Center for Strategic and International Studies

TRANSCRIPT

Event

Book Launch—"The Big One: How We Must Prepare for Future Deadly Pandemics"

DATE

Wednesday, September 10, 2025 at 4:00 p.m. ET

FEATURING

Michael T. Osterholm

Director, Center for Infectious Disease Research and Policy (CIDRAP), University of Minnesota; and Author, "The Big One: How We Must Prepare for Future Deadly Pandemics"

Mark Olshaker

Author, "The Big One: How We Must Prepare for Future Deadly Pandemics"

CSIS EXPERTS

J. Stephen Morrison

Senior Vice President and Director, Global Health Policy Center. CSIS

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J. Stephen Morrison: Welcome. I'm J. Stephen Morrison, senior vice president here at the Center for Strategic and International Studies, CSIS, in Washington, D.C.

We're delighted today to be hosting Michael T. Osterholm and Mark Olshaker to celebrate the publication of their important new book, "The Big One: How We Must Prepare for Future Deadly Pandemics." Congratulations to you both. You've been exceptionally busy since the book appeared, just a short while ago – a few days ago. Anderson Cooper, CBS Mornings, Morning Joe, GW, George Washington University, with Peggy Hamburg. It's excited people. It's gotten lots and lots of attention.

Mike Osterholm is a close friend and colleague, a courageous and indefatigable leading national voice on global health security matters. He's based at the University of Minnesota. He's been there many decades, where he's Regents professor on public health and director of the Center for Infectious Disease Research and Policy, CIDRAP. Many of us listen regularly to his remarkable podcast, "The Osterholm Update." Over 100,000 subscribers. It's the "Prairie Home Companion" for pandemics. (Laughter.) Many of us read Mike and Mark's previous book, "Deadliest Enemies: Our War Against Killer Germs," published in 2017. I remember Mike coming by and sharing a copy and saying, you must read this. Which I did.

More recently, we watched as Mike launched, in the spring of this year, the Vaccine Integrity Project, a bold and timely initiative to mobilize experts outside government to provide updated scientific assessments of vaccines for COVID, RSV, and flu. Those scientific briefs came forward in August, and were a remarkable effort to provide an alternative, outside government, basis for scientific knowledge. Mike was exceptionally clairvoyant in seeing the likelihood that Secretary Kennedy, once in place, might pose great challenges to the vaccine enterprise at CDC and elsewhere.

Mark Olshaker is an Emmy Award-winning documentary maker, "Roman City," and frequent collaborator with FBI Agent John E. Douglas in writing books about criminal investigative psychology. He's a New York Times number-one bestselling author, five novels, and 10 nonfiction books. He knows a lot about serial killers. (Laughter.) And that seems to equip him well to write about pandemics. (Laughter.)

Before I say a few words about the significance of the book, and turn to the authors to kick off the conversation, a few words of special thanks and housekeeping. This event's part of the CSIS Bipartisan Alliance for Global Health Security, co-chaired by former CDC Director Julie Gerberding, who's with us today, and former Senator Richard Burr. We've deliberately made book events a priority for the alliance. We recently hosted Brad Gooch, authority of "Radiant: The Life and Line of Keith Haring." Last year in our studio we hosted Tony Fauci on his memoir, "On Call." Previous to that,

Tolbert Nyenswah on the Ebola response in Liberia, “Collapse and Resiliency.”

Special thanks are in order today to Sophia Hirshfield, a colleague of – a dear colleague in the Global Health Policy Center, who coordinated and engineered this event, and with the help of many of our other staff. Special thanks to our remarkable production team, Eric Ruditskiy and Arturo Munoz, and special thanks to all of you who have ventured here on this rainy afternoon, and those who are joining us online. The video of this event will be posted immediately online. A transcript will be posted tomorrow.

I’m especially excited to see in our audience today John Barry, author of the landmark study, “The Great Influenza: The Story of the Deadliest Pandemic in History,” the 1918 Spanish flu. That landmark study is a common referent point for all of us – many of us in this – in this room. Our colleagues have passed out notecards and pens. If any of you wish – that are here, wish to jot down a question, please do so. We’ll gather them. And I will have them to integrate into the conversation. Following this hour’s conversation, we’ll gather for a reception on the terrace with Mike and Mark.

We’re particularly grateful to Marianne Wald and Lauren Prince from East City Books, the best indie bookstore in Washington, D.C., located on Capitol Hill. They’ll be selling copies and Mike and Mark have kindly agreed to sign those.

A few framing thoughts before we turn to Mark and Mike to kick things off.

“The Big One” has landed in bookstores in an extraordinary and turbulent moment. We’ll be talking today about the argument that is laid out in “The Big One.” We will also inevitably be talking about the immediate unsettled environment that we occupy.

There’s no separating the two. If you want to talk about the future you have to talk about the present. As we will hear, we underestimated the price we would pay by not having a 9/11 style commission on the COVID pandemic. Politics blocked that. We’ll hear more about that.

We underestimated the decline in trust, the inadequacy of our communications, and the power and ferocity of the COVID revenge agenda that’s upon us now. No one expected the extraordinary speed and force with which action would be taken in the second Trump administration to bring radical changes to the vaccine enterprise, the biomedical research and development, scientific enterprise, the viability of major American research universities to operate in these times, and to key institutions such as CDC, NIH, USAID, which has ceased to exist, and the Food and Drug

Administration, and that we would see such little resistance in the initial phase in which these actions took place.

The recent firing of CDC director Susan Monarez followed by the resignations of several key and well-known CDC senior leaders was a thunderclap moment that set into motion last week's combative three-hour-plus Senate Finance hearing with Secretary Kennedy. It became clear that the direction events have taken are unsettling, not just Democrats but many prominent Republicans, independents, and others in our society.

