MILKEN INSTITUTE

CONVERSATIONS WITH MIKE MILKEN

Freda Lewis-Hall

Former Executive Vice President and Chief Medical Officer, Pfizer, Inc.

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Mike Milken: Freda, thank you for joining me.

Freda Lewis-Hall: It is my pleasure.

Freda, it seems like generations ago that we became joined at the hip in our effort to accelerate medical research and find the cures for life-threatening diseases. And it's vivid in my mind today as it was then, Freda you told me that you had been home for Thanksgiving with your relatives, they were asking you – a person of such talent, the smartest kid in the classroom, a doctor – why did you "sell out" and join the largest pharmaceutical company in the world, Pfizer? And it just was seared into my memory banks that here some of the people telling you this were on Lipitor and other Pfizer drugs, not realizing medical research and public health has been responsible for

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This interview has been lightly edited for clarity and readability.

more than 50% of all economic growth over the past 200 years. And the greatest achievement of our human efforts has been the extension of life. We went from 4 million years of evolution and extending life by 11 years, from 20 to 31 by 1900, and in the last 120 years we've extended average life expectancy on this planet to 73 to 75 – more than a 40-year extension. And yet here you are, with people questioning why a young African American woman, so brilliant, has sold out and joined big pharma. How did you react at that Thanksgiving gathering at your home?

First of all, thank you for all of those kind words, Mike. I had been at Howard University Hospital and in the Virgin Islands in a health manpower shortage area, treating patients on the front lines in areas of greatest need. And when I talked to my family that very first Thanksgiving about moving into the pharmaceutical industry, they cried real tears and couldn't believe that I would leave direct patient care. Luckily, my husband knew my heart, and he said since he had known me since we were 17 he believed that I wanted to heal and what better way than to heal a million at a time. It didn't just have to be one at a time. And I was so grateful that he kind of knew my aspirations in that way. And it has just been a privilege and an honor to be a part of an industry that focuses on patients, saving lives, advancing science. Even in the face of our lack of popularity, we persist, and it's especially exciting to be a part of efforts in advancing our science in the fight against COVID.

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I think maybe people are starting to realize the defense companies of the 21st century quite possibly will be the bioscience companies, the pharmaceutical companies, the biotech companies. And as you know, they are all in, in this fight. Where did your passion to serve in the medical industry come from?

My father had a brother one year younger that was struck by polio in the 1920s, and he came to live with us when I was born. The care that he received by the medical community – when I was six years old, I would look around and think, these people are amazing; I want to do that when I grow up. You have to remember this was back in the early 1960s and there I was, a young African American girl talking about being a doctor. I can't tell you how many times I got a hand waved on that one. But my family agreed. They believed that their role was to give me wings and let me fly. And so it was all hands on deck, exposing me to incredible opportunities. Then I had incredible mentors along the way that encouraged me, supported me, and helped me finally make it across my goal of graduating from medical school and serving my community.

When I think about this coronavirus crisis, I also think back to polio. My father also had polio in the 1920s as a young boy and he had a limp. I really never recognized that he had a limp because he didn't really ever discuss it. And one day we were playing catch with a friend of mine and he said, *did your father hurt his leg? I noticed he had a limp*. I grew up with him walking that way and I really never noticed. And when I look back at what polio was in 1952, America declared polio an epidemic and we were starting to build those iron lung hotels, these large facilities that could hold tens of thousands of Americans. Now, as you and I both know, it never happened. They never needed those iron lungs because in '55, three years later, we had the Salk vaccine and that was the end. And I don't know when you got your first polio vaccination – I was, I think it was sometime in April or May of 1955. But it came and it went, and obviously, as you know, we're looking for the coronavirus vaccine today. Freda, I remember being at one of our Partnering for Cures gatherings where we bring industry, government, academic research centers, philanthropists, patient advocates, all the people around the table, and you termed the new term called "meta-collaboration." What is meta-collaboration? And how it can be applied to the coronavirus?

It's using the technology, the knowledge, the data, the information, the various resources that others can bring to the table. And it's not choosing and narrowing down who you work with. It's broadening and expanding who you work with. I think it will facilitate us working together in a way that we've just not as quickly or effectively worked before. So taking the Manhattan Project to the next level.

