Much Accomplished, Much to Do: A Conversation Looking Back & Looking Ahead with Tony Fauci

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Transcript

Mitchell Warren: All right. It is the bottom of the hour and delighted to have all of you with us from all over the world for what we hope is a really exciting conversation. Our special guest is en route. His staff have set up his Zoom line and he's just running between meetings and will join us as soon as he can. We have fairly limited time, about a half an hour with him. So I'll do a quick run of show just so you all are aware of the plan. There he is. Hello, Tony…

Tony Fauci: Hello, Mitchell. How are you?

Mitchell Warren: I am terrific. Great to see you. I'm going to reset my watch. You're getting here right at 1130. This is perfect. So thank you. And thank you for making the time. I was just talking to one of your staff. He said you've done eight or nine thousand of these kinds of calls over the last couple of years. I'm sure you stopped counting, but we're delighted that you made time to join us here.

Tony Fauci: My pleasure. Good to be with you.

Mitchell Warren: And I was just doing a quick run of show. We have friends and colleagues of yours and of course, from all over the world. So good evening. Good afternoon and good morning for this conversation. I will just say very quickly, we are recording this for posterity and for posting later to those who can't join. And I am going to spend the next half an hour with Dr. Fauci and taking questions or giving him questions that many of you have sent in. And given the limited time, we aren't going to be able to open the lines themselves. But I am grateful for so many partners of ours who we've crowdsourced questions from. And I think there's a lot of excitement and a lot of reflection and sadness. It's hard to imagine after so many decades of your leadership and partnership, that toward the end of this year, you will least step down from government service, for which we are all enormously grateful that you've served as long as you have, and delighted that you were able to make some time as we approach World AIDS Day.

So I want to just dive right in. You know, I always quote you and I do it with attribution… almost always… about much accomplished and much to do. You said it in a presentation several years ago at an AIDS conference, and it's resonated with me then and ever since. And as we look to the grand targets, both in the United States and globally, about ending the epidemic... as you look back on your career and on the field itself over the next 3 to 5 years, what do we need to do differently if we're actually going to accelerate the trajectory towards these ambitious goals? How do we achieve all of this?

Tony Fauci: We're having some trouble. I'm having a lot of trouble. There's some problem with the connection. I'm really sorry. I'm hearing every fifth word of yours.

Mitchell Warren: Oh, no. Okay.

Tony Fauci: Yeah, just hold on. Mitchell. I'm sorry.

Tony Fauci: We've been having some connection problems. I heard a third of what you said. Just a hold on.

Mitchell Warren: Okay. No, no problem. For those tuning in. Thank you. And just stay tuned for technical difficulties to get resolved.

Mitchell Warren: Well, I was actually extolling your virtues. And thank you for joining us. And I saw you looking a little quizzical, which made me nervous. But I'm glad you can hear us now. I was actually saying how I quote you almost always with attribution and something you said to me years ago at a presentation you made about much accomplished but much to do. And as you look at 40 plus years of the HIV response with all of the ambitious targets for 2030, what do you think we need to do differently in the next 3 to 5 years if we're going to have any hope of reaching these bold, ambitious targets by 2030?

Tony Fauci: Mitchell, I think we need to get back on track and the pace that we were on before we got hit with COVID. I think we should underestimate the impact in a negative way. From the availability and ease of testing to the supply chain of antivirals. So the issue of outreach to the community and even in the research endeavor itself. Because it became very clear that several, in fact, I might say many people who otherwise would have been involved in HIV research essentially switched emphasis temporarily out of necessity. Many of the clinical trials, I mean, I know even people in my own research group who relied on the steady flow of persons with HIV to get involved in clinical studies, those studies came to a standstill because of the restriction of getting these people into the clinic or into the hospital to study.

So I think we have to reset what we're doing and re-energize that, just as you said. Truly much has been accomplished and even in the realm of the last three years of very stress on the system, some very important things happened. We've come about, particularly as an example, the proof of the extraordinary efficacy of long acting injectable drugs for both prevention in PrEP as well as for treatment. These could be game changers for us.

