Episode #13: The State of Public Health with Dr. Ashish Jha

SPEAKERS
Heather Howard, Dr. Ashish Jha

Heather Howard  00:02
Hi, and welcome to the Princeton Pulse Podcast. I'm Heather Howard, professor at Princeton University and former New Jersey Commissioner of Health and Senior Services. On campus and beyond, I've dedicated my career to advancing public health. That's why I'm excited to host this podcast and shine a light on the valuable connections between health research and policy. Our show will bring together scholars, policymakers, and other leaders to discuss today's most pressing health policy issues, domestically and globally. We'll highlight novel research at Princeton, along with partnerships aimed at improving public health and reducing health disparities. I hope you'll listen in as we put our fingers on the pulse, and examine the power and possibilities of evidence-informed health policy.

Heather Howard  00:50
Welcome. Today's episode delves into the future of public health with Dr. Ashish Jha, a globally renowned public health leader and dean of Brown University School of Public Health.

An accomplished physician and researcher, Dr. Jha is acclaimed for driving public health policy and practice. Most notably, his groundbreaking work on pandemic preparedness and response led to a role at the White House, where he served as COVID-19 response coordinator under President Joe Biden. His leadership facilitated vaccine development and accessibility; improved testing, surveillance and treatments; and created infrastructure to meet the next public health crises.

I'm absolutely delighted to have Dr. Jha here with me today in the studio. We'll reflect and talk about the current state of public health, what's working well, and where we need to do better. And we'll look ahead, addressing the importance of building health systems, strengthening global partnerships, reducing inequities, and supporting research to inform policymakers in the US and around the world. Dr. Jha, welcome to the show.

Dr. Ashish Jha  01:50
Thank you for having me here.

Heather Howard  01:51
Now, you're known to many Americans for your role working in the White House as President Biden's COVID response coordinator. And we want to get to that. But I want our listeners to understand the depth of your experience in public health research, policy and practice. So you're a practicing physician, I think you still are, right? And a prolific researcher. What attracted you to this intersection of research and public health?
Dr. Ashish Jha 02:15
Yeah, I have actually taken a two-year break from clinical work. I'm going to go back onto hospital service this summer, so I'm looking forward to that. But yes, I think of myself as still quasi-practicing. And research has been how I've explored the pressing questions that are facing us in the health care system and in public health. About a decade ago, I started getting very interested in the policy applications from all these things. And that has led my work to focus more on how we translate all that research and all that work into things that policymakers can use to actually drive improvements in our health system.

Heather Howard 02:54
You must have quite a perspective now on how policymakers think and act after being at the White House. Do you have recommendations for researchers on how to make their research more applicable to policymakers?

Dr. Ashish Jha 03:05
Absolutely. It's been very interesting being on the other side. But policymakers, I think, and I've always felt this even before I went to the White House, want to generally get the answer right. The problem is, you have constraints. They have constraints in time. Sometimes they have a day to make a decision. There were times at the White House when I would have four hours to make a decision. If I called someone for advice and their assessment of the evidence, and they said, "I'll get back to you in a few days"... not useful. So part of it is being accessible, being able to be comfortable with uncertainty. That all is very useful.

And then the other part that I found -- and the pandemic was such a polarizing time -- was that a lot of the ways in which people engage in the public were very constructive, and in other ways were not. I was totally fine with people criticizing policies that we were implementing. When I would see somebody write a very tough piece about something we were doing, I'd call them up and say, "Here's why we're doing it. Tell me more about how we should do it better." But when it became personal, and people started attacking me personally or attacking the President personally, that was less useful. So I always sort of say to my colleagues in academia, try to be constructive. Remember that the person on the other side is actually trying to do it right. And be helpful. I think when academics do that, they actually can have a pretty large impact on the policymaking process.

Heather Howard 04:29
That's heartening. That's great to hear. We want to get to exploring the future of public health, but let's start with where we are now. We're coming out of the pandemic. How did the public health system fare, and are there any bright spots, where things fared well? And are there lessons about where we can do better?