You were trained as a psychiatrist, and mental health is obviously a priority today. We know because of this virus that in many cases 80% of all the mental health visits that used to be in-person are not happening right now. Some have moved online, but we couldn't be more concerned today about the repercussions. How do you view the coronavirus from a mental health standpoint?

Think about the grief that people are dealing with now – grief in terms of unprecedented loss of the lives of loved ones. I think the consequences in the very near term, but also in the long term, are going to be quite substantial, and that will be exacerbated certainly by the changes that are going to exist in the way in which we live our lives every day. The way in which we work, the way in which we learn, the way in which we play and are entertained – I believe that the practices, the mechanism, the system will need to modify itself in order to be responsive.

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One of the other things that has come to light with regards to COVID-19 are health disparities, and you brought up mental health. Those two things collide for me quite dramatically because not only are the mental health consequences likely to be felt and experienced differently depending on the community, your culture, your age, your gender and your race and ethnicity and your geography and all these other factors. So we have a very important job in the near term to really understand disparities as they've shown up in the infection rates and the hospitalization rates and in the death rates of certain communities.

One in three African Americans were hospitalized for COVID, despite the fact that we represent only about 13% of the population. Seventy-five percent of those that died in Chicago were African American, but that population represented less than 33% of the population. We have a significant issue around disparities to understand better, and also in understanding what we'll have to do in the recovery as it relates to mental health.

As you know, we are so focused on data. And so as we saw this disparity coming up, the first thing I could think of was food, food deserts, the microbiome. And when we see that hypertension, diabetes, prediabetes – those with those diseases tend to have the most serious and worst outcome. But their outcomes were so much better once they changed their diet, their lifestyle, and it helped energize their own immune system. It's an entire cycle. I think your leadership in this area over the years has just been outstanding, Freda. What we have not looked at that you've addressed here is the mental health issue, which I'm assuming is similar.

Oh, absolutely. I think the data there is equally clear in terms of the amount of chronic and toxic stress that exists in day-to-day life. So if I think about, let's just do where we live: You had talked about economic disparities and how they affect where and how people live. If you think about urban environments, for example, where social distancing outside of your home or within your home may not be possible, living in multigenerational environments, which many ethnic groups do, so that there are multiple generations in the home, which means you have a need to care for but at the same time protect your elders. That may become difficult.

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If you look at racial residential segmentation as a result of economic factors in communities, you're leaving families exposed to toxic environments outside of the home that lead to all the conditions you just mentioned such as asthma and chronic obstructive

pulmonary disease. That inability to access healthy foods in a food desert or in environments where only unhealthy foods are available to you or affordable to you contribute to your obesity, the differences in diagnosed diabetes.

I also want to mention the work environment for many communities, Mike, and you had touched on this earlier – the really interesting statistics about who works where. So for those that have been deemed essential, for example, about 25% of Hispanic and African Americans are working in essential or critical roles now versus 16% of non-Hispanic whites. From nursing staff and medical staff, EMTs, people who are working in grocery stores, who are picking up the trash, driving public transportation – these people are at exposed risk. They know it, and they're also dealing with the emotional disadvantage of facing this every day.

Another interesting statistic is around Hispanics and their employment, where Hispanics represent only about 17% of the total employment population. They represent slightly over half of the agricultural workers, who are very important and are under inordinate stress right now. African Americans are also very interesting, in that 12% to 13% of the population represent about 30% of licensed practical nurses and licensed vocational workers. So these are people who are in constant contact with vulnerable populations and who are bearing the emotional weight of infecting the people that they are charged to care for, but also of being infected themselves and then infecting the people that they love at home and in their communities.

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So all of these things weigh disproportionately on the mental health of communities as a layer-on, if you would, of dealing with some of the other basic concerns around COVID. Also in the work environment, because many of these roles are occupied by groups that have basic health disparities in the first place, they also may not have sick leave, or at least not paid sick leave. They may be uninsured or underinsured. So at the first sign of an illness, they may neglect going to see a healthcare provider and so may be diagnosed later, may be undiagnosed and still infecting the people around them, et cetera, et cetera. So I think all of these are really important factors on the physical health side, but also weigh on the mental health side.