The other thing that I think is going to be very exciting is to utilize the advances in vaccine technology that were hugely successful with COVID and to apply them to HIV. Two examples in particular, the platform technologies of mRNA, which now we have a number of trials that are going from preclinical to Phase 1 using an mRNA platform for an HIV vaccine. And also the utilization of some of the immunogen design that was so successful with COVID, where we utilize the stabilization of the prefusion configuration of the spike protein, [which] turned out to be an extraordinarily effective immunogen origin. These are all lessons that we learned from COVID in the same way that HIV informs some of the successes that we got with COVID. The bottom line, Mitchell, is, you know, *reset, re-energize and get back on track because we should not forget that with all the terrible numbers that we have with COVID quantitatively, if you look at the burden that we've suffered and that will continue to suffer with HIV, it really dwarfs a lot of other issues that we're dealing with now.*

Mitchell Warren: So well said. And a lot of what I wanted to ask and what a lot of our partners wanted to ask, actually, you began to address there. I think we're all very excited with the prospective of newer, longer acting formulations. And obviously on World AIDS Day, we often think about the great advances in science, many of them supported by NIAID. And yet we see it with HIV, we see it with COVID vaccines as well, that the great scientific achievements don't have impact if we don't do the downstream work. And then you've talked a bit in the last couple of years with the COVID response about issues of structures and systems that aren't about biomedical only, which is obviously where a lot of your investments have

been. And I wonder, with these longer acting tools, to what degree as researchers and as funders of research do we need to be turning from the biomedical product development to the harder work, often harder work of delivery and what that looks like for the research enterprise writ large.

Tony Fauci: As you well know, Mitchell, but for our audience, I'll elaborate on it. As you remember, as part of ending the HIV epidemic. One of the major components of that was the expansion and amplification of implementation science particularly, but not exclusively through our CFAR program, Centers for AIDS Research [at the US National Institutes of Health]. We have well-established CFARs throughout the country, and they have really risen to the occasion of using that venue to do exactly what you're talking about. How do we get a greater utilization of the long-acting injectable PrEP program that if you look at the numbers of the utilization of PrEP, it is not at the level that we would feel comfortable that it is being maximally utilized, particularly among some of our minority populations, which is really unfortunate because as everybody knows, that is the group that disproportionately is at higher risk of new infections. 44 percent of all the new infections are among African-Americans.

We've got to get user-friendly PrEP to them. That's going to involve implementation that integrates itself into the health care delivery system. Otherwise, we're going to have highly effective interventions that are not being maximally utilized, and that would really be a big mistake. So I think you brought out a very critical point in the success or not of *ending The HIV epidemic is continuing with new discoveries.* Because there's always new things that we need to discover. And we've done a very good job of that, even in the context of three years of the country being almost immobilized with COVID, we still got some really good studies going.

But it really is important that we implement them, and that's something that we are going to be making significant investments in. And we've got to keep everybody's feet to the fire, including the appropriators, who might think, 'well, we're doing so well. We don't need new resources.' We need increases in HIV commensurate to at least and maybe more in some respects than for other areas. Remember, we went through a very disturbing period where everything was flat for a very long period of time with the misperception that we're doing so well that we don't need some empiric decision, that you don't want to get above a certain percentage of the budget, which is nonsense. *It should be determined by the scientific opportunity. And the public health need, which is looking forward.* Hopefully that's what we'll be doing.

Mitchell Warren: Well on that, actually, a mutual friend of ours actually said to me as he looks back on your three decades of managing so many over that four decades of managing all of this, you've been one of the most effective spokespeople, particularly with policymakers. And what's your secret? And he actually said, how did you become an elected official whisperer? And I would add, what are we going to do without you to make some of those exact points and with you not being our spokesperson on the Hill?

Tony Fauci: Well, I think that there's a lot of good people there that can do some of this. I want to emphasize, Mitchell, that I am not stepping away from my passion for ending the epidemic and getting a lot of attention to the importance of resources. I'll be doing it in a different venue, but in fact, that venue could be perhaps be equally, if not more effective because I could be out there at will making the points that I'm going to be making so well, although I understand people saying, well, what are we going to do now that he steps down and that I'm stepping down from government service? But I can assure you I'm not disappearing. And the only thing I could say is just wait and see as we get into 2023.

Mitchell Warren: We're excited by that. The idea of Tony Fauci unplugged is something that I think we all are looking forward to. And as I told you, when you made your announcement about stepping down, that I know of an advocacy organization that is always looking for great advocates, and you are certainly one of them. You've done a lot of great things and have a great legacy. It's interesting going back to the implementation issue. You know, we think of NIAID and your own work as a leading researcher. But the idea that one of your great legacies is the development of PEPFAR, arguably the greatest investment in public health delivery that we've ever seen. And I wonder if you could just talk a bit about your own transition as a great biomedical researcher into thinking about the need for PEPFAR and what it needs to do with Amb. Nkengasong and others going forward based on a vision that you and others had a couple of decades ago.

