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ALEX MAIERSPERGER: What do the Olympics, bird flu, and health equity teams at health insurers have in common? We're going to find out. I'm your host, Alex Maiersperger. And today on the SAS Health Pulse Podcast, we welcome Dr. Meg Schaeffer, an esteemed colleague and friend, SAS's national public health advisor and epidemiologist. Welcome, Dr. Schaeffer.

MEGHAN SCHAEFFER: Thank you for having me, Alex. And it's great to be here.

ALEX MAIERSPERGER: So in pretty casual conversation, you often bring up the bird flu. What's so important about bird flu? And how did this passion come about?

MEGHAN SCHAEFFER: That's a great question. So in order to explain, though, why I love bird flu so much, I think I need to start with why I love influenza so much. So a lot of my SAS friends and colleagues know that I'll often say that influenza's my favorite pathogen. And when you've studied infectious disease for 20 some odd years and you've seen how these pathogens interact with humans and with animals and how they move through societies and populations, you can't help but be fascinated by the ability to witness evolution in some of these pathogens. And that's what influenza does right in front of our eyes every day.

So one of the things that's really interesting about it is that flu has eight genome segments. And those segments can function separate and distinct from each other. So you might have one segment that came from a bird, from a duck, maybe, one segment that came from a pig, one segment that came from a person. And all of those changes mean that the virus can still infect people. And, in fact, a virus like that could potentially infect a person, a pig, or a bird, and sometimes all of them at once. So that fascination and watching that evolution is why I love monitoring and tracking flu.

But what's happening with bird flu right now and is the other part of being an infectious disease epidemiologist is trying to predict the future and trying to avoid what can happen to human health. So the study of epidemiology literally means studying what is on the people. But to me, that's also what is on animals? What's in society? What's in ecology?

So with bird flu, what we've seen happening over the last couple of decades are warning signs and flags, kind of like how we saw with COVID, when we saw the emergence of SARS. Then we saw the emergence of Middle Eastern Respiratory Syndrome. And then we had the pandemic. We had warning signals that COVID was starting to change how it manifested itself. And now we're seeing those same warning signals with influenza.

So with bird flu, it made this abrupt change in 1997 in commercial birds but also wild birds. And, all of a sudden, we started to see wild birds that were disseminating this disease. We were seeing more outbreaks in commercial poultry. But it really just stayed in Asia to start.

And then it spread a little bit to Europe, a little bit to Africa. And then in 2014, it finally made its way to North America. And we saw birds that came in through these migratory flyways. And they came on the East Coast. And they came in on the West Coast.

But initially, that outbreak started in Canada. Birds flew across the Bering Strait. They landed in Washington State. And we had our first outbreak of bird flu. But it stayed in birds. And America's poultry producers and our US Wildlife Geographic Information Services, USDA APHIS, various agencies responded very quickly and managed to squash the outbreak. And we went back to status quo for a while.

Now fast forward to 2020 or 2021, and bird flu changed itself again. And this time, it changed itself in Europe. And Europe being a little bit closer to us in terms of migratory patterns meant that that virus started to hitch a ride on those birds that flew across the Arctic Circle. They landed in Newfoundland. And we saw an outbreak there. And then they landed in the Carolinas. And we saw infection there.

So now we are in the midst of the largest bird flu outbreak in North America that we've ever seen in recorded history. We've had to kill almost 60 million birds, commercial and otherwise, a lot of backyard flocks. And one of the things that's happened this time that is really truly unprecedented is the number of animal species that are being infected. So we're seeing grizzly bears, mountain lions, bobcats, in addition to foxes, raccoons, and other predatory animals that are eating infected birds.

So this is new for us. It doesn't necessarily mean we're going to have a bird flu pandemic tomorrow. But, again, these are warning signals that are telling us we need to be on guard.

ALEX MAIERSPERGER: I feel like I learned a lot, I got interested, and I got scared all in the same response. And so I heard "bird flu" and "grizzly bears," which is not something that I had ever attached to each other.

