Lessons Learned from COVID-19

Aaron Carroll:

Welcome back to the Healthcare Triage Podcast. We're going to be talking today about infectious diseases, global health, and specifically how the pandemic is wrapped up in all of this. We have two returning guests today, I'm very excited about this. First is Chandy John, he's the Ryan White professor of pediatric infectious diseases at Indiana University School of Medicine and also the director of the Ryan White center for Pediatric Infectious Diseases in Global Health. Our second guess is Jim wood. He's an assistant professor of pediatric infectious diseases and the medical director of the division of pediatric infectious diseases also at IU School of Medicine. Welcome to you both.

Dr. James Wood:

Thanks.

Dr. Chandy John:

Thanks. Glad to be here.

Aaron Carroll:

This Healthcare Triage Podcast is co-sponsored by Indiana University School of Medicine, whose mission is to advance health in the state of Indiana and beyond by promoting innovation and excellence in education, research, and patient care and the Indiana Clinical and Translational Sciences Institute, a three way partnership among Indiana University, Purdue University, and the University of Notre Dame, striving to make Indiana a healthier state by empowering research through pilot funding, research education, and training. More information on the Indiana CTSI can be found by visiting indianactsi.org. As we always do, I like to start with just an introduction of how you got to this position, how you decided you were interested in infectious diseases, and also in global health. So Chandy, if you don't mind starting, we'd just love to hear how you got here.

Dr. Chandy John:

So trying to make this as concise as possible, my parents are both doctors, they're from India, they did their residency here and then went back to India to work at admission hospital. So my exposure to global health and to the needs of the poorest populations in low income countries was from a very early age on. So that really seeded my interest in global health and it stayed all the years. My parents they really emphasized the importance of looking out for and serving those who have the least. So that's always been an animating principle for me. So when I went to med school, I went to the University of Michigan, go blue, and I loved that place. I learned so many things there, but we had an amazing infectious disease professor, Carol Kaufman, who I think may be the single person most responsible for people going to infectious diseases in the United States.

Dr. Chandy John:

There are scores of people that I know who went into ID because they heard Carol Kaufman talk and she made it the most interesting thing they'd ever heard of. So that set my interest. And then, of course, being interested in global health, I spent some time during medical school in Bangladesh and then during residency in Nigeria and after residency in Laos, and infectious disease was a huge part of the problems I saw there. And malaria in particular was a major problem, was the biggest problem in Nigeria when I was there. It was not really so much on the radar for peds ID docs in the United States. So me seeing this

huge issue globally that was not so heavily addressed by peds ID in the United States made me think this was a good area for me to go into. And that's what spurred my malaria research interest.

Aaron Carroll:

I would love to have you on at some point in the future because I would love to talk more about malaria. It's one of those things that I think globally gets so much focus and that here in the United States, we just don't talk about it that much.

Dr. Chandy John:

Yeah, it's true. I love to talk about malaria, so I will be back.

Aaron Carroll:

Without focusing too much on it, it's responsible for a huge amount of morbidity and mortality in the world is it not? Or am I remembering old statistics?

Dr. Chandy John:

Yes, it's huge. There's been major success. When I started working in this field, which was more than 25 years ago, the estimated numbers of deaths from malaria were between 1 million and 2 million a year, mostly in children under five in Sub-Saharan Africa. And those numbers are now about 400,000 a year. So it's still massive, but a huge success story at the same time. But the decrease has stagnated over the past three or four years. And in fact, there's a little uptick recently. So we've had a lot of success with bed nets and better medicines and spraying and now vaccines. But we're backtracking as well for many different reasons. But I think the other thing is, that people maybe don't realize, is there's more than 200 million cases of malaria. And for those children that survive malaria, one of the things we've looked at is neurodevelopmental outcomes. And it turns out that, particularly with a couple of forms of severe malaria, you have very profound neurodevelopmental outcomes in kids under five.

Dr. Chandy John:

So this is affecting hundreds of thousands more that do survive. So there's the tragedy of children dying and then there's the tragedy of brains being affected in the children that do survive. I think the other big cost is, in some places, one of the areas where we do studies, there was an average of six malaria infections that caused disease bad enough for them to come in to seek treatment in a year in kids under five. So if you can imagine the disruption that does to schooling and to the... In kids under five, maybe that are not in school, but some of them may be in preschool. But the parents have to take time off from work to bring them in. It's a real major, major social disruptors. So I think the costs of it in terms of death are staggering and terrible, but the costs of it socially are much bigger than that.

Aaron Carroll:

Well, definitely a teaser for a future episode. Jim, why don't you tell us a bit? How did you get to be focused on infectious diseases and other things?

Dr. James Wood:

I think mine, similar to what Chandy said, was a combination of long term interest in the disease processes and clinical care of these kids as well as mentorship and modeling a career that looked

interesting to me. So yeah, I think I was always drawn to treating patients with acute infections and interested in why certain kids got certain diseases and how we could better treat them. As I went along in my training, I realized that infectious diseases obviously spans the gamut of neonates all the way up to, in our case in pediatrics, up into older adolescents and kids with other comorbidities.