More hearings and debate are coming soon. There are more challenges on the horizon, which we'll hear about. Questions of revisitation of the connection – alleged connection between MMR vaccines and autism, calls to reduce the childhood regimen for vaccines, challenges that are appearing to the national vaccine insurance scheme.

I want to talk – I want to turn now to Mark and Mike to kick things off. I've asked each to speak for a few moments on the genesis and purpose of the book, the core arguments and lessons learned.

Following that we'll have a conversation for the balance of the hour, and please do jot down a question that we can integrate into that.

So over to you, Mark. Thank you so much for being with us today.

Mark Olshaker: Well, thank you, Steve.

And as you alluded to in your very generous introduction, in my now long writing career I've kind of had four different platforms which have intermingled with each other. I've been a journalist, I've been a documentary filmmaker, I've been a novelist, and I've been a nonfiction author, and there are two subjects which I have dealt with on each of those platforms and those are, as you say, criminal justice and behavioral profiling, and the other is public health.

They might not seem to have that much to do with each other but, as you alluded to, again, they really do. They are both mysteries which have life and death consequences and I think that's what probably attracted me to them. I come from a medical family. I'm not a doctor – almost everybody else in my family is – so that might've had something to do with it.

But I've been fascinated by the detective work that people like Mike do, and the origin of this particular book was I was on the phone during COVID – early in COVID, actually – with a good friend, Larry Leamer, who is a very prominent nonfiction author in his own right.

And I said, you know, Larry, as bad as this is and with all the dislocation, with all of the economic hardship, with everything that's going on, this is not the big one by any stretch of the imagination.

And he said, I think that's your next book and that's the title, and I said, hmm. So when I got off the phone I called Mike and I said, Mike, I think we need to do another book and it's probably a continuation of "Deadliest Enemy" but there's a lot more to say, and the rest is – I don't know if it's history but it was a long process.

Dr. Morrison: Mike?

Michael T. Osterholm: Well, you know, I think that those first moments, actually, were a challenge for me about wanting to write a book because from the very beginning I saw this lasting as a multi-year event, that it was going to go on and on and on. And unfortunately, we didn't really have that kind of a mindset in terms of our response. We saw this more like a hurricane – it was going to be devastating for a few months and then we could go into recovery – type thing. And frankly, that was a real problem right from the get-go.

For example, we wrote an op-ed piece in The Washington Post in March of 2020 saying do not do lockdowns, do not, which was absolutely the opposite of what most government officials and a lot of public health people were saying. And the reason I came up with that point is the fact that I saw that this was going to last for months and months and months. And we –

Mr. Olshaker: If not years.

Mr. Osterholm: Yes, and we couldn't be in a lockdown for that period of time. It just wouldn't happen. So what is it we're trying to do? And I never for a moment thought that we were trying to prevent lots of people from getting infected. I thought that they would. But what we could do is reduce the likelihood of severe illness, and that was going to depend on our hospitals being fully functional.

And so what we proposed early on was we should be thinking about snow days. In the lockdown world, it was a situation where we had in March of 2020 41 states put in lockdowns. They have basically been the albatross around our neck of saying that public health ruined the economy, et cetera. Well, it's simply not true. Of those 41 states, 40 had released their lockdowns by June of 2020. And the irony of it was a state like Minnesota that was in a stay-at-home order, 82 percent of the workers were considered essential workers and therefore not under the cover of the – of a lockdown.

And so what the point was is we needed to think about how can we reduce hospital burden. And the bottom line is that what would have been ideal is if we had had in every community hospital, every large hospital, every day a

number that said we're at a hundred percent capacity, 70 percent capacity, at 120 percent capacity.

Mr. Olshaker: Not on a national level, but on a local level.

Mr. Osterholm: Yeah. And then, if you got to those higher levels, please, the public, now is the time to avoid public spaces if you can, minimize that contact. Now is the time not to have, you know, various kinds of activities in your community, and basically be riding the wave on this thing. And then that really became evident when we had the various variants emerge, which clearly had surge activity associated with them and in many cases more severe illness.

And so I think we got off on the wrong foot, without understanding what we were trying to do. And fortunately we had the vaccine at the end of that first year, but for that first year it was really, what is it we're trying to do in public health?

Dr. Morrison: So let's turn to the book. You posit a scenario, the big one scenario. You posit a scenario of a much faster and much more lethal respiratory virus. Talk about that. How credible is that threat? How do you make the case that that threat exists today? How do you bring that across? This is a central thesis of your –

Mr: Olshaker: Steve, I can tell you, you don't write a book with Mike without everything being checked – (laughter) – eight ways to Sunday. I mean, this is – I've never been through this kind of thing as I have with Mike. (Laughter.)

Mr. Osterholm: Well, you know, it's a situation where, in terms of talking about a pandemic, we did not really write the story about the big one. And let me give you the point to describe that.

One is, is that I do believe we're going to see more coronavirus pandemics. It's just now inevitable. Don't forget, though, that we actually saw SARS and MERS in 2003 and MERS in 2012, which were viruses that killed anywhere from 15 percent to 20 percent of SARS; for MERS, we were up to a 35 percent case fatality rate. But fortunately, they were not nearly as infectious. There were those examples of superspreaders where we saw that. That's one coronavirus.

Then we had COVID that was highly infectious but only killed – only, and I say that with great pain – 1 ½ percent of the people. Now, there is nothing – and I've had lots and lots of discussions with my coronavirus colleagues who would say that we wouldn't find a virus that had the ability to be transmitted by SARS-CoV-3 or COVID but also kill like SARS-2 and MERS – or, SARS-1 and MERS. And that could be much higher. We had a – we have a scenario here that's about seven-and-a-half times the death rate for this big one as opposed

to what we saw with COVID. But you know, what is to keep it from being even higher if it's a MERS-like virus? And now we're seeing in nature actually viruses that have that kind of receptor site that could make them highly infectious and the genetic package onboard that could also make them kill.

