

## Vaccines & medications

[00:00:14] **Deborah Blum** This is a great panel looking at vaccine equity, and it includes Muhammed Yahia from Egypt, Amy Maxmen, who is joining us from the United States, Akin Jimoh from Nigeria, Josh Michaud from the U.S.A again and Margaret Harris, who is joining us from Switzerland. Thank you all so much for being here. I'm going to start by just reading one paragraph from The Washington Post story that was published yesterday, which looked at vaccine equity and made this point. "High- income countries have administered about 14 times the number of doses per inhabitant compared with low-income countries. The W.H.O." This is from a W.H.O. survey. "About 84% of the population of the African Union, for instance, has yet to receive a single shot, even as about 40% of Americans have received vaccine booster shots, according to the Post vaccine tracker." So clearly, that's a portrait of inequity, right? And so, what I want to do is get at that, but also really try to assess what the issues are within equity and protection, responsibilities of these wealthy high-income countries, the responsibilities of countries that are looking for vaccines or more vaccines. We have a lot to talk about and I'd like to start with Josh. You know, Josh, this is one of the things you look at for the Kaiser Foundation is equitable distribution of medicines and vaccines, and I'd just be interested, beyond that very quick quote that I read, if you could, from your perspective, assess kind of where we are and what kind of effect you think it's having on the pandemic?

[00:02:07] **Josh Michaud** Sure, it's great to be here and part of this panel. So, thanks. It's a real honor. So, to answer your question, yes, I think that we can still characterize the state of global vaccine equity as completely unjust and inequitable as that brief statistic gave you a glimpse of. So, when we look at regions, so you mentioned the Africa region there or if we look at by income level, there is just a massive gap between the percent of populations that's vaccinated in, say, low-income countries compared to high income countries. So, the latest data that we have, for example, looking at low-income countries, it's still less than 10% of the populations that has been vaccinated with at least one dose. And so, what does that mean? I mean, given that vaccination is the primary means of prevention that we have and the most effective means of prevention that we have, getting that tool out as widely as possible and correcting the imbalance in access that we see right now is just at the very top of the priority list for the global response. And for countries themselves. Now, it's been a long road, I mean, we have had some successes clearly. We have given 10 billion doses or something to that effect in a year's time. And the global equity problem has been addressed to some extent with the use of the COVAX financing and distribution mechanism for COVID-19 vaccines. But clearly, it hasn't met the challenge, and it's really been a reflection of the ongoing injustice of having high income countries snap up the doses that have been available, much of the doses up until now. And pharmaceutical companies placing COVAX and other mechanisms to get vaccines to low-income countries and to regions lower on the list. And that's left us in this position that where we are in now, it's really important to address this. Things have improved and maybe we can talk more about that as we go, but certainly is a dire picture still for vaccine equity.

[00:04:41] **Blum** Yes. And we're very fortunate with this panel to be able to do some specific sort of case studies of what that looks like it and countries in Africa, North Africa, sub-Saharan Africa. And I wonder, Mohammed, if you could talk about that situation in Egypt, how much the failure to supply vaccine has impacted the country, where the government's responsibility lies in distributing vaccine and information so that people want the vaccine? I'd be interested to hear your take.