Dr. Ashish Jha 04:46
I think there are bright spots. I mean, let's take a big picture. Look at how the public health system fared. First of all, going into the pandemic, I would say the public health system was vastly underfunded. It didn't have the right information technology infrastructure. Staffing levels were inadequate. There were lots of problems. And yet, I think the work of the public health leaders and
public health workers was heroic. They did extraordinarily good work, especially in that first year when things were really uncertain. So I think the public health community really rose up and did an amazing job. But unfortunately, as the pandemic dragged on, it became harder and harder. And we just saw pretty much everybody in leadership leave. When I look across the country now, at public health leaders in cities and states, almost none of them were around four years ago. That loss of expertise, that loss of experience, really does weaken our system.

There have been real investments in the last few years, since President Biden took over in the infrastructure upgrading of IT systems, hiring more public health staff. Those things are happening, I would argue, not fast enough. Not enough resources. So in many ways, public health emerges battered, but with lots of lessons learned. And there are important areas where we've made real investments that we didn't have four years ago, that I think leave us better prepared for future challenges. I don't want to be overly optimistic, but I actually think there are ways in which we are better off than we were four years ago.

Heather Howard 06:17
So on the resources and staffing constraint... I'm worried, but maybe you'll convince me not to be, that those new funding streams are not sustainable. That we're back to the feast or famine era.

Dr. Ashish Jha 06:31
We are. I actually worry about that a lot. Most of these were one-time investments. Look, one-time investments still have payoffs, right? Like if you can upgrade your IT system. I always remind people that the public health system single handedly kept the fax industry alive. That was not a good thing, by the way. So if we can upgrade the IT system of public health departments around the country, even if it's a one-time major investment, that's good. It leaves it and then you have to do the maintenance, of course. But that's good. So there are these one-time investments that can have long-term impacts. I think that part is okay. No question, though, that we are heading towards a period of time where there are large cutbacks. I talk to governors and state health officials all the time. They say to me, "Look, we put so much money into health and public health; we need to invest in other areas." I get that. That is absolutely true, that you need to invest in other areas. But there are some basic investments in public health that have to continue. And I absolutely worry that those will not.

Heather Howard 07:32
Another thing that you've touched on is the systemic inequities in COVID that were exposed, that COVID really shined a bright light on. But was the light bright enough, too bright? I worry sometimes... public health is all about worrying, right? I worry that we've sort of cried wolf about those inequities and not done enough. I don't know. What do you think?

Dr. Ashish Jha 07:56
Undoubtedly, we have not done enough. Let's think about what drove those inequities. And the inequities became very clear, I would say, three or four months into the pandemic. We were seeing these very different outcomes among African Americans, Latinos, compared to whites, but really also based on poverty as much as based on race or ethnicity. In every health crisis, in every pandemic, it's always the poorest, the marginalized, who suffer the most. And we saw that again. Now, there were
things we were able to do to deal with that. And I would say, look, a lot of what we did was, in some ways, dealing with a symptom, not the underlying cause. So, you know, when I was at the White House, like every day, I looked at a whole bunch of metrics, from vaccines to cases to testing to treatment use. And we looked at it every day, or probably every week, broken down by race, ethnicity, income, rurality. And I was absolutely held accountable for making sure that there were not gaps, or if there were gaps that were opening, we needed to close them. And it forced us to constantly go back to the drawing table, to say, "What are we not getting right on this?" That is really important.

On the first round of vaccines, we did not have a racial gap. When you look at death over the last two years -- not in the first year of the pandemic, which was clearly worse for African Americans, but in last couple of years -- the gap has gone the other way. I don't want any gap. Obviously, we'd like fewer deaths all around. But the point is, you can make progress. That's the good news. The bad news is when you think about what caused that gap in the first place. Have we addressed those? To be very honest, no, we have not addressed those. That's a harder thing to address. And we have not made as much progress on that as we need to.

Heather Howard 09:55
Like people having paid sick leave so that they can take time off and not go to work and infect other people. Right?

Dr. Ashish Jha 10:02
You know, it's interesting, paid sick leave. It just boggles my mind that we still don't have that as a country. It feels to me like it's one of the easiest things that we could do to improve people's lives, to make businesses more functional. Look, I don't want somebody who's coughing and sneezing and has a fever to come into the office, and then infect 10 other people. How is that good for business? I really think that if we could get national policy on this... and I think there's a lot of bipartisan support. Often, as you know, you can have bipartisan support on things and they still don't get done. I don't know what it'll take to get us across the finish line on paid sick leave. But I think this is one of the most obvious, important policies that should have been implemented.