Mr. Olshaker: And then I will brag in a way that Mike is too modest to, but in "Deadliest Enemy" our chapter on coronavirus was called "SARS and MERS: Harbingers of Things to Come."

Dr. Morrison: So say a bit more about the science. The current science on this is that we're seeing this combination in animals – in bats – as examined and detected in China, correct? Say a bit more about that.

Mr. Osterholm: Well, clearly, we are discovering for both coronaviruses – and we're still working, obviously, on influenza because that's one that tomorrow could be the one that really gets us – is the evolution from a microbial advantage standpoint. You know, these viruses are constantly mutating, constantly changing.

And what is really also changing is just our ability to interact with them. Today we live in a world where bushmeat is a very, very commonly consumed product. We live in a world where airport transportation takes us around the world. And in fact, in the book in the scenario we actually have the exact air flights, real air flights that would have taken place at that time, and where they went to, and what the connections would have been.

Mr. Olshaker: And it would have spread the virus around the world in a matter of days.

Mr. Osterholm: And so it's the combination of all of those things.

And then it's our lack of preparedness. I mean, this is the hardest part for me right now, is that I am quite convinced we are much less prepared today for a pandemic than we were in 2020. For example, if you look at the previous administrations including the Trump 1 administration, there clearly were dedicated activities in the White House themselves to actually deal with biopreparedness and to be able to help coordinate a response. There is no one in the White House today. There's nobody on the Security Council today that has any of this experience. CDC is basically, unfortunately, being gutted as we watched over the past recent weeks. That expertise is gone. And so if you look at that.

The other piece that – where I was very hopeful – and our center happens to be very involved with roadmaps for both coronavirus vaccines and influenza vaccines, detailed documents that help us know how to get to a better and better vaccine. And today, if we had an influenza pandemic, we have the capability with our egg-based production and cell production to make

enough vaccine in the first year to 15 months to vaccine only a quarter of the world. That's it. And that's if everything went really well.

On the other hand, if we had mRNA technologies that we could apply to flu vaccine, I don't think those vaccines would be necessarily any better. They could be. But more importantly, we could make a lot of it. And we estimate that probably in the first year we can make enough mRNA-based flu vaccine to vaccinate the world.

You know the difference between those scenarios is millions and millions and millions of deaths? And we just got done deep-sixing our mRNA technology research and support in this country.

Dr. Morrison: So why is it that in just a short space of a few years since the peak of the COVID pandemic that we can have a systematic dismantling of the kind you've just described without public outcry of a sufficient force to deter that? Why has there been so little resistance?

Mr. Olshaker: Well, first –

Dr. Morrison: This is all getting reported.

Mr. Olshaker: Yeah, but –

Dr. Morrison: Those who work these issues are very excited about this.

Mr. Olshaker: The people who do this are moving so fast that it's hard to catch up with them. And science is an iterative process. I mean –

Mr. Osterholm: Yeah. I think – I think the challenge we have right now is that people were very tired coming out of the pandemic, but more than that they were disillusioned.

Dr. Morrison: Yeah.

Mr. Olshaker: Yeah.

Mr. Osterholm: And you know what? You can blame whoever you want to blame for that, but I tell you anybody that goes through a pandemic like that has reason to be disillusioned afterwards even if everything went perfectly well. And so I don't accept the fact that as many of these revisionists are now coming forward with their interpretation of what happened with the pandemic – the fact is that that was always going to be a problem.

But what we didn't do is bring it to closure in a way that could help address that disillusionment. And this is where, as you noted in your introduction,

you know, we have been very strongly supportive of a 9/11-like commission that would basically focus on what we should have and could have learned from the pandemic. No finger pointing. As you may recall, the bipartisan 9/11 commission was an incredible activity in the sense of bringing people together, identifying the problems, no blame but how do we fix it.

Today we're fixated on where did the virus come from in Wuhan, and we say quickly right in the book stop that. It's not going to help because we're not going to know. No one will provide convincing evidence, I believe, that it's one or the other. Meanwhile, we're not getting ready for either one of them. And tomorrow we could have a lab leak. Tomorrow we could have another influenza or coronavirus pandemic we need to be ready for. We're still stuck on that yet that that to me is one of the deterrents. And as long as we have that mindset, we're not going to get better prepared.

Mr. Olshaker: You know, Steve, when we – when we wrote "Deadliest Enemy," I think we were – because of Mike, we got it – we pretty much got everything right that we said. Our one error was an error of omission. It never occurred to us that if there was a major public health disaster or pandemic, as there turned out to be, that it would become politicized. That people would take sides based on where they lived, who they listened to. That never occurred to us. We thought, gee, if there's a – if there's a pandemic, we're all in this together. This would be like an invasion from Mars, or wherever there's intelligent life. We would – we would all hang in together. And that hasn't happened.

Dr. Morrison: Now, Mike, you and I were both involved in Philip Zelikow when he was putting together the rudiments for what was to be a national commission. That effort lasted two years. It was predicated on winning consent from Congress on a bipartisan basis to bless such a thing. And it was predicated on getting access from the Biden administration to the files of four major agencies. It was impossible on both fronts. It was impossible to get a bipartisan agreement. It was impossible to get an agreement from the Biden administration. Politics stopped it in its tracks.

Mr. Osterholm: And I think one of the things that was so frustrating about that is Philip really was the model people to run this, because he had done so well before.

Dr. Morrison: With the 9/11 commission.