[00:05:16] **Mohammed Yahia** Sure. Thanks, Deborah. Very happy to be here with this panel. So very, very briefly, I can give an overview of some of the issues that we've been facing in Egypt as an example. But I think this extends to several other countries in the region. I think the first of them was obviously access to vaccines and getting vaccines. So, for a period of time, there were very little vaccine availability, so you'd have to be on a waiting list that could extend for several months to get your first shots. And then that was coupled with, I think, very poor communication around the vaccine. And that has come from both the science journalists or mainstream journalists as well who were covering the pandemic because everyone was covering the pandemic, obviously, but also from many figures from the health care community. So, doctors, for example, who would tell I mean, they would put up videos on social media or tell their patients that they should not get the facts at the vaccine because it's not been tested, it's been rushed. We don't know what's the long-term side effects that it could have on people. So that created a kind of fear among the population. So, when availability became better, when we were starting to see some vaccines come in, a lot of people were very resistant to taking these vaccines. And it was quite interesting because historically there there's never been an anti-vax movement per say in Egypt, people take childhood vaccines very seriously. Everyone takes them. Everyone believes in how effective they are. Everyone is very concerned to make sure that they take these vaccines. But it came to that particular vaccine and it was just different. People did not want to take it because of all the communication around it and that that created this gap where once availability increased demand kind of decreased, people were not taking up the vaccine. And I think the other issue as well that I would add to that is distribution. So, while larger cities in Egypt were able to get a lot of doses of the vaccine, it wasn't the same in rural regions. And I think that's probably similar to many other countries, including developed countries or northern countries, for example. But it was quite pronounced here where communication was poor and the availability was quite low. So, in many of these of these cities and towns, hardly anyone has got vaccinated. So, while Egypt now is at about 20% vaccination, the majority of that is in cities. And it's also been driven by government mandates where, for example, all teachers have to get vaccinated or public sector workers have to get vaccinated. So that's been the kind of driver in increasing the vaccination rates lately.

[00:08:55] **Blum** Well, that's interesting. I'd like to come back to mandates as we go further into the conversation. Akin, could you talk about the same kind of first- sorry- issue for us from a Nigerian perspective?

[00:09:13] **Akin Jimoh** When you look at COVID-19, we have to look at who understands COVID-19. When you hold government accountable, you also need to hold the scientific community accountable. What has been the response? You know, who knows much more about COVID-19 than any other person? We depend on science to a large extent. But despite all the challenges that we've had in terms of misinformation, in terms of the key issue that has to do with the provider of the information itself, a lot of damage that's been done at the onset before we get to where we were. And in a number of countries, politicians were the first to speak out about COVID-19. I mean, we knew of the former president of the United States and so on and so forth. And when the time came to respond, you know, panel that was set of, experts on committees and so on and so forth were loaded with politicians, people who don't really know much about what what's going on, and it's taken the effort of a few journalists to write about the panel, for example, the national team, you know, in Nigeria, for them to put a leading scientist among those who are going to be those who are going to more or less manage the response in the country. What the key thing is, we all need to hold ourselves accountable. When HIV came, the media played a very good leading role in terms of response to HIV, in terms of getting the

information out and so on and so forth, because HIV was something we did not understand. COVID-19, also we did not understand, what the damage had been done in terms of the kind of information, videos that Mohammed talked about, people send out materials that are not relevant to the fight against COVID-19. A lot of people sent things, sent us and received- and it was mentioned by, I think, the immediate pandemic that's before us- that the obvious situation where materials are sent is not verified, especially on social media. When HIV came, we didn't have social media at that time. We have to work on what we had, you know, as journalists, getting research papers, getting journals to write this story. And this was as far back as in the '90s. When HIV came to Nigeria, the first case was in '86 and the media was following up. Then the military said in Nigeria that they actually discovered it kills, through one immunologist. And those are issues that came out from East Africa, to West Africa and to other parts of Africa of people saying that it killed. But the media came against those establishment in the way that we address the issues. Holding scientists, the scientific community, the Ministry of Health responsible, accountable for the kind of information that we have. What is the response? How do we ensure that the kind of information we pass out, information that that is authentic, are relevant to the lives of communities? I mean, a lot of things happen across the world. Now, we have a global village. Well, when it comes to COVID-19, it's a different ball game, whatever happens in the U.S. today can happen here in Nigeria tomorrow. It takes less than 24 hours to fly from one part of the world to the other, except in certain cases. So, the key thing is we all need to hold ourselves accountable in the way that we are responsible. Being responsible if they pass nothing either as an individual or government because where we say government is individuals like you and I that are governments and we can't shy away from our responsibility to address the key issues and as media, as journalists, as science journalists most especially, are the elite of journalism in terms of when it comes to reporting science in itself. So, accountability cut across what's government need to lead and we need to follow and lead us into the right direction.