Heather Howard 10:46
What about long COVID? What's the latest that you can share with our listeners about how many people and how severe it is?

Dr. Ashish Jha 10:54
Long COVID is a real problem. And unfortunately, it has become a political football, as so many things in this pandemic. So let me talk a little bit about it. First of all, post-viral syndromes have been around for a long time. We don't ever call it long flu, but there is a long flu. Now that's not a way to minimize long COVID, because I actually think the evidence, so far, suggests that long COVID is probably more severe and more frequent than what we've seen with influenza in general. Other things we know.... over time, the incidence of long COVID has come down, as immunity in the population has built up. And then people often ask me, "What is long COVID?" And I say, first of all, it's not one condition. In my mental model, it's probably three or four different things. One is that there are probably a proportion of people who are just suffering from the initial acute illness. So let's say you had really bad COVID, you
had bad lung damage. Four months later, you’re still having problems breathing. That’s from the initial lung damage. Some people call that long COVID. It doesn’t matter. Those are people who are still suffering and having long-term consequences. A second group of people probably have some amount of persistent virus. Viruses can hide out in different parts of our bodies. And that needs a different treatment strategy. There’s a third large bucket of people who have immune dysfunction from the initial infection. That, again, probably requires a very different strategy for treatment.

So what we need to be doing right now is testing a whole lot of treatments. In terms of how often it occurs, it clearly was much more prevalent in the first year, when nobody had immunity and people were getting infected. There are different estimates of how common it is now. If you got COVID today, the average person, I think your chances of developing long COVID in a way that's significant and limits your life is less than one in 100. So the incidence has clearly come down. But there's still a lot of people out there who are suffering from 2020, 2021, 2022, and we've got to do more to take care of them.

Heather Howard 13:10
We're getting at that duality. We need to do more research. NIH is funding a significant amount of research on long COVID. But are we addressing those underlying systemic challenges? A graduate student and I have been doing research on how our disability system was not built for this. It takes three years to make a determination. There’s a big backlog. Half of those disability claims are denied. So we don’t have the support for people.

Dr. Ashish Jha 13:34
Yes, I think there are several different parts of this. And we worked on a bunch of them when I was at the White House. I think, within the first few weeks of when I arrived, the President tasked HHS to come up with a strategy for how we are going to manage people with long COVID. How are we going to support them? In my mind, at least at that time, we didn't even have billing codes for long COVID. And that meant that people would get treated and we couldn't even figure out what it was for. We worked with CMS to be able to capture and track people over time. That's useful. We did a lot of with the Social Security Administration and with the disability community. I feel like we've made some progress. But my sense is not a lot in that area.

Heather Howard 14:17
Is it time to think big, though, for a program similar to the black lung program, or something like that, like the 911 victims’ compensation?

Dr. Ashish Jha 14:27
I would be very open to that. I mean, my view is that all the tweaks and changes that we’ve tried to make have not worked. There are still a lot of people who are quite disabled, who are not getting the support they need. And again, this is not my area of expertise. I don't have a path for how we do this. We have to figure out how to do this. And if the current strategy isn't working, a totally different approach may make a lot of sense.
Heather Howard 14:57
I want to pivot to talking about communications because, to people in public health, communications has always been an important tool in the toolkit. But during the pandemic, communications also became a weapon. You've been quite effective at communicating, but you still faced misinformation and disinformation. How do you think about public health's role there, given that we rely on communication so much but have now seen it weaponized?

Dr. Ashish Jha 15:24
A few things that I have learned in the last four years... I can't believe it's been four years; it feels like a lifetime, and in some ways, it feels like yesterday. The mental model I had five years ago... if you and I were sitting here five years ago, and you said, "talk to me about public health communication," I had a really naive view of how communication works. My naive view was there's a health crisis, so you get experts together and you sort out what the right answer is. And even if you don't know, you explain uncertainty. But you go out there, you tell people what they need to do. And that generally works. I don't know if it worked for even a first few months, but it stopped working pretty quickly.