Mr. Osterholm: The 9/11 commission. And he knew how to do this. And he brought together a team that were prepared to do it. You and I both invested a lot into that. We just couldn't pull it off in a way that allowed us to get to what we needed. So I think that was a huge missed opportunity. I don't think it's ever going to come back again. And that's going to be the misfortune. Because, again, one of the things we cover in the book are all the lessons we could have and should have learned, whether it be respiratory protection, should we have

closed our schools, you know, what do we know about vaccines and what – mandates, and so forth. And these are all things that we have not resolved. And we need to, very, very much.

Mr. Olshaker: Yeah. And this is not just a medical issue. We deal with all of the societal. You deal with communications. You deal with economics. You deal with public policy and leadership. You deal with surveillance – all of the things which funnel into this one big problem. But if they're all working together – we can't prevent a pandemic, as Mike has said on many, many occasions, but we certainly can mitigate it to the point where it will do much less damage. And again, as we say, any money you put in now, any resource you put in now is money well-spent. It's pennies on the dollar.

Dr. Morrison: You know, the – I think it's in John Barry's book on the Spanish flu of 1918 –

Mr. Olshaker: Everything from John Barry's book – (laughter) –

Dr. Morrison: It took – it took us, I think it was, 15 years to really reach resolution around the root – the root causes of that pandemic. And you referenced that we do have this quagmire, this stalemate over COVID origins, which has become a deeply embittering one. Certainly it stands as a rock in the road between the U.S. and China having any kind of serious, senior-level, it's become a mobilizing factor up on Capitol Hill. We missed the fact that all of these areas were going to fuel a level of political division, right? Schools, shutdowns of businesses –

Mr. Olshaker: The whole concept of personal freedom.

Dr. Morrison: Personal freedom. The public health world was not built and prepared for the complexity of these challenges, that went way beyond public health. They went into all of these different areas. And as you point out, it was oftentimes the case that the public health world became the target of blame and frustration in this – in this period. And it's led to all sorts of soul searching within this field about how to communicate better, how to be politically more deft and agile in this period. Just to come back to your scenario, your scenario is meant to be that which gets people to sit up and think again, right?

Mr. Olshaker: And in the scenario, not everything goes right, and not everything goes wrong. We tried to make it as realistic as possible. So it's a warning, but it's not a scare.

Dr. Morrison: Yeah. And do you think you're going to be able to cross the political divides? That this book – this book is written for a general audience, right?

Mr. Olshaker: Yes.

Dr. Morrison: It's not written for an expert audience. It's written for a more general audience. There's a number of books out there that try to treat many of these same issues. Do you think you'll be able to reach the skeptics, or those that are still angry, or those that are inclined towards amnesia, or continued anger and rancor over this? That's – a good portion of our society is in that state of mind right now.

Mr. Osterholm: Well, you know, before we go on, you mentioned John Barry, who's in the audience, and Stu Simon sitting up here. These are two individuals that contributed mightily to our work. And I just want to acknowledge them. They were really very, very important. And we learned a lot from them, both of them.

In terms of this book, let me kind of add a conclusion that most people wouldn't think of. This is a love story, for me. This is a book about trying to make the world a better place for my kids and grandkids. And in that sense, that's what this was all about, how can we try to change the world so you don't have to go through what we're hypothesizing here. And let me just say, you know, I had been very involved with pandemic preparedness for more than 35 years. I've written a lot about it. I've been very actively involved on both influenza and coronavirus. As I mentioned earlier, our center actually holds for the world the actual roadmap documents to try to move this forward.

I do not believe, as some do, you can prevent a pandemic. You can't. Once that virus with wings get out – and that's in the scenario – you see how quickly it moves around the world. I mean, here we were the United States hardening up our west coast so we could keep the Chinese virus out, when it came via Europe from China and then to the east coast. You know, it's going to spread. But what we could do – and I do believe this – with continued research support we could develop vaccines that really could be available and could make a huge difference quickly. And then it would still be a pandemic, in the sense it spread around the world quickly, but we could greatly reduce its impact.

And we need to do that. And we're not. You know, and I'm thinking of this like an aircraft carrier. You know, 15 years in the making, but look what you get at the end. We need to also convince people why investment in this area is so important. And this is what really concerns me, because this government has basically changed that whole complexion of a researching a virus that many – or, a vaccine that many of us have real doubts is ever going to yield any real positive results, versus the kind of research that could give us a vaccine that, in fact, really would keep us from suffering.

Dr. Morrison: So that's one of your core lessons learned or revelations, right? That Operation Warp Speed showed us that you could create a platform and move with extraordinary speed, and save millions of lives. And now we've walked back from that officially, right? We've cancelled billions of dollars of investment in that. What are the other core lessons? What are the other core lessons learned that you want your reader to take away?

Mr. Olshaker: Well, one of – one of the things which we've tried to stress over and over again, and really is one of the core lessons here, is that we spend billions and billions of dollars a year on national defense, as well we should, against our known enemies and perceived enemies. Arguably, short of a worldwide thermonuclear war, the greatest threat we face as human beings is microbes. And microbes have the ability to do far more damage to us – to our lives, to our fortunes, to our health, to our way of life, to our lifestyle – than any human enemy conceivably could, particularly in high-income countries like the United States. So why aren't we putting the same amount of effort into protecting against this much more dangerous adversary than we are into other forms of national defense?

Mr. Morrison: I'm glad you brought that up, because in reading the book the national security argument's there, but it's not as – it's not a dominant argument in here. And one reaction I had was, you could do a lot more in pushing the national security argument. And in this current environment, talking about the readiness of America's warfighters, talking about the need to protect our populations against these threats, that argument has not gotten sufficient flight.

Mr. Olshaker: When Mike talks about an mRNA platform and the development, and all of the different possible uses for it, that's essentially the same thing as creating a weapons system that may take 10 or 15 years but better be ready when we need it.