[00:13:35] **Blum** Yes, I think that that's one of the most important things we do is, yes, accountability journalism. Amy, one of the things that actually came up in the previous panel, which was on viral evolution, was that although the United States, for instance, as you know, has a higher access to vaccines and is more vaccinated than not as vaccinated as it should be, obviously, but is more vaccinated. Yet we are being crushed by Omicron right through, you know that it's like been this tidal wave of infections here in which over access to vaccines appears not to have made that much of a difference. Well, obviously it's made some difference, but that goes counter to the narrative that, you know, having great access to vaccines is going to break up the pandemic. And so, I wonder if you could address that and then move on to your more global perspective on equity, United States on the hot spot, so to speak. And then what does that mean? What does that tell us about what's going on elsewhere?

[00:14:52] **Amy Maxmen** Yeah, sure. I think, you know, to your first point, I think it's kind of a both answer. It's not done we have enough supply and that's going to be sufficient to vaccinate everyone, it's you need the supply, you need the supply chains, the distribution that has to be good. Here you can remember in the beginning of our rollout, people were sad that they couldn't get appointments. It was quite hard. It takes a lot of work so credit where credit is due, it is not simple to get vaccines everywhere and that's costly and it takes a lot of logistical planning and a lot of people. And so, there's that and there's the communication piece of it. So, it's sort of all three things it's not you have the vaccines and magically everybody just gets them. I think the U.S. has a difficult time for a few reasons. I don't know if I would go as far to say that we're being hit worse than anywhere. I mean, surely in terms of infections, we have a massive number of infections and I and I wonder

how much the U.S. is really fueling the pandemic around the world. But, you know, deaths might be quite high in other places. We know that there's a real lack of testing in many, many, many countries, so we might not be seeing how badly some places are hit. And so, vaccines, to be clear, vaccines have really made this a less deadly surge than it would be. Otherwise, it would be much, much worse. But, you know, the U.S. has some special problems. Of course, a big one being that we're sort of very politically divisive and one side of the one side of that in often embraces sort of these like small government anti-regulation. Those are that sort of the ideology and that can bleed into being against sort of anything that the establishment says. There's like a real loss in trust in establishments and that's the government, that's the media, that's everyone and that's a huge problem for the US. And that sort of sad, I think in other countries, I've heard there might be some people that aren't wearing masks, for example, but it's not so strictly, are you in this political party or that political party? So, I think that's really been to our detriment. And the news media, especially TV news, has been really awful in this respect. And also, we have kind of a very federated country where states have a lot of power. We saw that recently with the Supreme Court turning down the federal idea to have a vaccine mandate and companies that are more than 100 people and so that sort of works against us because public health often does need to have some sort of law behind it because it's not what's best for the market, at least in the short term, a lot of times. So, I think these are a lot of reasons why the U.S. is sort of a special study on its own.

[00:17:55] **Blum** OK, that's yeah, I agree with everything you're saying here and I want to go more global again by turning to Margaret and saying the W.H.O. has really taken a position, I think from the beginning that equitable distribution of vaccines was one of the ways that we would be able to get a grip on this pandemic. I mean, have you felt heard? Have you encountered pushback more from wealthy countries? Can you tell me, you know, your sense of how you've been able to argue that successfully or not? What's working?

[00:18:35] **Margaret Harris** Well, certainly it's been quite a journey right from the start you're quite right. We worked out that the only way out of this, if we got vaccination, was to vaccinate equitably and do it, according to the people most at risk. The top priority groups, the health care workers, because they're the most exposed and they're the people we rely on to keep us all going and then the people who are most vulnerable to getting the severe forms of the disease because that's the sticky end, that's the pointy end of this pandemic. A lot of people don't get that sick. But when you have huge numbers of infections, you've got huge numbers of with severe illness, and sadly, it's far too much loss of life. So yeah, and we saw from HIV, for instance, how once some effective treatments became available, they were stockpiled. They were sucked up by the wealthy countries and people in the with the least resources, but often with the worst outbreaks, couldn't get access to those tools. So, it was very clear to us that one of the critical things to get going was a worldwide system of equitable distribution where everybody vaccinated at the same time. And ideally, that's what this COVAX that you've heard mention was set up. It was actually set up very much or driven by the wealthy countries, the European Union, France, many they all stood up there, Britain, they all stood up there and said, this is what we need. This is what we need to do and the idea was that everybody essentially pools their resources. Those who could pay for it and finance it got their vaccines up via COVAX that paid for them. Those who couldn't pay for them also got access at the same time. Well, as you know, the great intentions, but history turned out to be very different because once those vaccines became available, people rushed for the lifeboats. And as we've seen in any disaster, those are the biggest and strongest get to the lifeboats first. And so, we saw very early first half of this year, and I've just been looking at the numbers the wealthy countries began to vaccinate