The thing that I realized was that we were paying a lot of attention to information supply and almost no attention to information demand. What's on people's minds? What are the things that are worrying people? And it turns out that the things that are worrying a single mom with three kids who are all on Zoom because their school is not open and she has to go to work, may not be the same things that are worrying public health officials. If you're not addressing her concerns, you've created an information vacuum for her. And there are plenty of people happy to fill in that information vacuum. So I think our failure to listen was probably the single biggest failure of public health. People often talk about whether we could have done a better job of communicating, that maybe we need more communication training. And we do need more communication training; all of us can do a better job communicating. But actually, we need to do a better job listening. If we had done a better job listening, we would have automatically done a better job communicating.

Heather Howard 17:22
Is this an area, too, where research can help? The social scientists have thought about how people receive and process information, especially with changing social media.

Dr. Ashish Jha 17:32
Absolutely. Especially with social media, which totally changes the delivery, the speed, the quality of information. It's been very clear to me, and even through the work we've been doing at the Brown School of Public Health. In thinking through these issues, and leading new efforts, it's all been with people who are outside of traditional public health. We started something called it the information futures lab a couple of years ago, with someone named Claire Wardle. And Claire is absolutely fantastic. Very little of her work has been on public health. When I met with her to recruit her to come, she's like, "I'm not a public health person." I said, "Look, just make sure you're doing something in public health, so I can justify hiring you, but do whatever you need to do." She is a social scientist who thinks about information and how people understand information. We need more people like that in public health. And we have to have the humility to say that we don't know how to do this very well. We
know how to communicate with each other. We can set up a conference and talk about all sorts of other things. We don't know how to do this very well in a world where information is changing so rapidly.

**Heather Howard**  18:45
And as a result, we've lost trust, right? How do you think about that? If communications is a key tool in the tool belt, it assumes that the public is trusting their institutions. Do you have thoughts on how we rebuild some of that?

**Dr. Ashish Jha**  19:01
Slowly, and with partners. There are still plenty of people who are trusted. Working with trusted messengers is a really key thing. I mean, look, when I was in government, I was working for the Biden administration. And that meant that there were people who would trust almost anything I said, and there were plenty of people who would trust nothing I said, including people who used to trust me three months earlier, when I was not in the Biden administration. I was doing a lot of media, a lot of conservative media, Fox News, Newsmax. But all of a sudden, that audience was no longer going to listen to me because I was part of the Biden administration.

When I thought that there were really important issues, it became very clear to me that I should not be the voice for this and the administration shouldn't be the voice. So we would reach out to religious leaders. We would reach out to conservative organizations and sometimes they came to us a little skeptically, like, why are you calling? We talked through it, and a lot of them realized that we were trying to help protect people in their community. It's really about finding partners. That's one really big part of it.

I also think you rebuild trust by acknowledging mistakes. I think it's okay for a lot of us in public health to say, "No, we got stuff wrong. We were trying our best. Here's how, why we got it wrong. And here's how we're going to try to do better." I find people are forgiving on those things. No one got everything right in the pandemic. And I think people in general, have been pretty forgiving when you say, "Yeah, I got that one wrong."

**Heather Howard**  20:34
But one area that we don't get right in the U.S. is our health care system, generally. Before COVID, you did a significant research on how to improve quality and affordability in the U.S. And I assume you haven't wanted to lose that thread. How are you thinking about how our health care system compares to other high-income countries? And what's your research agenda in that area?

**Dr. Ashish Jha**  20:55
Yeah, and then there is a little bit of intersection with a pandemic, too. I spent a lot of time thinking about the health care delivery systems and payment systems of other countries, mostly other high-income countries... UK, Germany, Switzerland, a lot of the Europeans, Canada, obviously. And what's interesting is that you could see some of the strengths and weaknesses of those health systems play out in some very specific ways. For instance, the national health service became a very powerful place to get people vaccinated. In the U.S., when President Biden came in, we were starting to build up our vaccine stockpiles, but we had no way to get people vaccinated. There's no adult vaccine program.
Yes, you could use CVS and Walgreens, but we didn't have an infrastructure. I would talk to my counterparts in the UK, and they weren't struggling with this. They're like, “Oh, yeah, the GPL just sent out a note saying you should come in and get your vaccine.” And they could go from zero to like 80% in weeks. We were very envious of that.

Heather Howard
Because we're so fragmented, right?

