MILKEN INSTITUTE

CONVERSATIONS WITH MIKE MILKEN

Lynn Goldman

Dean, Milken Institute School of Public Health, George Washington University

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Mike Milken: Good morning, Lynn, and thank you for joining us.

Lynn Goldman: Thank you for having me, Mike.

Not everyone understands what schools of public health do, what their graduates are focused on. Could you talk a little bit about that, Lynn?

Yes. We train people in a number of skills that have to do with managing and understanding health and epidemics as they move across our country and the globe. We teach epidemiology. We teach statistics and the modeling that that we need to be able to model the course of epidemics. We teach behavioral, public health sciences, about how human behavior can impact our risk for diseases. We have an area of public health called global health that has to do with the control of disease transmission and disease risk factors globally. And we're also very involved with environmental health sciences. For example, even with an infectious disease like COVID-

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This interview has been lightly edited for clarity and readability.

19, how is it spread in the environment, did we have to control it via controlling droplet transmissions, aerosols, the presence of the virus on environmental surfaces. That's also a part of what we teach and what we do.

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So we've been very busy during this COVID-19 epidemic because in every single field in public health, whether it's epidemiology and going out and doing the basic disease tracking and control, and sometimes very complex studies, to understand transmission of COVID-19 to the fundamental work that might have to do with developing and delivering vaccines to people. All of that is encompassed within public health.

So you have enormous expertise in your professors, your students, your alumni to deal with things like COVID-19 today. How have you changed, as the Dean, the focus of attention of your faculty or even your students today?

Our faculty are very focused right now on very new issues. We've developed within our laboratory the capacity to be able to grow and study the COVID-19 virus. We've been developing the polymerase chain reaction (PCR) assays for being able to identify the COVID-19 virus in people. And actually we've worked with The George Washington University Hospital on setting up a laboratory where we can do that onsite and get quick turnaround for test results.

We've also been working on understanding immunity to COVID-19. Some of my faculty are doing work on the behavioral issues – how our behavior either can cause the virus to spread or help to allay transmission of the virus. And then of course there's a lot going on with health policy. How do we bring the science of public health and medical science to bear on the policies that are being developed in order to control this virus and to protect the public from it.

Lynn, over the past few months we've talked about South Korea's response as a model of good practices, and you pointed out that they learned those good practices from the United States. What did they do and how did they develop those skills?

Well in essence they took the methods that we had developed in our own CDC – run very rigorous investigation of cases of infectious diseases, contact tracing, confirmation of case status, isolation and quarantine to draw a ring around infected individuals and prevent the spread of infection to the broader community. We developed that in the context of eradicating smallpox, and this methodology has been taught to all of our

epidemiologists. But also we have taken it abroad and used it in the past when we were working with other countries on building their public health capacity.

Now, what South Korea did is they souped this up with some high-tech tools that are very, very important. The PCR tests for COVID, we didn't have such a test for smallpox back in the day, but now we have these sophisticated genetic tools to be able to specifically identify viruses in people. But also they used the IT and big data technologies that we have today. In the day of smallpox, it was all written down on paper and people had to tabulate these cases and map them on, on paper. We have incredibly good computer technology for being able to see what's going on geographically, for being able to understand the extent of epidemics. So those tools very much enhanced the vintage kind of shoe-leather public health methods that that we've always used.

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So Lynn, I know your school has been able to provide courses in interacting with your students online, but as a university dean, I'm sure someday you'd like to have the students back safely at school this fall. Is that possible? What do we need to do to get the students back in the classroom?

The very moment that the DC Department of Health and the CDC and everybody else says that we're ready to bring students back, we want to do that, because we know that although we do have a fabulous online program but that for many of our students it's important to have face-to-face experiences. And yet we also know that it's going to be very important that we're assuring the safety and care of our students.

I can imagine that there might be times when certain students, because of concerns that they may have about immune susceptibilities or some students actually do have serious respiratory diseases, that they may want to study online. Even when we go back to having classes on campus, many of our students may be in other countries or parts of the country that continue to see this epidemic even when DC is open. So I'm starting to think about even when we open and we bring people back to campus, how do we make sure we have complete access to our programs for our students wherever they happen to be.

During the Ebola crisis, I know you and your professors and many of your students were focused on that. And you told me at one point that most people who are experts in public health know how to stop the spread of Ebola or other viruses. So I'm assuming today that you have a great deal of expertise within the school of public health, your

faculty or alumni and students to tell us how to stop it. What is the best thing we all can do in the short run and in the long run?

Well, I think in the short run, unfortunately, what we're doing in terms of staying home and trying to exert social distancing is the most important thing we can do. That results in decreasing the rate of transmission so that public health can get this current wave of COVID-19 under control.

But then in the next steps, we need to be doing two things. One is we need to be preparing for the second and third waves. And to me that means revving up testing and contact tracing and efforts to, as quickly as possible, identify each new case in an area that's been cleared of it. Find all the contexts, test them, isolate them, prevent it from spreading out of control. But second, to exert every possible effort to not only develop a vaccine for the COVID-19 but also to develop cures.

By that I mean not only drugs that kill the virus, but also drugs that treat the acute respiratory disease syndrome (ARDS), the pneumonia that is caused by the virus, because that is what is putting people on ventilators and causing death. And it's also causing long-term lung damage among many of the people who survive that. I think those two things in terms of cures – both killing the virus but also treating the lung disease that the virus causes – are very high priority, and it's possible we'll have that before we have the vaccine.

But I also think that it's very probable that in the next phase that public health can actually control this disease and allow us to return to a life that's closer to normal, maybe not quite the old normal, a new normal that involves much more vigilance and surveillance and that occasionally some of us are being isolated because there has been a little bit of transmission. But nothing like what we have right now with these complete community-wide measures to isolate ourselves socially.

Well, Lynn, thank you for joining us today. I've enjoyed working with you over the past decade and I think it's obvious today, the schools of public health are extremely important to the health of not only our nation but the world.

Thank you Mike, and I thank you for all that FasterCures does as well. It's very important. Thank you.