and the numbers really started to accelerate from March 2020 and when you look at the low-income countries flat line, absolutely nothing happening. Now then you did exactly here, as you said, where we heard we were certainly screaming. We were screaming from whatever rooftop or whatever place you could go; I think we're almost just sick of us. At some point, I remember being interviewed on the BBC saying, well, yes, we in Britain are now vaccinating well and you say that it should all be all health workers and all vulnerable people, all at the same time around the world. So, what do you say when we get to our young, healthy population? Should we stop and give our vaccines elsewhere? And I, she said, well, that's really yes. And I became the most hated woman in Britain for at least a day. I couldn't turn on the TV for quite a while. But that really- when we talk about enlightened self-interest, that was what it was about, although that's a pretty tough sell in countries that were experiencing horrendous outbreaks. Is that Britain, for instance, the U.K had an enormous outbreak driven by Alpha this time last year, and they were losing huge numbers of people and they were in a terrible position. So, what are the other difficulties has been that the epidemiology, the worst epidemiology has actually often been in the wealthiest, best resourced countries. So, you can understand leadership, they're saying, well, look, we've got to get people vaccinated here as well. The problem was there was overbooking, hoarding all sorts of murky stuff going on with contracts. So even though the COVAX system had pre-booked contracts, had arrangements, they all went in sort of with the panic, shall we say. So, we really couldn't get supply until about the middle of 2021. We really didn't see anything much and in fact, in June we were saying cupboards bare, there is nothing there is nothing coming. And many, many of the country's dependance on COVAX are expecting to get the full delivery, their full supplies and who had already been planning their vaccination programs and preparing to do this. We couldn't tell them when they'd have vaccine. We could not give them sight lines. Now that's improved a great deal. In fact, the sort of trickle, the few little drops have turned into a flood and I think you mentioned already the Nigerian situation where they suddenly got a huge amount of donated vaccine and the thing that necessarily came through COVAX. But they got large, large amounts of donated vaccine very rapidly with a very short shelf life. So, they were in a very difficult position. If you suddenly flood a country with a vaccine, they're not ready. They can't be ready. No country on this planet could be ready because they have to identify where they're going to vaccinate, who they're going to vaccinate which health workers are going to do what and how do you take those health workers from whatever they're doing? So, there's all that nitty gritty stuff that needs to be worked through. And if you've suddenly told, hey, tomorrow, you know you're getting 300 million doses or something right, you're going to be able to do it. And then you're faced with this awful situation where you've got stacks of vaccine on the tarmac and not even enough space in your warehouse. Not an adequate cold chain to make it happen. So, all those things. The first problem with supply now it is sightline and management and knowing what we're going to get when we're going to get and also now getting a bit more granular with the countries that are struggling. So, we've now providing teams and identifying the countries that have got very specific issues and sending teams to work with them to try to fix those issues. So, things are getting better. It's good, but they not oh, they're much better. I mean, we've seen such an acceleration in the last month. I think we've delivered more vaccine in the last couple of months than we did in the whole of the rest of 2021. So, things are certainly a great deal better. And now the challenge will be at country level making sure that what comes in can be used effectively.

[00:25:24] **Blum** So that is such a good overview. I want to jump back to you Akin. I know you there were a fair number of vaccine doses in Nigeria that did expire and so I'm wondering when you look at that situation, so you do get three million doses tomorrow, do you feel like the country is ready to distribute that? What do you think a country like Nigeria

needs to really do in a successful wide scale vaccination program? And as I remember, the vaccination rate in Nigeria is still fairly low at this point.

