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Strategies for Combating COVID-19 Conspiracies & Myths

DR. RUSSELL:

The rapid spread of disinformation continues to be one of the biggest threats to combating COVID-19. So taking steps to debunk these theories can help us fight this ongoing pandemic.

This is *COVID-19: On the Frontlines* on ReachMD. I'm Dr. John Russell, and joining me to explore the spread of misinformation and share more information about the COVID-19 Tracking Project is Jessica Malaty Rivera, an infectious disease epidemiologist and research fellow at Boston Children's Hospital Innovation in Digital Health Accelerator. Jessica was also the lead science communicator on the COVID-19 Tracking Project.

So Ms. Rivera, welcome to the program today.

MS. RIVERA:

Thanks for having me.

DR. RUSSELL:

So let's begin with some background. Jessica, what made you first interested in debunking COVID-19 conspiracy theories and vaccine misinformation online?

MS. RIVERA:

So my background is in emerging infectious diseases; I actually got my master's degree in that and spent a long time tracking emerging infectious disease outbreaks across the world. So I kind of became pretty well versed in tracking epidemics and the related infodemics. And what I mean by infodemics is all of the information that kind of goes around an emerging biological threat. And as a result, I became very familiar with a lot of the anti-vaccine sentiments and claims and so because of that, this was something I anticipated from day one of COVID-19 news in December of 2019 that this was going to be an absolute infodemic and we would have to prepare for a lot of anti-vaccine sentiment knowing that a vaccine would be on the horizon.

DR. RUSSELL:

So certainly, we could talk all night about all of the misconceptions that are surrounding this pandemic. But what are some of the most frequent misconceptions you're seeing regarding COVID-19 vaccinations and the disease itself? And how do you typically debunk them?

MS. RIVERA:

I'll start by saying that a lot of the claims surrounding COVID-19 safety and efficacy are pretty unoriginal in the sense that they are oftentimes copy/pasted from the anti-vaccine playbook. So I would say some of the most prolific claims and misconceptions are of any sort of impairments or negative impact on fertility and reproductive health. We know that that is absolutely not the case. But that was also a very, very common association with the HPV vaccine, which does the opposite, right? We know the HPV vaccine is essentially cancer prevention and intended to extend fertility and reproductive health. So it cycles like that, and things that we've recognized in the past get tacked on to a new disease or a new vaccine.

And I would say the same thing even goes to the type of vaccine research and technology that went in for the COVID-19 vaccine. There was a lot of fear about what mRNA technology is, but a lot of that was because people weren't really familiar with the fact that we've been studying this for 30 years. And then in the context of vaccines for 20 years.

So one of my goals in debunking is to not just focus on the misinformation but to help focus on the good science and the good data that's

been around for a while to help increase people's science and data literacy, involve them in the process of research, and get them excited about these innovations instead of fearful of them.

DR. RUSSELL:

So Jessica, this is not the first pandemic our planet has seen, but we've never had information/misinformation travel like this. How do we deal with that?

MS. RIVERA:

Yeah, it's a really, really important part of studying infectious disease trends. You have to kind of at the same time be prepared for and respond to and also track the information about the pathogen, about the pandemic, about how it's affecting communities, because it is really, in many cases, a twindemic. You're dealing with the actual disease that can get people sick, but then you're dealing with people's behavior potentially shifting towards disease. And I think that there's the world of infodemiology, which is kind of tracking the information beyond kind of an epidemiological event, is growing with importance. And I think that that's kind of showing us the value of things like science communication, media literacy, science, and data literacy. Because it's really, really dangerous. I was shocked and surprised and relieved to see that the surgeon general issued that warning of the dangers of misinformation.

But this is not a new trend, right? We've been seeing claims, misinformation about vaccine efficacy and safety for years. If you think back at even the first vaccine, the smallpox vaccine derived from cow pox, there were claims back then that if you took that vaccine, you would turn into a cow. So it's not uncommon to be seeing fear-based, doubt-based claims circulating around the internet. But I definitely think it's exacerbated by the fact that the internet, and social media in particular, is kind of an accelerator of that. And it creates these ecosystems that unfortunately, based on the algorithms and based on how content is viewed and rewarded, it grows at a faster pace than even the disease itself that's spreading in the community.

DR. RUSSELL:

For those just tuning in, you're listening to *COVID-19: On the Frontlines* on ReachMD. I'm Dr. John Russell. I'm speaking with Jessica Malaty Rivera about the spread of COVID 19 misinformation.

So we've talked about spread of information. Can we take a few minutes and talk about the COVID Tracking Project? And can you tell us a little about what this organization has accomplished?

MS. RIVERA:

Yes, so the COVID Tracking Project started with a group of journalists from *The Atlantic* who were trying to kind of get a handle of testing data in United States because there wasn't a single source to get that data. And it turned into a kind of functioning CDC, in the absence of CDC federal standards or federal data of about 800 folks from around the country who helped collect case tests, deaths, and hospitalization data from all 56 states and jurisdictions. We collected that data manually from each state public health department. And we analyzed that data, we publish it daily. And we did that for about a year. We stopped data collection in March of 2021. And we did some post-data collection analysis after the fact. But it emerged in the absence of data, which we felt very, very strongly belonged to the public. And I've done this work for a long time, Biosurveillance, tracking epidemics, and by far, that work at the COVID Tracking Project was the most meaningful work I've ever done in my career.

DR. RUSSELL:

So could we take a deeper dive into two of the particular trackers, the COVID Racial Data Tracker, and the Long-Term Care COVID Tracker? Can you tell us a little bit about those two trackers?

