Female: Welcome to Conversations on Health Care with Mark Masselli and Margaret Flinter, a show where we speak to the top thought leaders in health innovation, health policy, care delivery, and the great minds who are shaping the healthcare of the future.

This week Mark and Margaret speak with Dr. Maria Van Kerkhove, COVID-19 Technical Lead at the World Health Organization. She discusses the enormous challenges that remain in containing the COVID-19 pandemic, including the deadly surge going on in India now leading to record numbers of deaths, and the need to generate more equitable vaccine distribution around the world, and initiatives are growing out of this pandemic that will better prepare the world for the next public health crisis.

Lori Robertson also checks in, the Managing Editor of FactCheck.org looks at misstatements spoken about health policy in the public domain separating the fake from the facts. We end with a bright idea that's improving health and well being and everyday lives. If you have comments, please email us at CHCRadio@chc1.com or find us on Facebook, Twitter, or wherever you listen to podcasts. You can also hear us by asking Alexa to play the program. Now stay tuned for our interview with Dr. Maria Van Kerkhove of the WHO here on Conversations on Health Care.

Mark Masselli: We're speaking today with Dr. Maria Van Kerkhove COVID-19 Technical Lead at the World Health Organization. She's an infectious disease epidemiologist at the WHO Health Emergency Program.

Margaret Flinter: Dr. Van Kerkhove is the head of emerging diseases and zoonosis at the World Health Organization. She served there for more than 12 years battling MERS, Ebola, influenza, yellow fever and Zika as well. Dr. Van Kerkhove, thank you so much for joining us today on Conversations on Health Care.

Dr. Van Kerkhove: Thank you so much for having me. It's a real pleasure.

Mark Masselli: We just marked a milestone in the pandemic, more global COVID-19 cases were reported in the past two weeks than during the first six months of the outbreak. I'm wonder if you could just tell our listeners about the crisis in India and other regions of concern that are really driving these current numbers.

Dr. Van Kerkhove: Yeah, well, the global situation is really fragile that we're seeing right now that the numbers of cases that are being reported, which are clearly an underestimate of the true number of infections that are actually happening worldwide are at some of the highest levels we've seen since the start of this pandemic. Last week alone, there were 5.4 million cases reported, the week before 5.7 million cases, we should not be in a situation like this 17 months into a pandemic.

There are worrying countries hotspots in every single region of the planet. Right now you're hearing a lot about the incredibly challenging situation that we are seeing in India. But don't forget, we have had really horrific outbreaks in Brazil. The countries in the southern cone of the Southern South America are having some increasing in transmission. There are countries across Europe in the eastern part of Europe that are seeing very worrying trends across the Middle East, Iran, Iraq, even in Africa, I mean, and in Southeast Asia, they're at different levels of intensity of transmission around the world.

The situation in India where we've seen a really rapid increase in cases, but even at the sub national level, there are differences at the sub national level. There are common factors, number one is that we have now seen the emergence of these virus variants. We've had now have four variants of concern that we are tracking globally. All of these variants of concern have demonstrated increased transmissibility. It means more people can be infected. They have mutations that, for example, allow the virus to bind to the cell more easily and infect the cell. If you have more cases, you'll have more hospitalizations. If you have more hospitalizations, you will have more deaths. In situations where hospitals are already overburdened, you will see that be reflected in morbidity and mortality.

The other challenging factor is 17 months in, we are all tired, we're sick and tired of this virus and we want it to be over, but this virus is not done with us yet. Adhering to public health and social measures, really having cohesive consistent use of them becomes quite challenging. In many parts of the world they're not applied consistently or coherently. The last challenge is uneven and inequitable vaccine distribution. This combination of factors is really dangerous. This combination of factors is affecting all of us. Even countries that have controlled COVID remain at risk because when any of us are at risk, all of us are at risk.

Margaret Flinter: Well, Dr. Van Kerkhove, certainly it brings us back to the first month of the pandemic here in the United States, and just the enormous stress of there aren't going to be enough ventilators, there’s not going to be enough ICU beds, there’s not going to be enough personal protective equipment and that's multiplied thousands of times over when we look at a country in a population the size of India. I think the whole country has learned much more this year about public health for sure, but also about the work of the World Health Organization.