Mr. Osterholm: So let me add context to that, because actually I agree with you completely. Remember, we had to have this manuscript turned in in the first of the year, OK, to get it out today. At that time, I don't think anyone could have envisioned what we going to be the resulting impact on our national security relative to infectious diseases. You know, even as bad as I thought it might get with vaccines, and what was going to happen, I never had a sense that we would see basically the gutting of bio-preparedness and national security. If I could rewrite the book and bring it up to date, this would be an area that clearly we would add, is the national security piece to it.

Mr. Olshaker: And prying the manuscript out of Mike's hands was really a major problem, a major issue.

Mr. Osterholm: I kept wanting to change it. I got to add a little bit here, a little bit there. We're learning more about this.

Dr. Morrison: All right. So say more about communication. So you put a lot of emphasis on communication.

Mr. Olshaker: Yes.

Dr. Morrison: Spent a lot of time.

Mr. Osterholm: Let me just – because this is one I want to use as an example. It's not just communication, but what we didn't understand is this pandemic was going to evolve over time and the first year of the pandemic with the variants that we had did one thing.

But as we had subsequent new variants different things happened. Let me give you the best example of school kids.

You know, we saw in the first year basically a hundred and ninety seven kids in this country die from COVID and it was concluded by many, some very prominent people who wrote papers and documents saying, you know, this was not a problem – we could keep the schools open. OK.

Along comes Delta, which really started to change things, and then Omicron. Do you realize that we had almost 1,600 kids die from COVID? Eighty-seven percent in the second year and the third year, not the first year.

Yet, the policies we developed were for year one when in fact you could have argued we could have flipped them a bit, and by the time we got to year two and three it wasn't just the fact that teachers were concerned and everybody blamed it on the unions or the CDC which, by the way, didn't have the impact on school closures. It was a local thing.

But, in fact, we also found in several very good studies that 65 (percent) to 80 percent of transmission in households in this country in year two and three occurred as a result of kids bringing the virus home from school to their families and that's when we should have been thinking about maybe the snow day activity – you know, our school is so bad.

I remember seeing the mayor of New York City when Omicron was at its worst and they couldn't get the kids to go to school because they were home sick. They, you know, couldn't get teachers to come to school. They were home sick and saying, we're going to keep them open. It's a safe place for kids to be.

We didn't have a process or a way to share with the public. This is changing. This is how it's different today than it was yesterday. This is why we're now talking about what we're talking about here, and I think that whole process, whether it's respiratory protection, whether it's school closings, whether it's just overall understanding of what's happening, that's one of the lessons we should have learned how to better communicate.

Mr. Olshaker: The whole idea of masks, which covers a multitude of good and bad stuff, was never really communicated properly.

Dr. Morrison: Now, on the communication side, things like just follow the science became triggers, right? They became the opposite of what – they became a mantra that had the opposite effect of what they were intended to and they were seen as condescending, elitist.

And in your book you acknowledge this and you argue for humility, for a more emotional attachment, more of a posture of listening and understanding the need for kindness and an emotional connection to those who are living in fear and who may be skeptical of what expert authorities are going to say.

Mr. Olshaker: I think one of the things that was probably not communicated very well was what science is. Science is not ultimate truth. Science is the pursuit of truth and it constantly changes and, as Mike has said on many occasions, you need the humility to say this is what we know, this is what we don't know, but we're going to keep you up to date with what we know and understand and we're going to stay with you and, ultimately, we're going to get through this. But this is what it's going to take.

Mr. Osterholm: Yeah. You know, there wasn't a day that went by in the pandemic I didn't think to myself, gosh, I wish I knew today what I'm going to know a month from now or two months from now and I think we didn't do a good job of conveying that, any of us.

And I think it was also – you know, I can't tell how many times I was on various, you know, major national talk shows, news programs, et cetera, where it was a bunch of talking heads that one would say X and the other one would say Y, and then somebody would probably take X and Y and make it into Z. If I were the public I'd be terribly confused.

Mr. Olshaker: And a month later –

Mr. Osterholm: A good example was I was on "Meet the Press" just as the Omicron wave was starting to hit and I actually said to Chuck Todd, I said, you know, the worst of this pandemic is yet to come, I think, and I got nailed by media and by colleagues the following weeks.

Well, in fact, it turned out that that was exactly what happened, but it wasn't the fact that we didn't anticipate in a way that could have said, this is why I'm saying this. This is what I think is happening. This variant is much more infectious. And that wasn't being conveyed, and I think the media owns some of this. I mean, you know, we brought in a lot of people who had never done health reporting who had no real understanding of public health that came in and started working, and some of them did great jobs but a lot of them basically got a lot of their facts – how shall I say – mixed up. (Laughs.) And that created confusion for the public, too.

Mr. Olshaker: And they would bring in the same talking heads month after month even though what they had said the previous month turned out to be completely not right.

Dr. Morrison: But some of the – some of the positive lessons learned on communications, I think, came from, like, your podcast, which is a long and gentle sort of discursion in which you talk about this as being in honor of this sector of the responders or the impacted populations, and it has an almost spiritual feel to it, the show.

Mr. Olshaker: (Laughter.)

Dr. Morrison: And your ability to have people – you know, I think you were talking, it's like comfort food. But it's more than that.

Mr. Olshaker: And I've got to say the first thing Mike would always say is what he didn't know, and I don't know many other experts who were willing to say that. And I think his credibility was sterling because he separated out what was known and what wasn't known and what we hoped to find out.

Mr. Osterholm: You know, and I think that was an accident, in a way, but it's a deserving story. I think –

Mr. Olshaker: Oh, I thought you did it on purpose. (Laughter.)

Mr. Osterholm: Well, I'll explain. So what happened was actually I was on Joe Rogan's podcast in early March, and I'd never heard of Joe Rogan. I didn't know what a podcast was. And of course, our young staff all looked at me like, you loser. And so – (laughter) – I end up going on Joe Rogan. So it was such an amazing thing that the day after the podcast it had 10.5 million downloads. It was incredible.

