

00:04

Simone Ross: Good morning, Kiran.

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Kiran Mazumdar-Shaw: Hi, Simone.

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SR: Thank you so much for joining us here today. How do you think that the challenges of the past year will, sort of -- Do you think they will either hinder or improve equitable access to health care?

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KMS: Well, you know, Simone, one thing is very clear -- that COVID-19 actually pointed out to us that we are all in it together. And I think it also exposed many frailties and fragilities of the health-care systems around the world. And, you know, if I may say so, the developing world showed that it had better primary-care capabilities than the western hemisphere. And this actually has helped them cope with the disease I think a little better than what the Western world has struggled with. And it also pointed out that, you know, you cannot be looking after your own small populations and forget about others who are in the neighborhood because you're not safe. And I think from that point of view, this is now becoming a collective global effort, when it comes to a post-pandemic world, a post-COVID world, because we will need to basically cooperate in terms of surveillance, in terms of prevention and in terms of preparedness, in terms of future pandemics. So I think COVID-19 actually has demonstrated the importance of equitable health care for all, because if you don't do that, you're not really protecting yourselves against it.

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And the other point is that, of course, we've seen a large number of initiatives under various umbrellas of WHO, or CEPI, COVAX, the Gates Foundation, et cetera, et cetera, which really has focused on stockpiling vaccines for equitable distribution amongst various countries. So I think all these efforts show you that there is a collective force for global public good that is gaining a lot of acceptance.

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SR: I think nothing to sort of show you how interconnected we truly are than a global pandemic. So, you know, it's pretty amazing, almost unbelievable that a year into this, we have multiple vaccines that are rolling out. And as you sort of mentioned, there has been a fair amount of cooperation between, certainly it seems, in the pharmaceutical industry, on this. Is there anything that has been surprising about that to you? And I'm curious if you have thoughts on what governments can actually learn from industry on this? Because, as you said, global cooperation is really, really important if we're going to get a grip on this pandemic and future pandemics.

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KMS: So, you know, the way I look at this, Simone, is let's look at what actually is happening and what happened to begin with. So to begin with, one of the things that we actually learned was the fact that small biotechs were the ones who actually delivered on innovation and innovative vaccines. So whether it was Oxford University, whether it was BioNTech and whether it was Moderna and many other biotechs like Novavax, et cetera, I think they were the ones who actually pivoted very rapidly and came up with those early vaccine programs, which were then quickly partnered with Big Pharma. So Big Pharma actually then decided to basically invest and license and develop these programs and take it to global markets because, you know, they felt that it was Big Pharma that had the kind of necessary networks and supply chains to deliver those vaccines efficiently to global markets. And that's where they got a lot of help from public funding from BARDA and EU and many other sources of funding, including the Gates Foundation, to basically then deliver these programs to the end-markets that required these vaccines. So that was one very important learning that we had from this pandemic.

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The second thing was that after these vaccines were approved, again, some gaps in production came about. And so therefore, suddenly Big Pharma started partnering with each other, which really hasn't happened before, where, say, Novartis decided to help out Pfizer in its manufacturing gaps. And the same thing happened with Merck now trying to help out J and J with its manufacturing needs. So there's been a lot of interesting partnerships and collaborations to really address this global challenge. So I think this has been a really good effort and a great collective effort.

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Amidst all this, I also wanted to pitch for what the Indian vaccine industry has done for the world. If you remember, in the early stages of the pandemic, we had Indian companies really starting to invest in vaccine development. Our largest vaccine maker, Serum Institute, in fact partnered with Oxford University even before AstraZeneca did. And they agreed to help Oxford

University by saying that we will actually manufacture this at risk so that you can start clinical trials. And then, of course, AstraZeneca came into the picture and then, you know, Serum Institute is still making very large quantities of the vaccines at scale and supplying it to COVAX and many other countries who are short-supplied in terms of vaccines. Another company, Bharat Biotech, also started developing its own homegrown vaccine based on the virus, which was then an inactivated virus-based vaccine, which has also received emergency-use authorization in India. And then many other companies are also partnering with Novavax and J and J. And there is a quadrilateral alliance summit in India between the US, India, Australia and Japan that is actually talking about partnering in this whole pandemic crisis in terms of both surveillance, in terms of manufacturing, in terms of vaccine deployment. So I think it's very interesting what's happening in the world.