Dr. Ashish Jha
So fragmented. There's no one person I can call. Some of our health systems tried, others were less interested. It was confusing people. Like, how are we going to get paid? That complexity really hurt us. The other thing is, when I think about the big clinical trials that were done, especially inpatient care, a lot of that was done in the NHS. They could build out a major clinical trial across the whole country. And a bunch of us tried to get that happening in the U.S. when I was outside, like in 2020, and then even when I was in government. It's just really, really hard because every health system has got its own rules, data sharing, etc. So that fragmentation can really harm us.

The other thing we learned, I think, in the pandemic, is it is horrible to be uninsured at any time. But it's particularly harmful to be uninsured in a pandemic. And now coming out, we've had the Medicaid rollbacks. And we are at a point where about 8% of Americans remain uninsured. We have got to drive that number lower and lower. I don't know if we will ever get to zero, but we've got to get into the low single digits, down to 2 or 3%. Massachusetts is at 2%, so it is clearly doable.

Then we have to go back and look at the quality and cost agenda. The fact that the average family of four is paying like $25,000 a year for health insurance is so crazy. There's a lot we can learn about how to make our health care system more efficient. It's hard to spend any time at Princeton without thinking about Uwe Reinhardt and his seminal insight about the role of prices in our health care system that, I think, has shaped health policy for 20 years. We still have a price problem, and we have not made a lot of progress.

Heather Howard 23:56
That's such a great reminder that we miss him dearly, Uwe Reinhardt, and we will put in the show notes -- his seminal piece, "It's the Price, Stupid," from 30 years ago. We're still struggling with that, right?

Dr. Ashish Jha 24:07
Absolutely.

Heather Howard 24:08
One thing that he did was he always reminded us about the moral case for healthcare. He would say, "I'm just a poor Canadian economist." But he would bring us back to why it matters.

Dr. Ashish Jha 24:23
I had a version of this, literally, about three weeks ago. My uncle, who is 62, has been intermittently employed for years and has been uninsured for large chunks of time. He called me three weeks ago
and said, "Hey, I finally got in to see a doctor." He's got a bunch of health problems. I was overjoyed. He was relieved. The issue is that he had been uninsured for so long. Finally, in November, over Thanksgiving, I sat down with him and spent three hours to finally sign him up for an ACA plan. And it took me three hours. I had to find verification of their citizenship, so they had to find their passports. It was still too cumbersome. Finding the right plan for them, there were 30 options. So on one hand, we still have a system that makes it really hard for people. But to the moral issue, here's a guy who clearly has health issues and has not seen a doctor in five years because of the barriers, who was calling me and saying, "I finally got in to see someone." The relief, the importance, the meaning of that is hard to overstate. We've got to do that for more and more people.

Heather Howard  25:43
We keep coming back to the fact that we spend more than all these other countries and get less for it. Do you have any hope that we can narrow that gap?

Dr. Ashish Jha  25:52
I do. For two reasons. First, we have seen health care spending moderate in a few areas. Medicare health care spending per capita has clearly moderated in the last decade. We can have a long fight about whether it's the ACA or not. I actually think the ACA did have something to do with it. But it has clearly moderated. I always remind people that I'm not an economist. I don't play one on TV. I'm just an old country doc. But I think about prices in two ways. There are two ways of dealing with prices: you have efficient markets, or you have price regulation. I mean, maybe there's a third, I don't know. But those are the two big mechanisms. We have figured out how to do the worst of both worlds, right? We have crappy price regulation. And we have highly inefficient markets. And so I think there is increasing appetite, not at the federal level but at the state level, to deal with prices. I've seen the FTC get more aggressive about mergers and other things that can create price problems. So I'm hoping that policymakers are starting to come to realize that this is actually really costly to us. That more and more of our budget goes into health care.

And people are like, "It's not sustainable." I'm like, "It's totally sustainable." We'll just keep cutting education. We'll keep cutting Social Services. We'll keep not rebuilding our bridges and our roads to get to the infrastructure problem. We have managed to make health care sustainable by just sacrificing everything else that's important in our society. That's not a good trade off.

Heather Howard  27:30
And plenty of people benefit from the current system. Another thing Uwe always said was that every dollar we're spending is someone's income, right?

Dr. Ashish Jha  27:38
Totally. So everyone I talked to in the health care space is like, "Yeah, this is totally unsustainable." You have go after that other guy, right? There is a version of that in almost everything we do, where we have a problem and decide to go find the guy who's causing all the problems to fix it. And I'm like, "What if the problem is us?"
Heather Howard  27:56
Well, that's a good segue for looking ahead in public health. What is the value proposition for public health? How would you communicate that?