MEGHAN SCHAEFFER: I know. I know. It's crazy. Yes. Yes.

ALEX MAIERSPERGER: You've worked across local and state governments. You worked for health plans. You understand the data and how they're using it and how you used it while there. Right now, the amount of data and the variety of data that we have access to is exploding. From your experience and what you saw, how can public health and health care leaders use data to improve lives?

MEGHAN SCHAEFFER: That is a great question. So you're right. Data are available to us in an unprecedented way. And I love this. It's so refreshing to see a positive outcome from what we all are now recovering from, the COVID-19 pandemic.

When I first started in epidemiology at the state health department, we were all in this giant cubicle, seven of us. And when we logged into our computer, it was a DOS-based system with the green flashing letters on the black screen. And that was how we collected disease information.

Fast forward-- I know-- five, seven years later, we finally had some automation in place. Fast forward to 2020, and the systems were better. And the data were better. But we still had a little ways to go. And we still do have a little ways to go.

But in working the COVID-19 pandemic as I did across multiple different industry groups, emergency operations centers, and supporting public health, being able to get into a GitHub repository, public repository for the first time ever, and evaluate seven different sources of COVID data at the county level, just case counts, nothing identifiable, was absolutely something new. And it was fantastic.

So if I wanted to validate The New York Times' published data that they update every day, I could go into their source files. I could check it against the state-published data. And I could verify whether or not their counts were accurate. That's never happened before.

So when I think about how do we access these data and how do we better use them, we've got access to a lot of them. But we have to start to think about, yes, we've got it. Yes, we want to make data-informed or data-driven decisions. But now what are the influences of those different data sets and factors?

We're examining it in a critical way. And that's super important because sometimes that changes the conclusions that we reach.

ALEX MAIERSPERGER: Just in the responses, obviously, you're so talented. You've had this broad career path and an incredible network that you bring. You could choose to work anywhere. So why did you choose SAS as a place to bring your talents to?

MEGHAN SCHAEFFER: Thanks. Well, it was really an interesting time when I made the shift back to SAS. When I was studying microbiology as an undergraduate, I knew that I loved pathogens. I loved studying disease. But I didn't want to be a clinician.

And so that's sort of an awkward pathway. I tried research. I thought, no, this isn't for me. Then I found epidemiology. And that was just amazing.

And one of the things I joke about now is six-year-old girls never used to say, I want to grow up to be an epidemiologist. I wanted to be an astronaut or a doctor when I was six because those were the choices that I knew. But now I think girls and all kids are exposed to this field now. And people know that epidemiology isn't the study of skin. It's the study of disease. So I see great potential there.

So after I spent time at the state, spent time and Medicaid, and COVID hit, I knew I had to go back full time to just my passion. And SAS had an opportunity that was a public-health-focused epidemiologist.

And that position resonated with me immediately because not only did SAS prioritize public health to the extent that they dedicated an entire position to it, but SAS is the backbone of public health.

Every single United States public health agency has an installation of SAS, every single one. You can't go to graduate school for public health and not get exposure to SAS. So when I joined, it was a no brainer. But the thing that makes SAS so different is that they walk the talk of curiosity matters. So the first thing my boss said to me was, "Go for it. Be creative. Do what you want to do and follow your passion." And I was astounded.

So I dove into the software. I started creating dashboards displays, re-envisioning programs that I had run and in my capacity as a state official. And I found tremendous power in the software.

So when I speak about my experience with SAS, it's my firsthand experience. It's not what I've seen. It's what I now get to help governments do. And that is the most rewarding thing I think I've ever done in my professional career.

ALEX MAIERSPERGER: I love that. The curiosity matters. Definitely have had the similar experience on the SAS side.