I'm curious, I think we tend to think of the World Health Organization in terms of policies and interventions. But what is the organization able to do in terms of marshaling resources and getting them to these hardest hit countries? What can the World Health Organization do? How are you marshaling resources around the world to try and help

these countries that are experiencing their worst moments ever right now?

Dr. Van Kerkhove: Well, we are having a huge number of cases being reported worldwide. We know a lot more about this virus 17 months in, so we're not in the same position. With regards to supplies, I mean, one of the things that WHO does is we were a member state organization, we work with everyone everywhere around the planet, we develop the norms and standards around what needs to be done in terms of guidance, how to use some of these supplies, like personal protective equipment, like oxygen and safe oxygen use, different types of therapeutics. We work with partners around the world to ensure that those materials are received where they are needed.

Part of this and in the beginning of the pandemic we really struggled with supply. I'm sure you can recall, back to the early days when we were thinking about even just medical masks, medical masks in enough quantity did not exist. We worked with many partners around the world to increase production. You can swap out masks with respirators. If you think of all of this tiny little materials that would be required to actually use oxygen for someone and you think of the tubes that are necessary to actually administer that oxygen to someone, all of that needs to be sourced.

We work with people around the world, we work with institutions around the world, member states around the world that help us not only increased that capacity to set up that global supply chain, that was really broken in the beginning of this pandemic. We're still working to fix it. A huge amount of work has been done to do that, and we do that with partners with UNDP, with UNICEF, with Chai Foundation, but many, and it's about getting them to where they are where they are needed most.

If you also remember in the beginning of the pandemic, there were no flights. Actually working with WFP and getting planes, to be able to put materials on those plane, get those planes into the countries that are necessary. We have a hub in Dubai with a lot of supplies and making sure that that is stocked, so that it's easily accessible to where they are needed. It's a massive chessboard where supplies are needed. If you think now, one of the things we're telling all countries to do now is to surge your capacity. We've been saying this, and I'm accused of being a broken record, and I will continue to be, surge your capacities now, build that infrastructure from surveillance activities, through your testing, making sure you have the right supplies, making sure you have a community workforce that can do contact tracing, make sure that your health workers have some rest period, in some kind of rotation, make sure that your hospital facilities are prepared, because not only is this critical for COVID, it will be critical for the next

one, and I'm afraid there will be a next one. We need countries to learn from this trauma that we're in right now to build in surge those capacities. Not after it's over, because we will move on to the next problem. It needs to happen now, and we have the attention. We have the political will, and in many respects we have a lot of finances that could be used for this, we need to build that now.

Mark Masselli: Well, that's such a great piece of advice. I don't know where we're headed in terms of these variants. You were talking about a couple that were on your eyes, and the in the World Health Organization just declared the B1617 a variant of concern, which is part of that group of three or four that you'd mentioned earlier. I'm wondering how we should be thinking about these variants of just trying to get our conceptual mind around the lethality and transmissibility and also the efficacy of three or four vaccines that are out there.

You have a unique understanding of how variants could change the trajectory of the pandemic as a specialist in emerging threats. What's most concerning about the latest variants, and it probably won't be the last variant that we hear about, but it's the one that is currently on everyone's mind.

Dr. Van Kerkhove: Viruses evolve, viruses mutate, they change, this is completely expected. I think if I'm talking to the general public, if I'm talking to my family at home, my husband, my child, all SARS, CoV-2 viruses are dangerous. We need to do everything we can to protect ourselves from getting infected, prevent us from spreading it for infected and do everything we can for those who are infected, to ensure that they don't progress to severe disease and death. It doesn't matter if it’s a virus, a variant, a variant of concern, all of them are dangerous.

What we are looking at specifically when we're looking at mutations is to track these mutations, which ones are important and why. From the beginning the virus has been changing. Around the new year we started to see some variants emerge, which are classified now as variants of concern, we have the B117 that was first identified in the UK, the B1351 first identified in South Africa, the P1 which was first identified in Japan, and we now have the B617. What we are looking for in these variances, is there any demonstration of a change in the way the virus behaves? Is it more transmissible? Does it cause any differences in disease presentation or severity, which would change our countermeasures or medical countermeasures? Does it evade? Does it render our diagnostics or therapeutics and our vaccines ineffective? That's what we're really looking for.

