was a large black community on clubhouse or the adopter community.

Renee DiResta (guest speaker):

And as it grew over time, you started to see black physicians who had heard that there was large amounts of conspiratorial misinformation being spread beginning to spend their evenings going on to Clubhouse, finding these rooms and trying to do that work of offering themselves in their expertise, volunteering the reality, the facts on the ground, answering questions about fertility, answering questions about side effects, answering questions in the context of shared history and shared experiences. And I would periodically go and just listen in those rooms. I thought it was very interesting hearing what questions people raise when they have a physician in front of them in this kind of interesting experience of it being both a very intimate conversation and also a public, publicly available, anyone can join, kind of conversation. There have been a number of excellent black physician influencers on Twitter as well, who have really tried as hard as possible in recognizing that they speak to their audience and they have phenomenal power and their words carry such great weight.

Renee DiResta (guest speaker):

And that's where I think so much of the misinformation, this kind of ties back to what we were saying earlier, the misinformation is very inflected and targets very specific communities. And so, you need to have, not only the kind of research that we do, we can surface things, but again, in that contextualization by members of the community who are best equipped, who understand it really deeply and who can speak authentically about it and reassure people. So, it really is a collaborative effort where we're trying to build those connections with the black community, the Latino community. We did a bunch of work looking at non-English, Spanish and Chinese, were the two that we were able to focus on. Expat and Diaspora communities, things look very different depending on what part of the internet you're spending time on.

Dr. Atul Nakhasi (guest speaker):

That documentary reached "This is our shot" members, targeted multiple of our medical students, who are a part of the black medical student organization on campus, were targeted by emails on that documentary to undermine the black community's trust in the vaccine. So, your expertise of that ecosystem has a clear manifestation by reaching healthcare individuals in the space to really try to influence them in a negative way to their perceptions on the vaccine. So, they were quoted actually on, NPR did a story on this. I know you and I had been talking about this too, the Vacunate Ya campaign. We realized that as "This is our shot," that we need to reach our communities where they are, and we need to reach them with their most trusted messenger. People from their community are reaching them.

Dr. Atul Nakhasi (guest speaker):

And so, we also started Vacunate Ya reach the Latinx community. And that community, just like you said, Renée, goes on Los Amigos, one of the most Clubhouse groups for the Latinx community. And we have our healthcare heroes from Vacunate Ya, who are Latinx medical healthcare heroes on that clubhouse group, every few weeks, doing exactly the work you just shared, combating misinformation,

giving authentic, accurate, scientific based information to individuals. So, that work is clearly manifested into the campaigns have focused on as well.

Jennifer :

Just a few weeks ago, the CDC finally recommended the Pfizer vaccine for children ages five to 11. What differences in misinformation and uptake do you expect in children? And now that we have almost a year of experience advocating for adults to take the vaccine, what have we learned that we can apply to children?

Renee DiResta (guest speaker):

We live in a time when anyone with a cell phone camera can take a picture of something or record a short video, and it puts people into their shoes. We saw this with the anti-vaccine movement in the olden days on YouTube with childhood immunizations, talking about my child is non-verbal and autistic, and I blame the vaccine. And this very first person testimony from these mothers, who felt convinced despite an overwhelming body of evidence that emphasizes time and time and time again, that vaccines did not cause autism, these videos would sometimes go viral. And we saw this with the HPV vaccine. Also, again, kind of novel side effects of people talking about their experience of the shot and alleging that they experienced a whole host of vague symptoms after it, which again, were not necessarily attributable to the vaccine, but the person is speculating and saying, "I believe this." Those first person experiences, they're not really falsifiable in any very easy way.

Renee DiResta (guest speaker):

The claim will go viral, and even if, after the fact, the person finds out that their bad experience was caused by a condition or something entirely unrelated to the vaccine, no correction video is going to go viral like that. So, the information, the wrong information, will be very prevalent in somebody's mind, particularly delivered in this very visceral format. And that I think is where, with children in particular, it has a very significant emotional weight. We know this from all sorts of complex zone photos, images of children are the things that really get you, right? And so, that is, I think, where we are headed. More and more children get vaccinated. My son had his first dose. My daughter gets her first dose next week. So many of us are just, we're so relieved, right? We're so elated to have this opportunity. But these videos are going to come out and what is not going to come out is ordinary people don't make videos of their perfectly normal experience with a vaccine.

Renee DiResta (guest speaker):

And so, even though the overwhelming majority of children are going to be just fine, there is going to be some small subset of kids who are going to have a bad reaction. There's also going to be some small set of kids who have an onset of a medical problem that is not tied to the vaccine causally, but is temporarily linked to the vaccine, happens in approximately the same time window. And the videos of the latter to sets of experiences, are going to be the things that go viral, and there's not going to be a lot of counter content.

Renee DiResta (guest speaker):

And that, I think, is over and over and over again, one of the key challenges we face. We used to call it the Asymmetry of Passion. In conspiracy theorist land, the example would be nobody wakes up to tweet about how the earth is round, right? So, nobody wakes up to counter the flat-earthers. And in the context of vaccines, unfortunately, most people have a perfectly routine experience and they do not feel

compelled to put it out there. "This is our shot." one of the entire reasons for that was that, "Hey. We have to counter this by putting our positive experiences out there into the world."

Dr. Atul Nakhasi (guest speaker):

That is the call to action here today for every listener. Share those stories of relief of happiness, of children returning to school to pursue their education, their dreams, their aspirations, as the next generation of this country. And that relief as parents. Parents are feeling all this anxiousness right now that can finally be relieved by the hope of the vaccine. We need those stories. We need those selfies. We need those bandaid photos. We had Dr. Anthony Fauci yesterday, on our coalition meeting and he said, "We need to flood the digital waves with our heroes and their stories." What better call to action for everyone out there to bring those stories to surface and move individuals that we can also get to a hopeful narrative here for everyone out there.

Ruth Adewuya, MD (host):

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