[00:26:02] **Jimoh** Well, you know, the before the vaccine logistics need to be in place, there has to be some form of preparedness. If I know something is coming towards me, I need to prepare. What are the things I need to do? Who are the people to train? And not that the product will come tomorrow and I start thinking about it. And the other thing we also need to look at is we have routine immunization. Out far up, we've gone, you know, in most African countries, and Nigeria did well when it comes to polio eradication. There were challenges and there are challenges to designs that it will take in the vaccine to get to the field in itself. That's just one step. Administering the vaccine? That's another step. In a way that at the end of the day, we have people who had no business in vaccination, being brought in the way that we can enhance what was being done. You look at imams, you look at religious leaders, both the Christian and Muslims. You have to go to churches, mosques, so on and so forth so that people can be receptive to the product. People can be receptive to vaccination in itself. So, it's one thing for us to have donation, but preparedness. When there is a crisis we had, you know, a number of countries had some time before COVID came to that country. What we really prepared in terms of putting steps in the way that we can't prevent influx of people who are infected, did we apply the public health protocol in the way that we can address the issues we had? And do we critique what is going on. As media, as journalists these are the things going on because a lot of the time when issues come, when pandemic comes most of us learned from ground zero. You don't know much about it, scientists are working to understand what is going on, but for COVID it was brought to the marketplace where everybody at the sit and it's not synonymous with the way science walks. Science walks in the laboratory for quite some time before they have a finding that they can share with colleagues and so on and so forth. But COVID was something that, at then every point in time there is information that I need to be part of. So now that we've realized some of the mistakes we have in the past, new supplies are coming and we're ramping up the way we are going to administer the distribution, the storage as soon as vaccine logistics is very, very essential for us to really look at. So that where we eventually get up the product, we knew what to do to present it, to look most African countries, the vaccination rates, the level is very low, but COVID is still with us and it has affected most of us, either directly or indirectly. So, preparation is very important at every stage, not just a vaccine, but the system that we have. How is our vaccine logistics working out of the public health system works? Our health workers, are they prepared to do the needful and all those things need someone to think far ahead before crisis comes.

[00:29:47] **Blum** And do you see that in Egypt, Mohammed, the government is putting into place systems to better distribute vaccines out of the cities and around the country? Or do you think additional resources or help would be needed in that regard?

[00:30:05] **Mohammed Yahia** I think that the government- I mean in Egypt already had a good structure in place. So recently we had a very successful Hepatitis C campaign, for example, and Hepatitis C was a, still is, a huge issue in Egypt. So, the structure is in place but the problem that Margaret pointed out that the vaccines are all coming in now at the same time. So, we keep hearing of all these millions of doses that are coming in. And it's exactly that. I mean this has all started in the past two or three months or so when those doses came in and it just it's a strain on the system to be able to find that many people who can vaccinate in all parts of the country. And on the other hand, there is a problem of communication on the importance of vaccination, and I think Omicron has made that particularly worse because a lot of the communication in the media has been about. I

mean, the way Omicron has been covered in the media has mostly focused on it being much milder than Delta and if people are not, I mean, they're not getting that serious symptom anymore. There's a lot of joking about it, even in the media, and I think that has blunted the effect of it so people are less keen to take the vaccines. They're looking at this as something that's just not that serious anymore. Why should they get a vaccine? Why should they bother about going for that? So even when- it's a challenge to get these vaccines out, especially vaccines that require a cold chain but even when they do reach these different places, it's a challenge to convince people to come in and take those vaccines because there's been such poor communication, While I think there's been a lot of transparency with announcing numbers of new infections every day, of deaths, those are available on a daily basis from the Health Ministry. But at the same time, there's a lack of testing. So, these numbers are not that accurate and people are not seeing the real picture. I mean if by going by the numbers, then I would guess that every single person infected is someone I know judging from how many people around me are sick at this point. So, while these numbers, while I appreciate that these numbers are being made available, I think there needs to be more context behind them and that's what's lacking. I mean, just getting numbers of daily infections, while it is good for transparency, I don't think it helps people on the ground. You need to see some kind of analysis of those numbers. The trends, how are things changing? How are vaccines helping? These kinds of issues are not really communicated. There's no communication on the importance of vaccines, no communication on how vaccines can reduce the number of serious symptoms and deaths. So drastically while you get coverage for other issues that can be quite negative, let's say. So, for example, when some very rare side effects of the AstraZeneca vaccine came up, that was all over the news, but there was no analysis to put that in context of the bigger picture compared to how many people have taken that vaccine around the world and how many lives it has it has saved. This was not seen. The whole focus was on these a number of cases that had serious side effects from taking the vaccine. So, there's a communication problem that's impending distribution as well.