For us, as an agency, we're working with partners around the world to track these changes. We need good sequencing so that we have good eyes and ears to detect them. Then we have working groups that we work with to collaborate and coordinate on the studies that need to

be done to answer those questions that I just posed. We look at the epidemiology, do we see something in lethality and do our diagnostics therapeutics and vaccines work? The big question is, as you said, does my vaccine work?

For the four variants of concern that we are tracking so far with the information that we have, because this is a rapidly changing, it's fast and furious, it's every day. So far, our public health and social measures work. The viruses spread the same way. We know what we need to do to protect ourselves and to prevent the spread. Our diagnostics still work, our therapeutic still work, although there are some question of some of the monoclonal antibodies, and our vaccines still protect against severe disease and death. Anyone that's out there that's listening, when it's your turn, get the vaccine, this is very, very important. Anything that changes with that we will inform.

Then what worries me, what your question was, what worries me is that we could come to a point where a variant emerges that will evade our vaccines. We need to be in a good position to be able to anticipate this, and this is what we're trying to do by looking at specific mutations and constellation of mutations to inform vaccine composition. We are thinking about that ahead of time and working with manufacturers and regulators around the space so that we can anticipate that this might happen at some point. We just need to be ready.

Margaret Flinter: Well, Dr. Van Kerkhove, good news. We have a vaccine that's effective. Good news, we're ramping up production, and now we're seeing certainly President Biden's recommendation around lifting the intellectual property restrictions to accelerate production around the world. We know COVAX is doing its very best to get vaccine out there. Here in the United States, as you know, demand really beginning to fall off, some plateauing going on. Across the globe, I think, childhood immunizations in particular over these last 10, 15, 20 years has been a huge success story in terms of our efforts to eradicate disease.

Are we hearing the same messages of hesitancy and resistance to taking the vaccine in countries around the globe that we're hearing here in the United States? I mean, these are countries who in the last generation or two have seen what it means to really get a handle on childhood diseases like measles that we thought we might never get a handle on. Are we seeing resistance to the COVID vaccine in all countries?

Dr. Van Kerkhove: Well, in fact, what we are seeing is many countries are asking for this vaccine, begging for this vaccine. What we're not seeing is the sharing of the vaccine around the world. Through COVAX and with our partnerships, we are trying to work towards vaccinating those who are most risk around the world, so they are health workers and

people of advanced age, people who have underlying conditions. We don't see those vaccines reaching all countries, we need everyone in every country who is at risk to receive that vaccine as opposed to everyone in only a couple of countries.

Of course, there is vaccine hesitancy, and there are questions that people are asking rightly so we hear a lot about how fast these vaccines have been developed. But really, I mean, these have been developed over decades with investments and science. I mean, science has really delivered. On day one, when we learned of this cluster of pneumonia and when we had the full genome sequence, the vaccine development really accelerated, but we have safe and effective vaccines, which is a triumph of science.

Now what we need to do is to work to understand, what is the reason for the hesitancy? What are the questions that people have? How can we work through that? We're doing this through a number of different ways of working with different communities, different youth groups, different religious groups and really trying to get the demand up. What I do have to say, if you look at this on a global level, it's the opposite. We see a majority of the world who want this vaccine who don't yet have access. It's a little bit of a rephrasing and a reshift, and that's what we need to work on.

Mark Masselli: We're speaking today with Dr. Maria Van Kerkhove COVID-19 Technical Lead at the WHO. You also had an interesting perch as being one of the few scientist that were allowed to travel to Wuhan, China, early as the Coronavirus first emerged back in February of last year when so much was unknown. Obviously, there's been a lot of concern over whether observers were given adequate access to the scientific data. But I also think that WHO is trying to figure out how to improve the pandemic surveillance system, trying to take lessons learned from whatever happened back in February in Wuhan, trying to build this more global collaborative, transparent and efficient communication model between all countries. Tell us a little bit about that work, because it's so important to our long term success.

Dr. Van Kerkhove: Yeah, I mean, how much time do you have? I mean, we could spend the next 10 days talking about this.