So we decided we would try a podcast, and you know, it was going to be very much in the line of just the information. And then one of the days a very, very dear friend of mine, a physician in Minnesota who I loved dearly, he died

from cancer, and I was there with him just as he was dying, and it was very emotional to come back and do this podcast. And I got on the podcast and I just broke down, and basically I dedicated the podcast to him and said, you know, what he had done for me. It wasn't planned. There was no – the feedback we got – (laughs) – was immense.

And so I thought to myself: You know, I'm missing the game here. There's more that people want to have than just a bunch of facts. They want to know what you feel and why you feel and how you feel. And even created a little bit of controversy because I'd do a section each podcast, you know, about sunlight and how long – and some people hate it, nails on a chalkboard. Others love it. And so I even add that in just to keep the spice of life going.

Dr. Morrison: I just want to add, you know, there are other people that surface in this period in very creative communication methods.

Jeff Gold started his weekly cable show, "Rural Health Matters," and he took a very matter-of-fact, very sympathetic approach, very careful, and very persistent. Over each week, he would – he would connect with his audience and – like you do, he would connect with his audience and talk about what he had heard from his audience and bring forward in as dispassionate a way as possible what was intelligible data for a non-expert around what was happening. And he built up a(n) audience of 14 (million) to 20 million households that were ranching and farming households.

Katelyn Jetelina started in Texas as a podcaster initially for her fellow colleagues and then grew it out. She now has 750,000 followers on a media complex, again, out of approaching things in a very compassionate and honest way that broke with the patterns.

Sandro Galea, who is now dean at the Washington University St. Louis School of Public Health, he was doing a(n) almost weekly blog that was – as an – as an expert within the public health field that was very self-critical about the public health field and the need for it to break out of its coastal or elitist sort of mentalities and communicate much better.

Mr. Olshaker: And he was one of the people we relied on.

Mr. Osterholm: Yeah. I think those are all great examples. All those people have made major contributions, I think, to information dissemination in this country.

Dr. Morrison: I mean, and there are many more you can point to who –

Mr. Olshaker: Sure.

Mr. Osterholm: Yeah. Yeah.

Dr. Morrison: You know, Céline Gounder, Monica Gandhi. There's quite an array, and many of them women who had been – who were brought forward; Megan Ranney, now dean at the School of Public Health at Yale. They all emerged as remarkable voices in this – in this period. Many of the media – mainline media may have been – have stumbled around and had difficulty, whereas these folks were pioneers, along with you, in putting forward a different kind of communication that we really need.

One thing that you've talked about is the standoff between science and what you call magic, smoke, and mirrors. Now, I think we – maybe more than that, Mike, in a way we're in a moment of reckoning. We're in a culture – something of a culture war, right, and we're so polarized and divided. This is an unprecedented moment of political and cultural collision right now. When you talk about what has happened and the dismantling and the challenges to science and to – and to public health and to preparedness against these threats, we need a pretty aggressive strategy for how to bridge that gap and move forward. How do we connect – how do we break out of a bubble in this period?

Mr. Osterholm: Well, you know, Lewis once said if you don't know where you're going anywhere will get you there. And I think one of the challenges we have right now is we're not sure how to do that.

You know, I look at the issue of even social media and looking at it by different ages and different – and I think we're all trying to understand how do you do that kind of messaging. What does it mean? And you know, there have been research done showing at least potentially eight different groups of people who are vaccine-hesitant/anti-vaccine who are all very different in how they got to where they're at, and one means of responding to and trying to improve on that particular group's vaccine views doesn't do anything for another one. And so this is an area we need a lot of research in to understand this.

And I will be the first to admit that I think the challenges we have are such that over the course of the next several years I think it's going to get a lot darker, not a lot lighter. And my hope is, however, that if you go back in history, every time things got really, really dark there was a renaissance afterwards. And I want to stick around for that.

Dr. Morrison: Mark?

Mr. Olshaker: And history is kind of on our side. I mean, Mike and I are of the generation where our parents lined up overnight to get us polio vaccines so that we wouldn't get this horrible disease that had – that had crippled and killed so

many people. And I think to a certain extent we are probably victims of our own success, because vaccines and medical countermeasures in public health have been so successful that –

Dr. Morrison: – the threats have disappeared.

Mr. Olshaker: – the threats have disappeared and people take it for granted.

I mean, diphtheria, which is one of the standard vaccine components now, was a terrible disease. I mean, it was horrible. And you know, one of the problems with Mike's profession is the best thing that can happen is nothing, so that's hard to prove, you know.

Dr. Morrison: Right.

Mr. Osterholm: Yeah. I think one of the other areas – and this really fits very much in line with what you have been dedicating your life to – this is all about the whole world. This is international.

Mr. Olshaker: Yes. Yes.

Mr. Osterholm: This is not just here.

I mean, just as an example, Canada just recently reported over 5,000 cases of measles this year, OK? We're at about, I think, 1,400 right now. Remember, Canada only has 40 million people; we've got 340 million people. It's a much, much more severe problem there. And many of the same anti-vaccine, anti-public-health kinds of environments –

Dr. Morrison: And that outbreak was seeded from Gaines County, Texas.

Mr. Osterholm: Exactly. You're right.

Mr. Olshaker: And in the year 2000, because of vaccination, we had no measles cases in the United States.

Mr. Osterholm: Yeah. So the point being, though, is that on the international level we are putting ourselves really in harm's way pulling out of the World Health Organization, minimizing our support for foreign activities that would reduce the potential for disease such as PEPFAR or USAID, and all that soft diplomacy that we've done for years so successfully where we actually gained a great deal from relationships with countries because of our kindness, not because of our strength. And look what that did. That saved millions and millions of lives. That's all going to change.

