CONVERSATIONS WITH MIKE MILKEN

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Mike Milken: Jeff, thank you for joining us today.

Jeff Skoll: Mike, thanks. It's a pleasure to be with you.

Perhaps as much as any individual in the world. You have been sounding the alarm about pandemic preparedness for many years. Why did you choose this area for such intense focus?

I've been involved with what I would call "global threats" since I was a kid. It seemed that there were issues in the future – new weapons, wars, environmental problems and diseases – that would be a big problem for humanity. And over the years, I tried to find ways to tell stories about these big issues and get people involved. When I first started Participant, some of

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This interview has been lightly edited for clarity and readability.

the topics on our radar were nuclear weapons, climate change, and pandemics. One of our first films was *An Inconvenient Truth*, which got climate change out into the public discourse and demonstrated the power of storytelling around important issues.

The work with pandemics really got going in 2009 when the Skoll Global Threats Fund launched. Larry Brilliant, who was the CEO of that group, and Mark Smolinski who ran the pandemics program, have been incredible allies. We decided to do a science-based story about pandemics. This followed in the wake of the swine flu, H1N1, in 2009. We felt that the world was now looking at pandemics without as much fear as we felt was justified. So in 2011 we produced and put out a film called *Contagion*, which told the story of a pandemic that started in a wet market in Hong Kong and then got on planes all over the world. And we told the story that we hoped would warn the world and get our public health systems in place so that we might never have a pandemic again. I wish to say our predictions had been wrong, but it looks like that story is playing out on the world stage today.

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I rewatched that movie, Jeff, just a couple of days ago, and unfortunately it's how "fiction" turns into truth.

For all of the burgeoning epidemics, our team is very much on the ground. Whether that's H1N1 from 2009, or MERS, or Zika – my team through its contacts around the world has an idea of what's going on. And so with COVID, even before it had a name, we had colleagues on the ground in Wuhan in December to try to understand what was going on. So we had a pretty good line into what was happening. Ever since then we have been trying to get ahead of where this virus might go and what it might do.

Since January, we've been adding resources for detection in South Asia and Africa just to try to see what's actually going on. More recently in the U.S. we've been heavily involved in petitioning leaders to take action on what became shelter-in-place and social distancing and such. We're involved in many aspects of trying to find and develop interventions and bring new ideas into the realm of development and communicate to folks what's going on.

Jeff, we've talked about a series of areas. I'd like to maybe touch briefly on each one. What does contact tracing mean?

Contact tracing is a classic tactic in epidemiology to find out people who are sick, quarantine them or put them in hospital, and then find out all the people that they've

been around and might have infected. It takes a fair bit of resource to track down cases, to follow up with their contacts, to put the contacts in quarantine or (if they're sick) in hospital, to trace their contacts. But it is a classic way of getting ahead and managing the situation. Contact tracing has now gotten off the ground in Massachusetts. San Francisco announced a program putting contact tracing in place. For all of the parts of the country and in places around the world, these processes are great if there aren't that many cases so you can keep control of them. You manage the problem and then you, you get ahead of it and then gradually you're able to return to normal as treatments and vaccines begin to become more prominent.

Jeff, another area I know you focused on is serology. How can that be useful to us here?

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One of the most interesting ideas we're working on to get people back out into society, especially healthcare workers and first-line defenders, is to find out who has been infected by the disease and has developed antibodies in the blood so that they're effectively immune. Ideally, folks would be immune for a very long time – a year, two years, who knows? We're trying to figure out exactly how long that immunity lasts. And that's a big question. But if we can get enough folks who are immune, they can go back to work, they can do things of value in the situation.

There's another part that's important about being able to test the serology of the plasma of these folks. That is, we believe that taking the plasma of survivors with antibodies is able to treat, either as a treatment or a vaccine. The more survivors we have who have antibodies, the more we can draw plasma, the more we can treat people. And eventually there are enough survivors that this scales up and creates a pathway out. That's why a serological testing is so important.