Mark Masselli: That’s right, you’re going to write number of papers on this I know but ---

Dr. Van Kerkhove: What you're talking about in sort of learning from this, like every instance of this is an opportunity to learn to do better. I mean, we know that most viruses emerging reemerging viruses are zoonotic, they come from animals. There are many different pathogens that circulate in wildlife and bats, for example. Some of these viruses spillover, what we call spillover, they transmit between an animal to a

human, sometimes between an intermediate host. Most of my professional life has been around emerging and reemerging diseases, and really around that time of emergence. When there is a spillover, how do we detect that rapidly? Part of the surveillance is not just in humans, it's in the animals themselves.

We work with agencies like FAO and OIE to be able to have better surveillance in wildlife, but also in domestic animals. There are certain species that we look, we pay more attention to like bats, for example, because we know Coronaviruses many, many different coronaviruses circulate in bats. But what are the factors? What are the characteristics that result in a spillover event? That's what many, many people are working on, to be able to understand those factors so that we can be in a better position to detect them rapidly. Then in many situations, do some early investigations, rapid response outbreak investigation.

My whole career has been on outbreak investigation, and it was done under this one health approach. Before, it was even called One Health, it just meant multidisciplinary. You worked with veterinarians, you worked with clinicians, you work with community leaders, and the village chief, and the surveillance needs to improve. But it's not only the surveillance, it's the alert system. When something is out of the ordinary, how does that get reported? How does that sample get taken? Then we have a diagnostic that is done to be able to determine, is it something that we expect or is it something truly novel? Then how do we raise that alert up from a district level, for example, all the way up through national?

What normally happens in these types of situations is that you have an individual who is infected, who's diseased to sick, and you have an astute medical professional, a clinician, a nurse that notices something out of the ordinary, and that's how it gets detected. SARS MERS, even this novel Coronavirus, COVID-19. What we what we want to do is move that back, instead of it being detected before people when they're diseased, there could be a lot of small spillover events that gets missed. There's a lot that's happening in surveillance, there's a lot happening in terms of the information systems that are necessary to pick up those alerts. There's a lot that's happening in diagnostics and early detection in country. If that doesn't happen, how do we share those samples rapidly to be able to support sequencing?

Sequencing has changed the game. I mean, in the last few years, the ability to do a full genome sequence rapidly kickstarts diagnostic development therapeutics and vaccines, whereas few years back, this will take years to happen. There's a lot in this space, and it's about partnership. It's about a one health approach. It's about really starting

from the ground up, not from international down. We have a lot of international will, and it's using those partnerships strategically wisely and getting that best system that's out there. But it's a work in progress. It will take time. But I'm hopeful that we're moving in the right direction.

Margaret Flinter: Well, Dr. Van Kerkhove, I think you may actually be describing what I've wanted to ask you about that I've been reading about which is the World Health Organization's new initiative called the World Health Organization Hub, this global collaboration of countries worldwide partners to do all the things that you're talking about, new systems to link data as it's coming in from many and diverse places to do the analysis, monitor disease outbreak and control measures around the country. I don't know how immediately you're engaged in that work, but we'd love for our listeners to have a chance to hear about this.

I think one of the things we've really tried to do this year is just make clear to the world, to our listeners, how much is going on all the time to try and really protect the health of people around the globe. Just share with us a little bit about this hub.

Dr. Van Kerkhove: Yes, so there are several different initiatives that are underway that are being enhanced, that are being established. When a pandemic happens, when a big outbreak happens, everybody thinks, okay, what do we need to do new? How do we start from scratch? But what we really want to do is enhance and nurture the systems that exist to make them better. There are a number of different initiatives underway. We have this system called EIOS the Epidemic Intelligence from Open Sources, which is a way to pull in information around the world, electronically, digitally, different languages, right, and rumors and systems.

We've just announced a couple of different things. One is this Berlin Hub, I don't know if you're referring to the Berlin Hub, or the Bio Hub, because these are different initiatives. In the Berlin Hub what we're doing is pulling together ways in which we can have more rapid information sharing. There could be some innovations around pulling together information, signals that may be existing how that can be rapidly analyzed and used for public health decision making. The Bio Hub is an initiative, it's the volunteer basis of countries to be able to share specimens in labs around the world so that rapid detection can be made, rapid analysis and sequencing can be made to determine what is it?