And what's that mean? That means our borders are going to be constantly pinged upon by new infectious agents coming in here. And you know, the best place to end up stopping an infectious disease is where it starts. Well, unfortunately, a lot of that is in the low- and middle-income countries. I think the challenges we're going to see with internationally related diseases is going to be remarkable. It'll be a resurgence, I think, of international disease health.

Mr. Osterholm: Yes, and just so many needless deaths of disease.

Mr. Olshaker: Yes.

Dr. Morrison: While we're on what's worrying us, you started the Vaccine Integrity Project because you foresaw the danger of the weakening and dismantling of federal capabilities at CDC, the ACIP, the Immunization Practices Committee, sets policy and the like. And sure enough, that has been true. There's been a radical weakening of the federal capabilities. And now we're seeing a balkanization happen. We're seeing Florida go off and announced – Health Secretary Ladapo announcing they're going to try and do away with all childhood vaccinations. We'll see if that's possible.

Mr. Olshaker: And California, Oregon, and Washington are going in the other direction.

Mr. Morrison: We have the alliance in California, Oregon, and Washington. We have an alliance of New England. And this kind of balkanization, at some level, makes sense, right? Having the Vaccine Integrity Project was a very bold, and very valuable, and timely initiative. Over the long haul, people are going to be confused. Parents are going to be confused in this phase. Payers are going to be confused. Medical providers are going to be confused. You go out and try to get a vaccine for COVID today, you're more likely to have your doctor say, I just don't know. And so say a bit about this phase we're entering of balkanization, and what do we do about that? We need to anticipate that and have a better way of dealing with it.

Mr. Osterholm: Well, I think, first of all, there's a general misunderstanding of what was the previous role at the ACIP in making vaccine recommendations. This was an organizational structure that brought, you know, outside experts, but a great deal of expertise from us inside of CDC, that did these extensive, extensive reviews of what vaccine performance was like, or what was happening with vaccines. And so that every year new recommendations could be made, brought up to date. They did make recommendations, but where we saw a lot of activity around recommendations also was from the medical societies.

So, for example, you have American Academy of Pediatrics. Obviously, made recommendations for children's vaccinations, which was aligned with ACIP but it wasn't ACIP. Look at the Infectious Disease Society of America. They

made recommendations for immune compromised. The OB/GYNs made recommendations for pregnancy. That has always happened. And when you're in that particular discipline, you tend to follow the recommendations from your group. What we did in the Vaccine Integrity Project is said, one – number one, we're not ACIP. No one can ever be. That's only them. But what can we do to help out?

And so we did the kind of heavy lift analysis of these vaccines for coronavirus, influenza, and RSV, as seasonal respiratory pathogen vaccines that were coming to the market shortly. And what we did is hand it over to each of these medical societies, that same kind of review that was done by ACIP, so that they could say and claim – and American Academy of Pediatrics was the first group out. And they acknowledged they got their data from us. And, you know, so that, I think, has been the important message, is there are things you can do that really can make a difference. And you don't have to sit down and just accept the fact that there's nothing to do. And so that's – we'll continue to do that kind of work.

Dr. Morrison: You've used the term "free fall" in talking about where we are at the moment. One of the questions that's come from the audience is, looking ahead, after the midterm elections of 2026, after the national elections of 2028, how quickly are we going to be able to get things on track? In other words, you say "free fall," but let's get a more precise definition of where we are and where we're heading. Is this something that is a stumble, or is this something that is a free fall for which it's going to take us decades to recover?

Mr. Osterholm: First of all, it depends on, I guess, which category of life you're talking about. But let's just talk about professional training and the people that we rely upon to do our basic research, people in public health even. We're losing a generation there. People are obviously losing their jobs. They won't be reemployed anytime soon. People are not going to go into the business anymore. We have seen examples, right? You know, University of Michigan not bringing any Ph.D. candidates in anymore, or students. And so that part's going to be hard to recover. You don't just stop research. You just don't end these programs, like, for example, PEPFAR, USAID, and expect that you can just build it up overnight. So I think that is generational. I think that's true.

Dr. Morrison: Do we have any precedents we can point to of disruptions of this type that –

Mr. Osterholm: I was trying to think of what movie I'd seen that would have been that, but I haven't seen a movie – (laughs) – let alone in real life.

Dr. Morrison: Mark, are there any – are there any precedents?

Mr. Olshaker: No, I mean, I don't think so. And, you know, when you take a platform like mRNA, which it didn't just spring full bore out of NIH in 2019. There's been

20 years of research. And it has so many different applications. And you just can't cut it off and then say, five years from now, OK, let's start from where we were. I mean, we will have lost all of that progress in all kinds of things, including cancer research, AIDS – HIV/AIDS, all kinds of things. So it's going to be very difficult to ramp up again, I'm afraid.

Mr. Morrison: Now, when you look at this implosion of a kind that's happening here, talent is going elsewhere, being actively recruited to go elsewhere.

Mr. Olshaker: Yeah, overseas.

Dr. Morrison: Overseas. We've heard about this. Every week we hear more about it. We are seeing confidence shifting. We've just – we're separating ourselves from the World Health Organization. We're taking a very anti-multilateral approach. But that doesn't mean those institutions aren't going to continue to do good work and that other governments are going to step forward, or other players are going to step forward to attempt to be more responsive and responsible. What can we anticipate, Mike?

Mr. Osterholm: Well, I think one of the things that's really important today, and I think it needs to be stated clearly, organizations like the CDC are still incredibly important organizations that have a lot of very talented, very committed people who are still there. Now, I hope we can keep them, OK? But the point of it is, you don't throw the baby out with the bathwater. Where public health is failing is in its leadership and what the leaders have decided they're going to do. I mean, a good example, I would never have imagined that we'd have a secretary of HHS would get on an X video for 58 seconds and inform people that if you're a pregnant woman or a young child you can't get vaccine anymore. And that's public policy.