Tony Fauci: Well, you know how I got involved in it. Mitchell was, um, you know, I had been very concerned in multiple visits to sub-Saharan Africa that my African physician and health care provider colleagues in 2000, 2001 and 2002–almost six or so years after the 1996 transforming year of triple combinations led by the protease inhibitors that completely transform the lives of persons with HIV–I was very struck and pained by the fact that our colleagues in Africa were in the similar situation that I was in taking care of patients in 1981, two, three, four, five when we didn't have any drugs. It was very frustrating and painful. And now I'm in Africa in 2001 to 1999, and this is the same situation I was in, *not because there were no drugs, but because we didn't have access to drugs.*

Fortunately, I found an empathetic partner and soul mate in President George W Bush who felt exactly the way I and others felt about needing to do something. And, you know, as you alluded to, it was the great privilege and honor of my career that he gave me the privilege and the honor to be one of the architects of the PEPFAR program. And that's what we did.

We worked for months and months and months on putting it together, and it turned out to be what it is now, a program that has already saved up to 20 million lives. There's a couple of comments about that that I think are important. One is that it's a great example of what can be done when you have leadership and commitment from the highest levels of the country. I mean, I put together, you know, the architect of it, but it would not have happened had it not been for President Bush. I mean, we worked on it overnight for months, and the President made the decision. *So when we think about goals and aspirations that we have in the future, we want to make sure that we always engage at the highest level of government for commitment* because that's when things really happen. I think the future of people needs to have absolutely undying support from everyone so that we don't say it's a successful program now we're done with it.

It's a successful program, but we are far from done with it. There is so much more that needs to be done and so much more support that needs to come about. And we've got to be very supportive of that program, without a doubt.

Mitchell Warren: Yeah, absolutely. And it's so important that we look at what it can do, not only in the AIDS response, but some of the larger issues which we'll get to in a minute. But I wanted to come back to these goals. One of your great goals and ambitions, of course, was the development of an HIV vaccine. And I think, too, the Vaccine Research Center, which you another you're a great architect, I guess in your spare time you were the architect of the VRC, which, although it hasn't delivered an HIV vaccine, it obviously was critical to the development of one of the first COVID vaccines. And but, you know, I think for many of us, we thought, well, he's never going to retire until we see a licensed HIV vaccine. Is it still

possible in our lifetimes and in the absence of an HIV vaccine, can we end the HIV epidemic without [one]?

Tony Fauci: Well, those are two great questions. Is it possible? Of course, it's possible to get an HIV vaccine. Is it difficult? It's extremely difficult for all of the reasons that you and I and others who are interested in this have discussed over the years that it, you know, violates that rule of vaccinology, that the best way to get a successful vaccine is to mimic natural infection. Because when you get naturally infected with measles or polio or one of those other infections, when you recover, you develop a degree of immunity that protects you against reinfection from the same pathogen. So you know what the correlate of immunity is, unfortunately, and I might say tragically, that's not the case with HIV. That natural infection does not provide an adequate degree of immunity, which is the reason why people can get reinfected and super infected and no one ever spontaneously gets cured of HIV by their immune system. We've got to do better than natural infection immunity, and I think we can do that. I think that you have the will and the wherewithal and the scientific commitment, whether that's with new adjuvants, new platforms, new intelligent design.

In answer to your first question, I think it's difficult, but we should not give up. In answer to your second question, can we end the epidemic without a vaccine? I also believe we can. I believe that if we implement with the now rather user-friendly pre-exposure prophylaxis with the long acting injectables and the long acting two, three, or four times a year injectable for treatment, I believe we can do it. You know, it gets back to the principles of undetectable equals on untransmissible (U=U). *So if we can identify people with consistent widespread testing, particularly among obviously the risk cohorts. And if you're not infected, go on PrEP. If you are infected, go on therapy. If you did that. You look conceptually, if you did that 100 percent effectively, you would end the epidemic without a vaccine.* You definitely would. I mean, a vaccine would be a bonus to really help in that regard. But we should not give up on the possibility of ending the outbreak. And say until we get a vaccine, we're not going to do it. But they believe we can do it in the absence of a vaccine.