Just a couple of follow-ups to what you said. One of the things that really struck me as we search for data at our various centers of the Milken Institute and all of our medical

foundations was when we saw a correlation that maybe the best determinant of your health, and your health risk, appears to be your zip code. It really underlines what you've said, that there's a lot of other factors, but it might not even be your race, or it might not be other things – it is the zip code as to where you live. The other thing I wanted to follow up about this is as you've outlined for so many of us, we never thought of these jobs as essential jobs. But one of the things that's occurred here is that these jobs have become important to all of us, and we all understand now we're a community of one. I would hope when this is over we will understand how important every job is.

And how important every person is. And one of the reasons I'm so excited always to be a part of what the Milken Institute and *FasterCures* does is we're very solutions-oriented. I think that there are some near-term solutions in the space today and also some things that we should think about for tomorrow. So now that we've kind of reset our level on understanding how important we all are to each other to live our lives the way we do every day, then what do we need to do for people who are at greatest risk for whatever the risk factor is? I think one is to harness the power of communities. I think there's an opportunity that we understand. To your point, is it a zip code that's different? So the access to certain things in a particular community are less than they need to be to serve the needs for those in the community. How will we address that? Be it food or transportation or safe living space?

How do we make sure that every community that is a mini hotspot, if you would, within the larger recognized hotspots are getting the testing that is required; that people who were exposed by virtue of their work, wherever they are, have adequate PPE; and that we continue to assess and better understand through our data collection and analysis who they are and be sure that we're really protecting everyone. And to further protect those who may be at greatest risk for the worst outcomes by ensuring that we're doing our best to manage their underlying conditions. There's a lot that goes into this and I don't – my mother used to always say never put *only* in front of *time*, *toil* or *money* – so I'm not suggesting that doing any of this is easy, but I think that it is necessary. I'm excited by the opportunity to participate with organizations like *FasterCures* and many other agencies and companies that I'm working with now that are applying themselves to ask questions, because we still don't know everything, but to also provide answers and solutions to some of the questions that we have answered.

As you think back about lessons learned during crises, you've gone and brought out some unique ideas. One of them I'd love you to touch on, Freda, is what you did with Pfizer, where you took molecules that Pfizer was not going to address, put them in a separate entity, and actually have created a new company with others. Could you tell us the story of what happened with these molecules and what that strategy was and what happened really in a fairly short period of time?

Thank you for asking about that because it's really one of my favorite opportunities. What I know from having been in many companies, Pfizer included, is that the intent of people is that work at the company is to serve. Unfortunately, in many cases we have too many opportunities to actively pursue, and so some of the medicines that are in development are put on hold and we can't take them forward because you can't do everything, you just can't.

We were able to come together and create a company with investors and scientists and clinical development experts and business development experts. It was a great number of people within Pfizer and outside that helped shape this new home for these medicines. We were able to take compounds into the new endeavor that were intended for rare diseases and rare tumors, and I'm happy to report that they are moving forward now on the road to patients.

Freda, I don't want to keep all of our listeners in suspense. What is the name of this company now?

So the name of the company is SpringWorks Therapeutics. It is now a public company, and that unto itself is a thrill because the way that the company moved forward was kind of a small endeavor with a small number of compounds, but all in the clinic. And so that was exciting to pursue.

Freda, I just want to generalize it for our listeners – this strategy that has so much promise that you've talked about and shepherded. Our large bioscience companies have so many different opportunities, molecules, et cetera, and by moving them to others that are just focused on a few of them, you're able to accelerate the work and bring them to market as the larger bioscience companies work on other parts of their portfolio. So Freda, I want to thank you for your service, for your partnership, for your friendship and for all you've done in your career to improve global health. I look forward to your insight, your enthusiasm, and your can-do attitude. And one of the things I'd like our listeners to know is, what is your favorite song and why is it so applicable today?

One of my favorite songs is a song that's sung by Diane Reeves called "Better Days." And the heart of the song is that her grandmother taught her that you've got to make it through the night in order to get to better days. Be patient.

Thank you for joining us today.

Thank you. It has been my pleasure.