One of the one of the five big questions we ask at the beginning of any outbreak is what is it? How does it spread? Who is it infecting? How much has it circulated so far, and what do we do to stop it? And this what is it is a really critical -- maybe it sounds like an easy thing to do, but in most parts of the world that's very, very difficult to do. The

Bio Hub is a way in which samples can be shared with a lab. We hope to have many different labs around the world that can accept these types of samples and do some really rapid sequencing analysis to be able to say, it's this, it's that, it's not a Coronavirus, it's not influenza, it's not -- and then say what it might be. There are several different initiatives that are underway. It's working with our member states to be able to share those samples and so that we can release that information to everyone around the world for action.

Margaret Flinter: Great.

Mark Masselli: Let me get one last question in here. I was thinking as you were talking about One Health and working the medical teams working with the village leader, as well, I was thinking about the work that we do in community health centers in this country, reaching underserved populations, making sure that we include everyone and working with the with the local leaders. Those are the communities that have borne the brunt of this outbreak here, at least in the states that I know around the country, around the globe as well. What other countries are relying on during the COVID? What are you seeing in terms of strategies that are working with special populations using community health workers or other strategies? What's been effective tool in terms of reaching vulnerable populations?

Dr. Van Kerkhove: I mean exactly as you point out, working at the community level engagement, direct engagement is what works. There isn't a magic solution here. It takes time, it takes effort. What we've seen with vulnerable populations is finding the right community leaders to be working with, tailoring the approach to what we do. At WHO we develop global guidance, and it's meant to serve all of our member states around the world in every single context. But for specific vulnerable populations and in living in certain types of conditions, it needs to be tailored, it needs to be adaptable to the local context and make sure that it is achievable, implementable. It doesn't change the goal, but it means we have to work that much harder to make sure that it can be implemented. It’s about engagement and it’s a constant engagement and having communities be part of the solution. Instead of going into a community and say here is the solution, figure this out yourself. It's working with them directly.

We spend a lot of time engaging with many different groups around the world, different sectors, different vulnerable populations. This pandemic has really highlighted inequities that existed far before this, but it's really exacerbated them. I do see much more attention to this, I do see a renewed attention to this, I hope we can progress this so that we really get to some of the fundamental issues that COVID has just exposed again. But it's about a constant two way. For us what we see is through community engagements about trust, it's about making

sure that they don't -- that they are part of the solution with us. It isn't a short answer, it is a one solution fits all.

I mean, I should probably turn the question back to you and you can tell me what works best. But we just -- we work through our regional offices and our country offices to ensure that what we do as an organization to keep people safe reach everyone everywhere in the settings that they live in with the conditions that they have, with the capacities to be able to respond and to deliver health care. It is a work in progress. It requires investment, financial investment resources, and a continued willingness to adapt as necessary.

Margaret Flinter: We've been speaking today with Dr. Maria Van Kerkhove, the COVID-19 Technical Lead at the World Health Organization. Dr. Van Kerkhove we want to thank you for being such a clear and compelling communicator of expert knowledge during this incredible global crisis and for your commitment to science and to seeking out the answers that will help keep our world safe going forward. Thank you for all you've done to confront this deadly pandemic, and thank you so much for taking time out of your schedule to join us today on Conversations on Health Care.

Dr. Van Kerkhove: Thank you so much.

[Music]

Mark Masselli: At Conversations on Health Care we want our audience to be truly in the know when it comes to the facts about health care reform and policy. Lori Robertson is an award winning journalist and managing editor of FactCheck.org a nonpartisan, nonprofit consumer advocate for voters that aim to reduce the level of deception in US politics. Lori, what have you got for us this week?

Lori Robertson: When President Joe Biden announced plans to reduce US greenhouse gas emissions by 50% by the end of the decade, he provided a few examples, but no detailed plan about how that would be achieved. Nonetheless, speculation by a British tabloid that it could include reducing beef consumption led to a wave of outrage from Republican officials and conservative media. Republican Representative Lauren Boebert tweeted that Biden's plan included, "Cutting 90% of red meat from our diets by 2030." She added, "Why doesn't Joe stay out of my kitchen." But there is no such plan. Agriculture Secretary Tom Vilsack said there was no plan by the administration to reduce beef consumption.