MS. RIVERA:

Yes, so we developed a tracker in partnership with Boston University Center for Anti-Racism Research. And it was intended to track race and ethnicity data from all states and jurisdictions as well. That data was really, really messy for lack of better words and unstandardized, in large part due to the fact that our thresholds and our meta data and categories to capture race and ethnicity from the U.S. Census have been flawed for a long, long time. And in the absence of having that opportunity to get that kind of rich data, we were missing the opportunity to get even better public health data here.

And I think what COVID-19 did is kind of elevated and amplified what was known in public health for a long time: that communities of color in the United States experience health outcomes that are worse, that are disproportionately harder on them because of things like access to healthcare, and things like how they're treated in healthcare settings. And so it didn't take very long for us to determine that, on average, we were seeing hospitalizations and deaths happening at a rate of almost 2.5 to 3x compared to white people in this country. And it was very, very devastating. I think it became a top priority for the new administration to focus on race and ethnicity and demographic data in general. And a lot needs to be done to make it richer and more meaningful for use in public health policy.

We also had a Long-Term Care Facility Tracker that tracked the incidence of COVID-19 and burdens of COVID-19 in congregate care settings. So it wasn't just convalescent and geriatric care. It was kind of any congregate care setting. And that population represents about 1% of the U.S. population, but at the end of the day, almost 40% of COVID-19 deaths. So it's kind of a very acute concentration of COVID-19 burdens. And that data also was very complicated to collect. But it was also very obvious that what we were seeing was this very, very concentrated impact of the disease in this specific demographic.

DR. RUSSELL:

So this very important volunteer organization has done a lot of things and has continued to do a lot of important things to help better understand the global COVID-19 outbreak. How will this data help kind of block some of this misinformation that's out there?

MS. RIVERA:

Yeah, so I definitely think that one of the goals of this sharing this data publicly was to help people understand the context of what was happening. Because when left to just, you know, reading headlines, it can be very panic-inducing, it can be very disorienting. And I think that the data can help contextualize a lot of what people were trying to understand during the pandemic.

Now the COVID Tracking Project is no longer collecting that data. There are a number of other groups like the *New York Times* and Johns Hopkins. And then there's also another group from the Rockefeller Foundation that's working on tracking breakthrough infections and variants as we are kind of still in this evolving pandemic.

All of these things and all of these datasets and all of these reports are with the shared goal of increasing data transparency because when you have transparent data, that's how you can earn and maintain trust. I think one of the things that was hardest throughout the pandemic was knowing that in public health, trust has to be considered a social determinant of health in the sense that when it's broken, you really can push people away. And turn their ears away from understanding how to control their own personal risk and how to care for their communities. And that trust can really be maintained and increase when you have things like good data and good explanations of that data. Otherwise, that's kind of a breeding ground for misinformation and conspiracies about the data.

DR. RUSSELL:

So you talked about variants and you talked about the change that we've seen in the virus, you've probably had to change and how you apply your information to which group needs to hear that information. And probably, when the vaccine just came out, it was a different amount of information yet to convey than the people now who are on the fence. And there's some people who I don't think we'll ever convince. So how do you kind of change the information and the data that's coming in to the populations you want to reach?

MS. RIVERA:

Yeah, that's a great point. And I think this all comes down to reminding folks of the scientific method. That science isn't static, that it evolves, and that we adapt our understandings as data and time illuminate what we are trying to learn. And I think that there are a lot of claims from the skeptics and the doubters that we're shifting the goalposts, and that is always changing. But in fact, it's actually more of like a slow and steady evolution that's confirming a lot of the hypotheses that we had. We didn't change our minds on masks back and forth, it became clear that masks were effective at reducing risk of COVID-19 transmission, it became the recommendation. Before we had that information, it was hard to make that recommendation. And we were seeing people doing things like hoarding them and causing shortages in healthcare settings.

So I think it's reminding folks that there's nothing static about this, that data is how we learn, and that we need time to collect more and more data so that we can make those choices based on evidence and not just on theories and based on opinions and politics.

DR. RUSSELL:

Jessica, from your vantage point, as an infectious disease epidemiologist, all the research you've done, what advice would you give to the patient-facing clinician who's listening on how to apply some of this great amount of data that you and your group has put together to educate people about COVID-19 as a disease and the vaccine?

MS. RIVERA:

Yeah, I think that's a really important point, especially because so many people approach science now with such skepticism, but they really do trust their providers because their providers know their health really well. So I would say that some things that are often lacking in science communication and even data communication are the things that you don't think about in science, like emotional intelligence and cultural competence. So I think that those two things should be on the forefront of a provider and a clinician's mind on how to share the data, knowing who the audience is, knowing how they may receive the audience and what their biases are, what their experiences are, if there are any medical traumas that they've had, because the message is not a one size fits all. And we have to understand things like vaccine hesitancy as a spectrum of beliefs and concerns and fears. Or things like anti-vaccine sentiment can actually shift if the message and the messenger and the hearer of the message are kind of primed in the right way. And I think we often forget about the

kind of human part of science that makes these connections often fail.

DR. RUSSELL:

So interesting thoughts, Ms. Rivera. Well, with that in mind, I want to thank you for joining me and for sharing both the fascinating research as well as your perspectives on COVID-19 and vaccine misinformation. Jessica, was great having you on the program today.

MS. RIVERA:

Thank you for having me.

DR. RUSSELL:

I'm Dr. John Russell. To access this and other episodes in our series. Visit ReachMD.com/COVID-19, where you can Be Part of the Knowledge. Thanks for listening.