Payers, you mentioned a little bit about your work on Medicaid and your work, I think the intersection of local governments or state governments, as well as the payers or the insurers that are often crisscrossing that membership and citizenship. Payers are now building out health equity teams. And we talked a little bit about that in that explosion of data. We now have a little bit more data of how certain decisions are affecting different populations within the membership or state that you're serving.

Are as they build out these health equity teams, what are the questions they should be thinking about? And how does their work actually translate to the end patient or member and the focus area they have?

MEGHAN SCHAEFFER: Mhm. That's a really, really important consideration. And my answer might surprise you because we're so quantitatively data focused. And especially in the payer side, you're

looking at money. You're looking at finances. You're looking at claims. You're looking at utilization in particular when you talk about patients.

But when you look at equity, there's a lot that you cannot get out of the data in terms of how to characterize a person and their challenges. You can characterize some things, like the percent of poverty in a population, the percent of money that they, an individual, spends on rent, whether or not someone has a car, if they have food insecurity, their proximity to prisons, high school education level.

But what you cannot quantify are mental health challenges, disabilities, how that affects their daily navigation through the world, whether or not they have an identification that's valid to allow them to apply for services. So I'm really passionate in the health equity space, and particularly the Medicaid disadvantaged space, in qualitative data acquisition. We need to be able to pull in text data. We need to be able to have interviews, focus groups, qualitative sources that give us a rich perspective to complement the quantitative.

And that's labor intensive to obtain. But it's so, so, so critical in giving us the right picture to be able to develop programs. So just as an example, I learned this the hard way in working with Medicaid populations. When we would try to solve questions around motivation, why would people miss appointments, why would they not seek services for children, we had to go out to those patients and talk with them and find out what their barriers were. And they were always different.

It would be things like, I can obtain vaccinations at the public health department, but I can't get my well-child visit there. Or my pediatrician doesn't participate in the National Vaccines for Children program. So I have to go to the health department. Well, that mother has twins and no reliable source of transportation. That's an enormous challenge for her.

So those are the types of things that we have to evaluate, that represent a misalignment of resources that lead to dramatic health inequities that we have to solve for. So to me, it's the intersection of both of those data to start to really get at what the true problems are.

ALEX MAIERSPERGER: There's a hallway rumor at SAS that you're an Olympic-level athlete. Is that true?

MEGHAN SCHAEFFER: I'd say it's sort of true. I'm a world ranked elite triathlete. So if you look at all the triathletes in the United States and across the globe, I'm probably in the top 1%. That still places me a couple of different standard deviations away from the Olympic mean, which is just a handful of people. But I'm extremely privileged to have raced on Team USA for the last five years, have been All-American the last four. I've just had some remarkable experiences in doing that that I never could have imagined would happen to me at this phase in life.

ALEX MAIERSPERGER: That is a rumor that I will absolutely continue to spread.

MEGHAN SCHAEFFER: Yeah, go ahead.

ALEX MAIERSPERGER: And word "Team USA" means you're an Olympic athlete to me. Are there parallels you experience in the either training or competition that-- sort of lessons applied to your career? Do you see a parallel in both?

MEGHAN SCHAEFFER: I do, yeah, absolutely. In many ways, I feel like if you have an athletic endeavor or you have individuals who pursue that, they are uniquely minded people. In sport, especially this kind of sport, you learn to live in discomfort for extended periods of time because that's what you have to put your body through in order to reach those breakthrough moments and have those episodes of success. So there's this unparalleled determination that you have to apply to yourself and your profession.

So one of my personal mantras is there is always a way. There's always a way. Now, that path, that journey might not look perfect. But there is a way to get there. So when I face things like injury or mechanical malfunction, how I respond to those challenges, it impacts the outcome. It can be successful or not.

I crashed my bike at my first world championships event and had a flat tire. And I'm standing on the sidelines, ugly crying, trying to figure out how to triage this. And someone hands me a wheel. So I pop the wheel on.