Mitchell Warren: That's great. I think that that nuanced message is often lost on people. *We need to do so much to accelerate the development of a vaccine, but act as if we might not ever get one. And we can do both of those things at the same time.* I wanted to turn you know, you've talked a lot over the years about the importance of community engagement, of civil society, of advocates and advocacy and activism. It's obviously defined so much of the HIV history and to a large degree, some of the good conversations, you know. And science gets ever more complex, though. What are some of the key lessons of your direct engagement with advocates around the world over the years? And what do we need to be doing into the future with civil society and communities to really maximize the partnership?

Tony Fauci: You're asking a softball question this year, Mitchell. Of course. I mean, the success of where we are right now is due in some part not completely, *but in a large part to the extraordinary relationships and levels of trust between the scientific, the public health and the advocacy community.* And I mean, the story of how we partnered with the original group of HIV/AIDS activists. Too what the role of those advocacy groups would be now that we've developed this rapport and this collaboration and cooperation. I think it gets back to one of your original questions a few minutes ago when we were talking about the implementation of many of the interventions that we have. *You know, getting the community involved, I think is going to be very important if you want to adequately implement some of the interventions that we have.* I mean, we need community outreach to get people who are not essentially aware of what is available to them, to get them out there to be receptive, receptive of those interventions. *So to me, anybody that thinks the days of advocacy and activism are over, that's crazy*

because we need it now more than ever. So we just need to use the models of what was so successful in the late eighties and the early nineties in the mid-nineties. We really need to regenerate that.

Mitchell Warren: There were reasons that you talked about trust. And obviously there's kind of the insider advocacy where trust in partnerships with researchers and funders has been quite pivotal in thinking about the good participatory practice (GPP) of HIV research. And yet coming out of COVID and you've been there, you know, you bore the brunt of it for so many of us… But the issue of misinformation, of distrust, of denialism that reached epidemic proportions over the last couple of years–and I know you've thought a lot about this because you've lived it and your whole family has lived this–but what do we do to get out of this? You know, given the beyond the advocacy of the insiders, this outside community conversation that actually now is dismissive of science, dismissive of the research process and quite personalizing in their attacks.

Tony Fauci: Well, this may be one of the most important topics. Looking forward not only for HIV, but for all elements of science and public health. The divisiveness in this country, which feeds into the misinformation and disinformation, is truly profound. I have never in all of my career of 54 years here at NIH and 38 years as the Director of the Institute, ever seen the level of disinformation and misinformation that is so destructive to public health that it is one of the most counterproductive activities that you could possibly engage in. But to your question, Mitchell, what do we do about it?

I've always said that the best way to counter misinformation and disinformation is to flood the system with correct information. But it's a very interesting situation that I've observed. That people who are committed. Incorrect information and the truth is pushed back on anti-science. Usually people that have a lot of other responsibilities or as they say colloquially they have day jobs, and the people who are out there spreading ridiculous nonsense. It seems that they have all the time in the world to spread misinformation. It's almost like we're outnumbered when it comes to people who are spreading misinformation. The only thing that I would say is that we can't give up. I mean, one of the things I've heard people say, they throw up their hands and they say there's so much nonsense out there and so much anti-science and filled with myths and disinformation. You kind of give up. *We can't do that because if we do, there's no counter.*

You know, the craziness of some of the things that are said is so crazy, they're ludicrous. I guess those that are the good ones because they're so far out that even crazy people don't don't believe it. But there are some things that are disinformation but close enough to the reality that people get fooled by it. *So we really got to put a lot of effort in to counter that, that misinformation that's terribly destructive.*

Mitchell Warren: It's such a great point showing the idea that some of the leaders of the disinformation campaigns don't seem to have anything else to do. And so we've got to figure out how to counter that. So thank you for that. I know that you have a number of other engagements, but I think we have a few extra minutes because we had technical difficulties. So I want to get one quick question and then a couple of rapid fires. You know, obviously, travel has been hard for everybody these last three years, but a number of our African partners said, are you going to do a farewell tour? We want to thank you for PEPFAR for the research enterprise, any plans to get out to Eastern and Southern Africa particularly and be able to talk about what comes next in public health in those communities?

Tony Fauci: Mitchell I don't have any definitive plans about going to Africa or to Asia or any other place, because, as I mentioned to you, I am not allowed to, from ethical concerns, to plan or negotiate what my next position will be until actually I stepped down. My last official day is December 31st. In January, I will

regroup and look at all the offers of travel, all the offers that I've gotten, and try to map out a reasonable program over the next year. I certainly would want to travel to Africa to just, you know, be there and witness all the things that are going on. But I'll make it pretty clear when I'm about to do that, and perhaps we could arrange to visit some of our colleagues and collaborators there.