Dr. James Wood:

So I was really interested in treating kids across the spectrum of health and across the spectrum of age, which is clinically how I got drawn into ID. But then further into my training, meeting some phenomenal mentors at Wake Forest, where I did my residency. And then obviously later on in fellowship after I decided solidifying that interest when I was at Vanderbilt. And just looking at all the different avenues you could go as a pediatric infectious disease physician, from clinical care and vaccine advocacy and development, to global health, to stewardship. So just the different ways that you could impact and improve kids' lives through infectious disease is really what drew me and interested me.

Aaron Carroll:

I'd be interested in hearing from both of you about what your experience with the pandemic has been, specifically from a pediatric standpoint. Because, of course, most of the news that we see, I think, about how outcomes are happening has been focused on those who are highest risk, which is often the elderly and those who are with significant comorbid conditions or who are immunocompromised. But there's no question that pediatric hospitals and pediatricians and certainly kids and families have been majorly impacted as well. So could you walk us through how the pandemic went for you, going back, even all the way back to spring of 2020, if you don't mind?

Dr. James Wood:

When things were starting to evolve and we were realizing the magnitude of the pandemic, I was on the inpatient service. And there was lots of obviously preparation and things going on at the hospital to prepare for a potential surge. The image that's burned into my brain was seeing lots of neonates and kids from the NICU from Methodist Hospital being wheeled down the hallway. So they were transferring babies from Methodist over to Riley so that they could create more space and more beds over at Methodist Hospital in the adult side. And that image of these isolates rolling down the hallway in a line one by one was just like... It was an eerie feeling because similarly in Riley, we had really, we're always trying to get kids home as quickly as possible, but there was a big push to like, okay, anybody that does not need to be hospitalized should be sent home as quickly as possible in case we have a big surge.

Dr. James Wood:

So just the hallways were quiet because a lot of the rooms were empty. But these neonates were wheeling down the hall and it was just a surreal feeling of like what's about to happen. So early on, for me, at least in the pandemic as a medical director and in administrative positions, we did a lot of planning. Those first several months and even obviously beyond, it was just so much preparation and planning for what ifs and what will we do if this happens both on a hospital wide level, but within our division of providers and how are we going to cover and things like that. So I just remember early on a lot of obviously questions, a lot of what's going to happen, as well as making contingency plans and trying to figure out what we will do if things happen.

Dr. James Wood:

As the pandemic rolled out, and again thinking in pediatrics, we definitely felt the effects of kids coming into the hospital. But again, not as much as the adults. And what we would find ourselves though, is trying to talk to families about early on taking this seriously because we are still seeing kids that get sick and kids that otherwise wouldn't be hospitalized or here. That obviously morphed as the pandemic went on when vaccines became available for kids, first adolescents and then kids five and up, of becoming an advocate for vaccines and why it's important. That was an interesting contrast, I think, to the adults and the folks that I spoke to because for them, it wasn't as much, obviously there's vaccine hesitancy across the board, but it wasn't as much of an issue of, is this really an issue for their population? Because everybody knows the vulnerable adults, especially the geriatric population.

Dr. James Wood:

But we've really worked hard to help people understand why it's important for kids for them to get vaccinated and go from there. So it's been this evolution of things. And then I will just lastly say both the Delta wave in the fall of '21, late summer, fall '21 and then Omicron into the winter after Thanksgiving, that's when I think volume-wise, from a pediatric standpoint, we really started to feel it. I can tell you that, especially after the holidays, late 2021, early '22, the volume and the severity of illnesses we saw of kids was just really, really high. And that was about as stressful as a clinical time that I can remember.

Aaron Carroll:

So why do you think at this late stage, especially since so much of the news is that Omicron was so much less dangerous, that it felt like that's when the severity and the numbers went through the roof?

Dr. James Wood:

I think again it probably just comes down to numbers. So a small percentage of a very large group of people that got sick increased our numbers. So a lot of it I think just had to do with the fact that Omicron affected so many people. Even when you're talking small percentages of kids that will get severely ill, small percentages with a huge denominator still accounts for a lot of kids and a lot of numbers. And again, we seem to see a lot of kids also with co-infections with other things, coronavirus plus something else. They came in very severe, and whether that was because they weren't getting in to see their doctor as regularly as they normally did or whether that was just trying to wait it out to see, is this just all from coronavirus or not, unclear. But certainly kids seem to come in a lot sicker from other things in addition to coronavirus.