Dr. Ashish Jha  28:06
I started with a couple of things. First and foremost, the last century has been, I would argue, the greatest century of humanity, in the sense that we have doubled the life expectancy. Much of that has come from public health. Some of it has clearly also come from medicine. They're both important, and they kind of interact with each other. But public health continues to be a major force for something we all care about, which is having people live longer, healthier, better lives. And given the kind of changes in technology, given all the other opportunities, I actually think that the next century can be even better.

Public health also tends to be, if done well, in the background. When I open up the tap, I don't notice all the work that's gone into the public health part of keeping the water clean. So it is, in my mind, the most extraordinary force for improving the health of people. It's largely in the background, it tends to be extraordinarily cost effective and often cost saving. And we've got to keep pushing on that and explaining to people ways in which it helps people. You know, people in public health often say, "Well, no one gets to see our successes, and that's why nobody wants to fund it." There are other people who have that problem, like the CIA, which often says, "No one sees our successes." But we don't have any issues funding the CIA. And I don't mean to pick on CIA, particularly, but we find all sorts of things where we know someone's working on and their successes are all hidden. We just have to explain better what those benefits are. So people understand that the work that's happening in the background is actually really helping them.

Heather Howard  29:52
You've mentioned the amazing achievements of the public health in the last 100 years. Public health has been transitioning from its roots, the origins and sanitation, and infectious diseases. How do you think it's doing in broadening that focus now to these non-communicable diseases? Now non-communicable diseases are the greater causes of death, right?

Dr. Ashish Jha  30:12
Yeah, what's interesting to me on this is the sort of funny dynamic on this issue. Let me explain what I mean. About 30 years ago, I don't remember who said it, but it was a pretty famous line from someone at WHO, I think. The person said that we are now entering the end of the infectious disease era. Turns out, not so much. Nature has the last word on that. But there are two other points to be made. A lot of "chronic diseases" really are infectious in origin. A lot of cancers, which we would not have known 30 years ago. So is dealing with HPV as a way to reduce cervical cancer and other types of cancers an infectious disease problem, or is that a chronic disease problem? I think that's probably going to turn out to be an important part of the story for a lot of other chronic diseases.

Making sure that we don't have an excessively artificial divide between communicable and non-communicable disease is really important. The other thing that's super interesting... We saw this a little bit with HIV, too... In the late 80s, early 90s, dealing with HIV was largely a behavioral issue. People reduced the number of partners, used condoms... there was a whole set of things. Currently, it's largely...
a biomedical problem with a huge behavioral component. But you’ve got to be on heart, you got to be on your anti-retrovirals, and you’ve got to stay undetectable. And you’re good to go. You can have a long, healthy life, and you can do pretty much whatever you want. So we do have these technological leaps that take chronic behavioral-driven health problems and turn them into solvable problems through the biomedical world. We’re seeing that right now with obesity, diabetes, and hypertension, with the GLP drugs, which are fantastic. I will tell you three years ago, four years ago, if we were talking -- and we probably would not have been sitting next to each other because we were living through the worst days of pandemic. But if we were having a conversation, I would have been pretty skeptical about how these drugs would have really played out. And the data on them keep getting better and better. I keep raising my expectations, and the data keeps coming in better than I expect. And so, is obesity, which is a major driver of a lot of these chronic diseases, cancer, heart disease, diabetes, hypertension... is it going to just have a biomedical solution? That makes a lot of people uncomfortable. A lot of people in public health feel like that's not a public health solution. No, we have these things that we then have to know how to scale up. And we have to figure out how to make them really accessible and easy for people. And we have to make sure that we don’t get these large divides that we often get when we develop these new things. So there’s plenty of work to do. But in my mind, the split between behavior and biomedical is a split that's very dynamic; it can change very rapidly. And the split between communicable and non-communicable is a very fine line that can change over time. The way I see it, we just have a bunch of public health problems to deal with. And there are a mix of all these things.

Dr. Ashish Jha  30:50
Well, speaking of work to do, are there any public health challenges that people may not be thinking of as public health challenges? Climate change is one, to me.