[00:34:39] **Blum** Amy, what is the responsibility of science journalists in this situation? I know that you've written quite a bit about inequitable distribution of both treatments and vaccines in the United States and around the world. Have we contributed to the problem at the end of this? If you're a journalist who believes that equitable just distribution of vaccines and actually receptivity to them is important, what is our responsibility in this situation?

[00:35:16] **Maxmen** Well, I mean, I think it's really important for journalists to hold their own governments to account always, and to be clear, I feel like all of the issues that everybody's talked about with misinformation and also how the media will blow up anything for click sometimes it seems like, and it has been pretty disastrous. Supply still is an issue, to be clear. So, for example, in Nigeria, where there's two percent of people who are fully vaccinated that's not because there's enough vaccines for everyone to get two doses in a booster and just nobody wants them. I mean- so it's all true. There's a lack of logistics in place, but there's also a huge lack of supplies and especially now that we've seen Omicron, which means that maybe we have to update vaccines, that we see that boosters are hugely effective. Some people are saying this is now a three-dose vaccine, we do need more supply. So, where I'm sitting in the U.S., I mean, part of what I'm thinking about is like, let's just call it what it is, why are we not making more vaccines, especially the mRNA vaccines that we know are highly effective, which we have right now, which are approved, which we have here in the U.S., but which are many countries don't have. A huge number of low- and middle-income countries receives mainly China's vaccines, which are inactivated virus from Sinopharm. But those may not be that effective against

Omicron at all. So, we definitely have supply issues. And so, from where I'm sitting, I want to know why is there not? Why do we have this? Suddenly, let's dump all of our doses near expiry to another country and call that a donation. That's not a system. There needs to be enough of a steady supply so that countries get it just as we have gotten vaccines in enough time. And why isn't there manufacturing in low- and middle-income countries? India has a huge- India produces most of the vaccines for the developing world. So why is that not producing more? Why are there? Why are you after like 70 years of AIDS post-colonization? Are there not more vaccine, biotech and manufacturing plants on the African continent? I think those are all questions we should really be asking ourselves right now. Like I said, I hold my own. I think there's a case for everyone to hold their own governments to account, holding my own government to account. You know, why are we not pushing on that more? I think the Biden administration has supported a waiver on patents on vaccines, but we haven't really heard anything about that since then. And there also has to be governments could be doing more to tell pharmaceutical companies that right now, Pfizer, Johnson & Johnson and Moderna are all U.S. companies. A lot of them got a, Moderna especially, and Johnson & Johnson got so much U.S. taxpayer money to develop these vaccines. Why is the government not doing more to say we need to license these vaccines out to additional manufacturers so they can make more vaccines and those vaccines can be at lower cost? So that's where I stand as a U.S. journalist.

[00:38:23] **Blum** See, I hate to say it, but I agree with everything you just said. So, Josh, I wonder if you could just follow up on that. I know you were critical early of the vaccine, equitable vaccine distribution and whether it had worked or not. Are you more optimistic now? Do you see actual productive conversations on finding better ways to give the logistical support or encouraging production in countries in the global south?