Dr. Morrison: For COVID.

Mr. Osterholm: Yeah, for COVID. Excuse me. And that, to me, is an example of how the system was bent. That wasn't bent because people at the CDC or ACIP experts were somehow, you know, basically, making bad decisions. It was that group. So I want to be careful we don't destroy the concept of public health, as it is, but we emphasize where's the problem. And I think also one of the things we have to be very careful about is we tend to demonize things by individuals.

And of course, it's clear Mr. Kennedy is Mr. Kennedy. But there is a lot of other people he's got around him right now. So if Mr. Kennedy were to be gone tomorrow, I'm not sure what that means about what the policies would be. It's not going to suddenly just change based on one person. But I think it points out, though, that a very few, dedicated people, look what they can do. And they have done that quite successfully in terms of basically gutting much of public health.

Mr. Olshaker: But you know, Steve, you asked if there are historical precedents. And fortunately, in this country I don't think there are. But overseas, the whole idea of science in support of the state – I mean, in Soviet Russia, in Nazi Germany, you had – you had the political leaders telling the scientists what they should know and what conclusions they should come to. And that is a very, very dangerous proposition.

Dr. Morrison: On the security argument, one thing – we were recently visiting China and engaging with a variety of different players in the government there. And one theme that came up was their rising fear around nonstate actors. You know, the window or the door, the threshold for entry into many of these evolving technologies that can be used in a very dangerous way. That threshold's been lowered and lowered. And so there's the entry for bad actors into that sector.

Mr. Olshaker: Well, and Mike wrote a book 25 years ago called "Living Terrors," which showed how a lot of biology and chemistry could be weaponized. And that was 25 years ago – 27 years ago, actually. And things have only gotten more acute since then.

Dr. Morrison: And so in the current situation, right, with AI, with synthetic biology, with quantum computation, and the access that we're seeing, the sort of much more easy access to this, doesn't that present an opportunity to retailor the argument around the centrality of security to this?

Mr. Osterholm: I think absolutely. And in fact, you know, I've had the good fortune of spending time with people who have had senior roles in intelligence in this country. And as recently as just the last couple of days. And they will tell you, without any doubt, across the board that the increase in nonstate actor activity and the potential for that to be a truly major challenge is real. You know, when we're weak in terms of responding to the natural disasters of public health, that is absolutely a signal. We are incredibly weak responding to that which would be a manmade event. And I think we have signaled loud and clear we're wide open for business.

Mr. Olshaker: We've destroyed a lot of the infrastructure that deals with that kind of thing.

Dr. Morrison: I mean, this is a concern within our own government. Now, whether this is something that leads to this kind of concerted action, as you've pointed out, when you when you don't have the sort of capabilities in the White House that we had just a short while ago, and CDC's on its back legs, and other things, it becomes more difficult. We're all, in a way, struggling with this dilemma of how do you avoid this cycle of crisis and complacency, and reaction and counter-reaction. I mean, we're talking about these cycles of disillusion, amnesia, fear and anger –

Mr. Olshaker: Exhaustion.

Dr. Morrison: Exhaustion, post-COVID. We just didn't – you know, we didn't really anticipate how deep that would run, and how the search for vengeance would come out to dominate, and the like. I don't want us to end this conversation with too much doom and gloom. I think we want realism, but what's the path forward? What's the positive agenda that you want to leave us with?

Mr. Osterholm First of all, we have to recognize there are two kinds of long COVID. There's the physical kind – which is actually very real, and it has been a terrible legacy of the COVID pandemic; 7, 8, 9 percent of people who had COVID now are experiencing these symptoms.

There's a second kind of long COVID, and that's the psychological aspects of what happened. And how do we as a country come to grips with, no, wait a minute, it wasn't that bad; oh, yeah, this did happen we could have done this differently, this is how we could have. So I think one of it is we've got to do better with both COVIDs, but the long COVID on the psychology is something we're hardly doing anything about.

I would leave this here as I still have a dream. And it's why I said that book is a love story, because I think from a big one standpoint we could take at least pandemics off the table if we could bring our vaccine research and development and overall technology application to the 2025-26 time period and fund it accordingly. And wouldn't that be something if we knew that? It would be as big an event as smallpox eradiation itself, is to be able to do that.

So I still believe we can. I just think we're going to have a tough road between now and then.

Mr. Olshaker: And I'll add to that that our book is certainly a warning and it certainly shows all the things that did go wrong and that can go wrong again. But our book is also a mystery story, it's a high technological drama, and it talks about a lot of people who are doing a lot of really good work to try to prevent – where, as we said in the last book, to prevent the unthinkable from becoming the inevitable.

Dr. Morrison: Well, thank you.

Mr. Osterholm: Thank you.

Dr. Morrison: And congratulations again.

Mr. Olshaker: Thank you.

Dr. Morrison: I think this is a major contribution.

Mr. Osterholm: Thank you.

Dr. Morrison: And I hope to see more of this kind of conversation happening, and I hope you gain access to the likes of Newsmax and Fox and – (laughter) – and Joe Rogan and the like because the conversation needs to be widened as we move forward –

Mr. Olshaker: Absolutely.

Dr. Morrison: – in all of those fronts.

Mr. Osterholm: And I don't get a podium this often like this. I just have to say thank you to you. Your leadership on these issues over the years has been remarkable. And I do count you as a very good friend, but most of all you are a very respected colleague. So thank you.

Mr. Olshaker: Thank you.

Dr. Morrison: Well, thank you so much, Mike. And thank you, Mark.

We're adjourned. Congratulations. (Applause.)

(END.)