Mitchell Warren: Fantastic. I know there'll be a lot of people [looking forward to that]. Let me do some quick wrap ups, because these can be one word, two word answers. Biggest success in your career…?

Tony Fauci: Well, at NIAID, I think it was developing the AIDS program that has been responsible with industry for the development of most of the drugs that have now saved millions of lives. As a policy person, as you mentioned, that clearly was PEFPAR.

Mitchell Warren: Biggest regret...

Tony Fauci: I wouldn't say regret, but my biggest somewhat disappointment that I wanted to be in this position at a time that we developed a safe and effective HIV vaccine and that it is just not turning out that way. But we're not giving up.

Mitchell Warren: I'm very glad to hear that. You've talked a lot about the future, you want to really look at mentoring young people to bring them into the field. Who was your biggest influence as you look back? The biggest influence on your career?

Tony Fauci: My biggest influence in my career was someone who many of you have never heard of was my mentor, who convinced me to come from New York City and take a fellowship with them. His name was Dr. Sheldon Wolf, who was the clinical director of NIAID at the time, and he did something that was very generous. He gave me complete freedom to pursue my research career at a very, very young age. He gave me complete independence and essentially a senior position at a ridiculously young age of 28, 29.

Mitchell Warren: So we thank him and we thank him for that. And I know you'll do the same for another batch of 20-year-olds really quickly.

If you could go back to the early 1980s and change one thing in the HIV response. What would you do?

Tony Fauci: You know, I think it would be a sooner appreciation of the extraordinary benefit of prophylaxis against opportunistic infections, because infectious disease people are often reticent to be giving prophylaxis for concerns about inducing resistance. But it became clear that prophylaxis against many of the OI's [opportunistic infections] was totally lifesaving in many respects.

Mitchell Warren: And I don't want to give you PTSD, but if you had to go back in time to February 2020, what would you change in the coping response?

Tony Fauci: Well, that's a tough one because it's almost saying, if I knew in February what I knew in July, a lot of things would be different. So when you're dealing with a moving target, you've got to act and recommend and make guidelines based on what you know at the time. One of the real difficult situations we were in is that it was a moving target. You know, we thought the virus wasn't transmitted well from human to human. Then we found out it was. Then we found that it was transmitted by air. So

that we found that it was transmitted mostly by people who didn't have symptoms. If we knew that in January and February, we would have done a lot of things differently.

Mitchell Warren: And quick advice for your successor.

Tony Fauci: We're in a politicized area of all of our community and science. Stay out of politics. Stick with the science. Stick with the evidence, stick with the data. And don't get involved in all the noise that has to do with politics.

Mitchell Warren: Beautifully said, Tony. No one, the words goes, no one is indispensable anywhere in any organization. And NIAID will continue. And it's great to know that you will continue as an advocate. And again, the door is open here at AVAC. I just want to thank you. We have hundreds of people and partners from all over the world and many who couldn't join but send in questions and comments. But while people didn't always agree with everything you've done and no one ever does with anybody, the respect and admiration and gratitude of your partnership. And we see it in some of the chats coming in. And I know personally your openness to engagement with all of us is remarkable and will be sorely missed. But thank you for all that you have done. I'm going to let you have the last word.

Tony Fauci: Well, my last word, Mitchell, is thank you all. It's been such a great privilege, a pleasure and an honor to be leading this organization and to getting involved, particularly with the relationships that we've developed along the way with you and your colleagues and so many people and all the different organizations. That was really a great privilege and I'll value it forever. And I look forward to continuing to interact with you in a different capacity, the capacity of which is soon to be determined but not quite yet known.

Mitchell Warren: The suspense is killing me. I think I'm going to set up a betting pool to see where people think Dr. Tony Fauci may land coming out of NIAID. I know when you first announced that, you made it very clear to me that you were not retiring, you were simply stepping down from government service. And I think that gives us a fair bit of we're grateful for that because your work is too important. It doesn't need an acronym or an organizational hum. And again, Tony Fauci unplugged is something we look forward to in 2023 and beyond. Again, look forward to seeing you many times in many iterations over the years to come. Enjoy your last months as a government bureaucrat, and we can't wait to welcome you in January.

Tony Fauci: Thanks a lot. It's good to be with you. Thank you, everyone. Appreciate your attention. Thank you.

Mitchell Warren: Take good care. All the best.