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And I think India has finally found recognition as a major supplier of vaccines and not just vaccines, but the entire supply chain. We are now recognised as the largest producer of vaccines, of syringes, of glass vials, of needles, because that was our original business. India was vaccinating the world, but it was actually vaccinating low and middle-income countries for the kind of vaccines that you normally deploy worldwide to immunize children. Today, I think it has pivoted and it has gotten recognised as a major vaccine producer in the world. So I think it's important for us to recognize that India is a very critical part of the global supply chain when it comes to vaccines and even generic medicines, for that matter.

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SR: Many countries in the developing world have actually done very well in controlling the virus, in controlling COVID-19, and has gotten somewhat better than other parts of the world. Do you think there's something cultural in that? Because the other thing you talked about at Berkeley was sort of, the difference between the pharma industry in India versus the rest of the world.

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KMS: So you know, there are a number of hypotheses in terms of why did the developing world manage COVID better than other parts of the world, especially Asia, I would say. And I think the reason is that there are many, many factors. One is that we are a young population, you know, so I think our demographics have played to our advantage. I think what has also helped us a lot is that unlike the rigidity of standard of care protocols in many advanced parts of the world, I think Indian doctors are very ready to experiment with therapies that can work. Now, for instance, this is a new virus. This was a new disease. And if you are very stuck on standard of care protocols,

which may not work for this disease, then you're actually not giving yourself a fair chance to deal with the disease in a more optimal way.

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In India, I think we have an excellent medical community, we have great doctors. And these doctors were actually willing to experiment with anything that could save patients. And what I mean by that is way before WHO prescribed steroids as one of the important interventions for hyper immune responses, I mean, Indian doctors were using steroids right at the start of the disease, OK? And then we were trying everything possible in a very logical way, whether it was basically blood thinners, whether it was low molecular weight heparins to prevent clotting. As they learned about how this disease was working, they were willing to use these kind of therapeutics to try and deal with these patients and their problems. So I think this has helped a lot.

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SR: I'm curious. So you're an entrepreneur, although maybe you don't consider yourself one now, but you did start your company, I've read, in a garage, which often you hear as part of the start-up law, certainly here in the US. I'm curious what advice you might have for a young biotech entrepreneur now.

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KMS: Well, you know, I would say this is the most exciting time for a biotech start-up, because you can see that, you know, a lot of the new ideas are actually coming out of small biotech start-ups. And as you heard, BioNTech was actually struggling to survive and suddenly COVID has made them into a multibillion-dollar biotech company today. So I think, you know, we must understand that any idea can be a blockbuster idea. And you shouldn't give up on these ideas. And to me, you know, entrepreneurship in the tech space is the most exciting space to be in. And I just feel that there are so many challenges and so many unmet needs that in our field of biotechnology, I think, you know ... There's umpteen number of opportunities to be successful. So really, the world is your oyster. And I think, you know, this couldn't be a better time to be an entrepreneur in the tech world, whether it's information technology or biotechnology or any tech space, I think it's a very exciting time.

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Because today it's not just about biotech, it's also about the opportunities in AI, in, you know, in the kind of, IOTs and many, many other areas which are actually leveraging information technologies for various applications. I mean, you think about work from home, which has

happened during the pandemic, and, you know, technology and technology-based companies are just, you know, finding so many opportunities. Who had heard of Zoom till the pandemic broke out? You know, things like that.

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SR: That's true. I'm curious, so you mentioned sort of blockbusters and that's something else that you talked about a little bit a couple of days ago. You said for some companies, sort of a blockbuster drug is a one-billion-dollar treatment, but that for you, a blockbuster is it reaches one billion people. Can you talk about that a little bit?

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KMS: Yeah, you know, I've always felt that the Western model, in terms of the pharmaceutical industry, has always been to serve a small population which is affluent and which can pay a lot for the drug. So it's been about a high-value, low-volume, kind of a business model. Whereas when you live in a country like India, with over a billion people, and you're trying to basically address the unmet medical needs of such a large population, it has to be about economies of scale. It has to be about serving a large population base. So, for instance, we are an insulin-producing company. And when I look at producing insulin, it has to be affordable and accessible to a billion people at least who need that insulin. So that's what I mean by saying that for me, a blockbuster drug is about serving at least a billion patients, not about a billion dollars, because the moment you serve a billion patients anyway, it's going to be over a billion dollars of an opportunity. So to me, it's about patients first and business will follow.

14:03

SR: Kiran, thank you so much for talking to me today. This was great. Thank you.

14:07

KMS: Thank you, Simone.