[00:38:57] **Michaud** Yeah, certainly the issues that Amy raises and others have raised, you know, are significant. And it's clear that whereas last year, the just overarching and most prominent weakness in the system was a lack of supply. You know, 2021, the story was a lack of supply. 2022 might be a little bit of a different story. And that supply has increased, as we've heard, especially in the last few months, and we have new vaccines coming on board now, the protein subunit vaccines from that Novavax and the biological E and supply increasing. So clearly, it's going to be a challenge to meet the demands that we have. As Amy referenced, there is likely to be a growing demand not just to meet the two-dose requirement for a primary series of these vaccines, but a three-dose meaning, including a booster dose and we're seeing expert groups come out and recommend that this be standard practice. We're seeing expansion of recommendations to include adolescents and children now as well. And so, this is not just for select countries, this is for every country and especially given the threat of Iran and perhaps future variants that have some immune evasion this idea of three doses rather than two is going to become critical, I think, and have implications for supply. So, we're not out of the woods on the supply side. But the challenge is more complex because now we have to pay attention more to the distribution side and the challenges that the other panelists have raised on that, we have to combat hesitancy and misinformation, and we have to make sure that countries have access to the different vaccine types that are necessary to address their epidemiological circumstances in ways that best protect their citizens. So as the epidemic and this pandemic, each country's epidemic and the pandemic in general evolve our policies, including our vaccination policies and the mechanisms that we use to distribute these, have to evolve with them. Now the manufacturing issues, having enough manufacturing capacity in countries, this is a major issue and will continue to be for a while. There are some slow baby steps in the process of establishing, for example, on the African continent, additional vaccine production capacity. But it is not going to be available at the scale that's



necessary to address our current concerns. But it is critical to continue to invest in that, not just for future variants, but also just future epidemics and future pandemics. God forbid, down the road, having that capacity and addressing some of the gaps which made it so hard to get vaccines where they needed for this current pandemic.

[00:42:21] **Blum** Yeah, that's a terrific overview of where we are now. I'm going to move to excuse me, questions from the audience or the participants in this webinar, and I'm going to start with Margaret. There's a question for you from Beatrice [00:42:45] **Duckworth's** [0.0s] from France, which is, is the W.H.O. at this point actively involved in logistics support? And are you saying, I'm adding on to this from Alana Gordon, that we have the supplies, we just don't have the district. I mean, we actually have adequate supplies, just not distribution?

[00:43:09] **Maxmen** That's quite a couple of good questions. We've actually been heavily involved in logistics of all kind, right? From the beginning. We've got an enormous logistics team that have been distributing before we had vaccines that were distributing PPE, tests, oxygen, all the things that countries have been desperately in need from the beginning. And of course, we don't do all the logistics for the vaccines for COVAX. That's mostly managed by UNICEF, who have a superb, I'm sure you know, vaccine distribution system that they've been using for distribution of vaccines, for routine immunization, for childhood immunization. Your second question about supply, I'm saying the supply is improved. I didn't say we're out of the woods, OK? We are much happier with what we're getting, but it's not like, oh yes, we can sit back. What I'm saying is now that the supplies coming in, we have to also ensure that countries get good advance warning and are ready to use every vaccine they get. And of course, that the getting vaccines, they want vaccines that are appropriate for their circumstances. And as it was mentioned by my colleague from Nigeria, that the health care workers are trained, ready and available to do the vaccinating and that you can find all the people that you need to vaccinate and make sure you do it.

[00:44:36] **Blum** Sounds great. Akin, I have a question directly to you from [00:44:41] **Varella sertraline**, [0.7s] which is how brave are African journalists in actually taking on government bureaucracy in hoarding vaccines? If the government is indeed hoarding vaccines, and is there actually adequate investigative reporting in Africa on the private sales of vaccines or the failure to distribute vaccines to more vulnerable people?

[00:45:15] **Jimoh** The answer is yes. We have well-trained journalists. Remember in Nigeria, which is out a dictator, we more or less help Nigeria to come back into democracy. You remember we had abacha of those days and when it came to health care, when it came to other areas of the economy in Nigeria, we have well rounded journalists who can make the country. I can tell you a story about an African government. Presidents that came to Nigeria and was complaining that the media was not writing good stories about him and the president. Then I think probably the president, former President Obasanjo brought out a newspaper that this newspaper, and look at what they've written about me also. So, we have journalists who are well-trained, who are investigative. I mean, we have a lot of investigative journalism trading that's taking place all over Nigeria and their government has been held accountable. What is the state local government at the federal level? And these are some of the things that you know we've done in this part of.