Jeff, as we had discussed, one would have thought like previous outbreaks that we would be seeing it in many of the poorest parts of the world first. But this really seemed to have gone from China and parts of Asia that were more developed, immediately to Europe and the United States. What is the outlook? I know you're very focused on this in developing countries in Sub-Sahara Africa, South Asia or South America.

When the virus first broke out in Wuhan, we were concerned immediately about the Belt and Road countries that have a lot of Chinese workers coming and going: India, Pakistan, Sri Lanka, Bangladesh, much of Northern Africa and so on. At the time we helped beef up a detection to try to see what was actually going on in those regions. And

for the longest time, throughout January and February, even March, the numbers were relatively small and we couldn't quite figure it out. When I say we, I mean the community of epidemiologist couldn't figure it out. Is this a question of testing? Is there some unknown factor going on here? For example, is the virus fragile and falls apart in heat? Are people who live in equatorial regions more subject to exposure to coronaviruses and perhaps have an immunity we didn't know about?

Unfortunately, over the last couple of weeks, the numbers in many of the places we're concerned about have been going up fast. To put a point on it, about a month ago in the U.S. we had about a thousand confirmed cases; today we have about 600,000. The developing world is very much on that same pathway, where numbers have gone up from a low starting point – maybe two, but then to 20 then to 200, or in some other countries from 100 to 1,000 to tens of thousands. It's very clear now from the trends that within 30 to 60 days, we're going to be looking at tens of millions of new cases. There'll be a lot of deaths. There'll be a lot of disruption.

This is a burgeoning catastrophe that unfortunately will rebound back around the world. As the virus develops in the Southern hemisphere, it comes back to the Northern hemisphere. And hopefully by then it hasn't mutated, which could potentially render our vaccine efforts not so effective. So we're very concerned about what is about to happen and we're trying to think of ways to get ahead of this as much as possible.

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I know you've been thinking greatly how you reopen society and the economy. Are we ready for it?

So much of the national conversation in the U.S. has been about getting the economy opened, and I think we're getting close to being able to open some things up at a certain rate. But we do not yet have the scale of tests that we need to open much of the country. We may be able to open up some communities, but we literally need something like 22 million tests a day, to truly open up the country and be safe. And cumulatively, I believe that there are no more than 22 million tests that have been done all over the world.

I know you have not been sleeping much and that you're constantly trying to find a solution around the world. How have you deployed your people and your teams over

the past three to four months now since you started focusing on COVID-19. How has it changed and how do you see it changing in the next few months?

I'm in a fortunate position to help given the scope of my various organizations across the pandemic field, the nonprofit space, the media world, the investment side, and the Ending Pandemics team of course is taking the thought-leadership on this all over the world. From a media standpoint, our work is filmed entertainment, so it makes it difficult to create new productions. However, we've been able to start a series of PSAs. The first set leveraged the cast from *Contagion* – Matt Damon and Laurence Fishburne – to pass some messages on. We're doing a new set of PSAs with the help of an animation company in L.A. And the social entrepreneurs that we work with for the Skoll Foundation are mostly in the global south, and many of them are in the health field. So they are our hands and eyes on the ground, and they're giving us ideas as well of what to do. Some of the interventions we're working on, it runs the gamut from detection, prevention, to trying to build low-cost ventilators at scale and get them in places in the world that need them quickly, to ramping up serological testing. And all these efforts, by the way, are in the knowledge that others like you, Mike – your groups including *FasterCures* are doing a great service to the world by focusing on vaccines and treatments and keeping track of them. And this is our ultimate hope: that 12 to 18 months from now, there's a scalable, widely distributed vaccine, and we can start getting back to a new normal. It'll be a different normal, but a new normal.

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I just feel glad to have so many interesting groups in my organizations that we can pull together ideas and do things that are complementary to what everyone else is doing uniquely to a degree, but complementary for sure.

Jeff, thank you for joining us. And once again, I want to thank you for your years of commitment in this area and for partnering with us and for shaking our senses so many times and for taking a leadership role so early during this pandemic. Many of us are looking to you and stand ready to support your work. And we look forward to your calls for action.

Mike, thank you. It's an honor to be with you today and all best to you and yours.