And I was determined immediately not to be last. And I wasn't last. I powered down on the bike and had my fastest 10k run I've ever had in my life. That really helped me not only be grateful for this person who helped me, but to know that I could overcome in a moment where I thought that all was lost.

And then what we do with SAS, there are always barriers. There's always challenges. We work with government, and government is tough. Government has regulations and requirements in place for a reason.

We're taking taxpayer dollars and trying to make the most of them. So we have to be creative. And in my approach with SAS, some of the things we do, we just talk. We bring people together. What's your idea? How do we triage through this issue?

And, like I said, to me there's always a way. There's always a way to not circumvent the process but find a way to success.

ALEX MAIERSPERGER: I'm inspired, not so inspired that I'm going to ever be an Olympic-level triathlete, but inspired enough that I might go for an afternoon run today.

MEGHAN SCHAEFFER: Good. I hope so. I hope I've given you a reason to run.

ALEX MAIERSPERGER: Yes. Amen. So we touched on the bird flu. It means I'll probably look at the birds that fly around a little bit differently, and also touched on how it's passed to grizzly bears. So I think I was already scared of grizzly bears. And so that doesn't change. But definitely the scary potential of many diseases that you help track-- knowing what you know and having that innate maybe potential fear of the things and people and animal species around us, what makes you or keeps you so optimistic about the future of health?

MEGHAN SCHAEFFER: Well, I see the progress. And I see the attention. And I know the people who do this work. The people who do this work are the most selfless, altruistic, intelligent, committed people that I think you will ever meet in government. Public health officials, public health people are unique. They are just people who constantly, persistently do good. And so that gives me hope.

But I also see this remarkable explosion of technology. And that is one of the things I love about working in private sector as a complement to the public sector, that I can get into the software that is absolutely unequivocally cutting edge. And I've used all of the other tools, all of the other software approaches that government has. And I can speak to the differences, sit down next to them and say, OK, tell me about your process. Tell me what you do now.

And then we map that out. We walk through it. And then we try to find efficiencies. And I, by no means, am the only person that's part of that process. I need engineers.

I'm not always the right statistician. I'm barely a data scientist. I love disease. I don't love to run models. That's not my forte. But there are so many people within SAS who do. So that's part of what gives me optimism.

But I also see unprecedented collaboration. So we see collaboration now across industry, across governments, across individuals, sharing information in the form of data but also best practices. That's something that public health already did well. I mean, you go to a public health conference, and everybody can't wait to share with everybody else what we're doing.

We want to talk about that because-- excuse me-- if the state of Tennessee is doing something revolutionary and they're seeing a reduction in, say, overdoses due to opioids, then Iowa might want to pursue the same approach. But if they're not talking to each other, they can't do that. Well, now we see that.

Some of the other things we see along with the technological advancements are that that's becoming more attainable. It's becoming reachable. It's not out of this cost-prohibitive realm.

And then the last thing I think we see is a proliferation of information, of scientific information. Now, that presents its own challenge in and of itself because you have to be able to discern good research from not so great research. But I think that science questions itself. Science is skeptical of everything that's published. And until it's repeated and validated and justified, then we know that there's truth. But never before have we seen more knowledge and information growth in this period than I think we're in right now.

ALEX MAIERSPERGER: I'm inspired times two. I share your optimism for a healthier future. Really exciting to hear both the technological advancement side and the people advancement side of willingness to collaborate and the things being done there.

Dr. Schaeffer, this was a joy. Thank you so much for joining the Health Pulse Podcast.

MEGHAN SCHAEFFER: Thank you.

ALEX MAIERSPERGER: So you've heard about bird flu. You've heard about elite athletic competitions. You've heard about health equity in health plans and at state and local governments.

I was particularly interested and excited about the technological advancements and the human advancements in that collaboration. Really great examples. Really appreciate this time.

We'd love to hear the ways that you're driving a healthier future. So leave a comment on YouTube here in the comments or email us directly, thehealthpulsepodcast@sas.com. I'm rooting for you always.

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