[00:46:35] **Blum** That sounds impressive, actually, and I'm going to completely open to the question of medication. We've had a good bit of discussion about equitable production and distribution of vaccines, but there are also some high end and elegant medicines that are being approved in western states. I'm thinking of the new anti virals from Merck and Pfizer,

for instance. Do we anticipate a similar problem with equitable distribution of medications to treat COVID? This is one of the questions from the chat. Are there concerns about that already your steps being taken to address that? Josh, do you want to take that, Ron?

[00:47:26] **Michaud** Sure, I can start to answer that. Yeah. You know, these are potentially very important tools. The Merck and Pfizer pills are given to people who have been infected, you know, within three to five days after becoming infected and show some effectiveness at preventing development of severe disease and death. And particularly, the Pfizer pill has shown and even higher effectiveness in preventing that. But the we're in a similar situation with the vaccines. Early on, we were in the same situation we were with the vaccines in that there's a very limited supply at the moment and there are reasons to be concerned that we will be repeating the experience with the vaccines, but also some reasons for optimism. The concerns are that given the extremely limited number of doses that are out there, what we're already seeing is a repeat of this phenomenon with the high-income countries or the higher income countries snapping up the available supply so it's been reported that the initial supply out through April, for example, has been almost completely, if not completely purchased already by the countries which you might expect would be up at the front of the line. Whereas doses that are coming further, you know, later in the year, there might be some availability to other countries. It's still going to be a concern that we repeat this issue. But the source for optimism is that in contrast to the vaccine manufacturers earlier on, the Merck and Pfizer have both worked with global health authorities, the Medicines Patent Pool, W.H.O. and others to try and make this more available by partnering or allowing generic manufacturers to develop these vaccines. So, you know, 30 generic manufacturers are already on board, from what I've read, to make the Merck pill and a number of them are already on board to make the Pfizer pill, it's just going to take a long time for those to get going. But even so the course of the Merck pill 40 pills for five days may still cost around \$20. Even in the case of a generic manufacturer, which you know is a cost consideration. When you're thinking about how to spend limited resources, you know, how accessible will that be? So that's another concern. And then just a sort of biological concern. Both of these pills are monotherapy is antiviral pills, which, if given alone we are worried about the potential for resistance to develop to this vaccine, to these pills, which could, of course, be very, very problematic. So, we'll have to keep tabs on that and making sure that they are used effectively and they have to be paired with testing because you have to know you're infected in the first place. And that's another concern here. So, lots to look at when it comes to the rollout and the use of these antiviral medications, for sure.

[00:50:50] **Blum** Does anyone else want to jump in on that? I am wondering. And we're just about out of time, so if you have a quick perspective on that, I wish we could get to all the questions that are in the chat. But I wonder specifically, Mohammed, you mentioned once knowing someone who went to the hospital with COVID symptoms and who was given antihistamines, do you feel that there is equitable distribution of good treatments for COVID in your country?

[00:51:24] **Mohammed Yahia** Well, I think I mean, if anything, the most glaring thing we can see out of this whole pandemic is the inequity problem, and it has extended in every step of this. So, in early 2020, it was personal protective equipment there was not enough and more developed countries were getting large supplies and poorer countries were left out. When production was ramped up, that's when countries in the global south started receiving these and then the same happened with vaccines and I imagine the same will be happening with the medication pills. And the problem is that in each of these steps, this inequity has created disasters, right? So, the rise of new variants was due to rampant

infections and when you do not have medication available, doctors will just resort to whatever they can and here in Egypt, there's these cocktails that people prescribe for COVID, and it's a disaster because they have horrible side effects, everything ranging from ever objecting to hydroxychloroquine antihistamines all along the spectrum. There are so many people taking these medications now in extremely high doses and I fear about the effect that this would have in the future when you have so many people being treated in this way because of the lack of the actual tested treatments, because again, like Josh was pointing out, they will not probably be available in the global south. I mean, best, best speculation near the end of the year, to be honest.

[00:53:33] **Blum** Yes, I think that's a very realistic summary of where we are and we're unfortunately out of time. I wish I have so many more questions to ask you and I wish we could do this another hour, but I'd like to thank all of you for your very clear and thoughtful discussion of these issues today. And with that, I will hand it back to Mallery.