Dr. Ashish Jha  33:37
I’m going to talk about two, and one is climate change. I have felt for at least the last decade that climate change is the biggest public health threat over the medium- to long-run, though that medium- and long-run time periods are getting shorter and shorter. We’re seeing the effects of climate now. And people often talk about heat waves. And of course, that's true, but we're seeing these big changes in vector-borne diseases and where they are. I remind people that a lot of these vector-borne diseases, like Lyme and others in New England, have doubled in the last 20 years. That's climate change. But also they are a risk for future pandemics. And the list goes on. I think somebody once described climate change as the ultimate threat multiplier. And that's probably the right way to look at it. Take a look at every single set of issues that we have in public health and health of people. What climate change does is dramatically increase all those risks. So that's an area where yes, of course, it's an energy transition problem. And again, I have no expertise in how we get off of fossil fuels. But we have to do it. We also have to start building health systems that are much more resilient to the issues related to climate.

The second thing actually goes back a little bit to the pandemic. We’ve thought about pandemics as naturally occurring events that have happened throughout human history, and we’ve got to do a better job preparing, and we do. But something else has happened in the last 10 years, which is, for the first time, biology has become engineerable. And we’ve seen this with other scientific fields. The advent of the atom bomb wasn’t some major gain in physics, or it was some of that. It was that physics became engineerable, like we could manipulate physics. We’ve seen this with chemical weapons. And we are
now entering an age where we’re talking about CRISPR, we’re talking about synthetic biology, AI. The risk of biological weapons just increases exponentially. And the tools to prevent those, that we have used against nuclear weapons, against chemical weapons, are not going to work. Yes, you can have treaties, and we should, and we should try to prevent people doing these things. If a rogue actor wanted to go out and build a nuclear bomb tomorrow, it would be really, really hard. It’s just hard to get enriched uranium. But biology is self-replicating. You don’t need a massive amount. You need enough to infect a small number of people. And then they become the vector for further application. We need a national strategy here. People think of this as a national security problem, not a public health problem. No, it’s the same problem, flip sides of the same coin. Yes, there’s an intelligence component to it. But public health has to get engaged in thinking about how to have the kind of surveillance system that protects us from those new emerging threats.

Heather Howard  36:35
So this is a frightening way to end the podcast. Can you give us hope? Are people working on this?

Dr. Ashish Jha  36:40
Here’s why I’m actually very hopeful. It is absolutely a major challenge, but the development of new technologies often also gives us the paths forward in terms of solutions. So one of the questions I often get asked is - and actually sometimes people phrase it as, “Are we worse off now than we were four years ago, in terms of pandemic preparedness?” Absolutely not. We are clearly better prepared. There were some ways in which we have challenges again. We’ve talked about some of those. But we are absolutely in better shape. And that will help us, not just with pandemics but with biosecurity as well.

The number one failure of the American response of 2020 was our inability to understand where the virus was spreading, how widespread. I actually often describe it as the original sin because it meant that we had to do these nationwide lockdowns where large chunks of the country didn’t have any virus and it created the seeds for misinformation and distrust. We have a pretty good national wastewater surveillance system now. That helps us track what’s happening with pathogens around the country. It needs to be bolstered. It needs to be funded for the long-run. But we have built up a surveillance system that’s actually pretty good. It will help us with this. We have gotten much better at building medical countermeasures, vaccines, and treatments. Our ability to do that is so much better than it was four years ago. We just keep plugging away on those things.

And how you deal with future pandemics is how you deal with biosecurity. I always worry that we’re going to retract and retrench and say, “That was a problem of 2020. We don’t need to do it anymore.” We’ve got to keep up the pressure to keep going. We’re entering an era where these threats are going to become more common, and really challenging. But we’ve also got the ability to counter them.

Heather Howard  38:28
That’s a much better way to end. Thank you, Dr. Jha. This was a fabulous conversation.

Dr. Ashish Jha  38:33
Thank you for having me. I really enjoyed it.
Thank you for listening to the Princeton Pulse Podcast, a production of Princeton University’s Center for Health and Wellbeing. The show was hosted by me, Professor Heather Howard, produced by Aimee Bronfeld, and edited by Alex Brownstein. We invite you to subscribe to the Princeton Pulse Podcast on Apple Podcasts, Spotify, or wherever you enjoy your podcasts.