On April 22nd during remarks at the Virtual Leaders Summit on Climate, Biden said some of his infrastructure plan will help the US cut greenhouse gases in half by 2030. That's compared with emissions levels in 2005. Biden talked about infrastructure for clean technology,

capping abandoned oil and gas wells, reclaiming abandoned coal mines, stopping methane leaks and autoworkers building electric vehicles. He didn't mention beef or cattle ranching, which does account for some greenhouse gas emissions. But a story in the Daily Mail speculated that Americans might have to cut back on eating red meat by 90% citing a Michigan University study. The study considered diet scenarios that would reduce greenhouse gas emissions, including one in which 90% of beef consumed in the US were replaced with plant based alternatives. But two of the authors of the study told Yahoo News that they didn't know of any connection between their study and Biden's climate plan.

While Republicans and social media users piled on with posts about not being able to eat hardly any burgers, it was all a fake controversy. It is true that livestock operations particularly cattle farming contributes a significant amount to greenhouse gas emissions. The UN estimates that globally 14.5% of all human caused greenhouse gas emissions are due to livestock and cattle represent the majority of that. A 2019 UN Climate Change Report concluded that reducing red meat consumption would lower greenhouse gas emissions and promote better health. But Agriculture Secretary Vilsack said there's no effort to limit beef consumption on the part of the White House or the USDA. That's my fat check for this week. I'm Lori Robertson, Managing Editor of FactCheck.org.

Margaret Flinter: FactCheck.org is committed to factual accuracy from the country's major political players and is a project of the Annenberg Public Policy Center at the University of Pennsylvania. If you have a fact that you'd like checked, email us at CHCRadio.com we'll have FactCheck.org's Lori Robertson check it out for you here on Conversations on Health Care.

Each week Conversations highlights a bright idea about how to make wellness a part of our communities and everyday lives. If music soothes the savage beast, the question they want to answer at the Sync Project is how exactly? There are lots of anecdotal studies supporting music's ability to trigger memory or boost endurance or focus. But virtually nothing is known about how music truly impacts our physiological and neurological state.

This is the question that intrigued scientist Ketki Karanam Systems Biology PhD from Harvard, who wondered how could music be scientifically harnessed as a powerful precision medicine tool. They formed the Sync Project with a cross-section of neuroscientist, biologist audio engineers in some rock stars like Peter Gabriel, and started by using artificial intelligence systems to analyze existing playlists that purports or promote relaxation, induce sleep, enhance focus or athletic performance.

Ketki Karanam: Once we have this set of songs that our machine learning algorithms predict to be effective for a specific activity, we can then run studies using these devices like your heart rate monitors, your smart watches, your activity trackers, and actually look at how effective indeed is that song for that purpose.

Margaret Flinter: Karanam and her colleagues note that most of us self-medicate with music already, so why not harness this ubiquitous tool that's available to all of us and develop strategies and systems that might replace pharmacological interventions with musical ones. The Sync Project is seeking a million volunteers to offer their music suggestions as well as any information they can share on why these songs seemed to work for them.

Ketki Karanam: We're literally walking around with 14 million songs in our pocket every single day. We saw a great opportunity and really being able to understand how music was affecting us to measure how different types of music affect both our psychological health as well as our physiology.

Margaret Flinter: Karanam and her team seen vast potential for reducing reliance on drugs by crafting personalized music interventions and the management of a variety of complex conditions such as pain management, PTSD, even Parkinson's disease.

Ketki Karanam: In Parkinson's disease, patients have trouble coordinating movements. By playing them the right kind of music, it can be an external auditory support they have that's going to help them walk more smoothly.

Margaret Flinter: The Sync Project, combining computer technology and neuroscience physiology and musicology to harness the healing powers inherent in music to help manage a variety of human ills. Now that is a bright idea.

[**Music**]

Mark Masselli: You've been listening to Conversations on Health Care. I'm Mark Masselli.

Margaret Flinter: And I'm Margaret Flinter.

Mark Masselli: Peace and Health.

**[Music]**

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Dr. Maria Van Kerkhove

Health Center.