Dr. Chandy John:

It was similar, we definitely felt like we were in the trenches. And talking about coronavirus could be several podcasts because things happened on so many levels. They happened on a personal level, they happened on a level of the group within the division and then the department and the hospital and then society at large. So I was trying to think about what were the most striking things or what, of the many things that happened that were revelatory it would be worth talking about? On a personal level, I will say that for a lot of us, like we were just talking about malaria, my research is in malaria and in infections and kids with sickle cell disease. It's not based in the United States, it's based in Africa, and that research continued. But the ability to do anything more, to putting grant applications, even to get papers out that were waiting to get out, et cetera, all of that almost ground to a halt during 2020 and 2021 because there was this other major thing that was happening right in our backyard and it had to be dealt with.

Dr. Chandy John:

For those of us that are physician scientists, and all three of us are, you had the physician side. And at that point, the physician side one, and it wasn't just clinical care, it wasn't just being on service, it was the guidelines, it was prevention, it was advocacy, it was being involved in national calls about policy. So being on clinically was very exhausting. And we all had to do extra because there was just more volume and more things required. But all the other stuff was basically like an extra job on top of what is always a very full-time job. So I think it was tough for everyone. And I felt it in my own work and I felt it as division chief for my faculty, that people were doing a great job of dealing with COVID. I felt like, Aaron, I'm just going to put a plug in for you here, I just feel like you're leadership at the IU level was phenomenal, I felt like IU health's leadership was phenomenal.

Dr. Chandy John:

So we felt very supported and that the decisions were made by data and that they were very good for patients and healthcare providers alike, so that was great. But there was just a huge amount of work to be done for that. So both in my own life and then supporting my faculty, it was a real challenge because there were so many things that needed to be done. And how to support when you were overstretched and you couldn't say, oh, we won't take care of X, we had to take care of X, was a challenge. Even more importantly though, that was on a personal level, I think what was striking to me, the single most striking thing to me in the pandemic was the degree to which people were willing to accept very bad health outcomes in people and deaths as the cost of doing business. I was really, really, really disappointed in our nation as this happened. It was crushing to me.

Dr. Chandy John:

On top of dealing with everybody else, to see this callousness was so disturbing. And I felt it particularly as it concerned children because children did get sick way less than adults. There was no question about that. And one of the really difficult things I think throughout this pandemic again, is somebody who puts the message out there, you know this better than anyone, that getting the message out is tricky because we don't want to lead by fear. And it is a fact that kids get way less sick with COVID for the most part than adults do. And most of them are going to do fine, and we don't know about long COVID. But even with that, probably most kids will do fine. But balancing that against the fact that there have been 1,000 child deaths. I think the really stunning thing in this epidemic or pandemic was that people for a very long time, and I think to some extent still are going, oh, it's only 1,000 deaths, there were so many more in adults.

Dr. Chandy John:

But the understanding that deaths are a very rare thing in pediatrics and that no death is acceptable, death in adults isn't acceptable either. But for pediatricians, when we're looking at it, no child death is acceptable. This is a new cause that became one of the top 10 leading causes of death and people were just saying, "Oh, it happens." And then the particular callousness of, oh, it's only in kids with underlying conditions. Like pediatricians, we love those kids with underlying conditions, we look out for them. And seeing this whole, well, it doesn't really matter, they won't really get sick, was incredibly distressing. I think to Jim's point about vaccination, it has made the message about vaccination in kids challenging because most kids do well. So to some extent, the message about vaccines is about the public good. I think it's always about your child's own good as well, but to some extent it's about the public good. And

putting it out there and getting some very strong feedback that, we don't honestly really care about the public good, it was just very distressing to me.

Aaron Carroll:

There's so many ways and things that I'd love to go deeper on. But just off that last fact, maybe I'm just super cynical, but I was not as surprised by that. I feel the arguments, even for why people need to get vaccinated against flu every year, are just as much about this is to protect those who can't protect themselves. But everybody uses the individual argument of, flu's not a big deal for me, so why do I need to get vaccinated against flu? And then tens of thousands of people die every year of flu and we just let it go, and I've been baffled by that for decades, I just don't understand.

Aaron Carroll:

But I do think also I've been struck that we focus so heavily on the individual argument for vaccination this time around as well. Every article on the newspaper that tries to convince people to get vaccinated is that same chart. Like here's the rate of people who die who don't get vaccinated, here's the rate of people who die who do get vaccinated, therefore you should get vaccinated. And that will work on an elderly person, but it doesn't work on a kid, and it doesn't work on a young parent because they don't have that chance to die. So the argument for them needs to be like, no, no, no, this is a societal good. As you said, look, this is to protect those who can't protect themselves. Who's making that argument though? This is where I'm just baffled because I just don't see that being pushed at all. It just seems to be this individual protect yourself. How do we do better about that?

Dr. Chandy John:

I honestly wish I knew. I just wrote an article with Sallie Permar, who's department chair at Cornell and Mark Slice, who's infectious diseases professor at University of Minnesota about the importance of vaccination for the kids who have it available, so kids five years and up. And in that article, we stressed both individual protection and societal protection. I think a lot of us feel like there is an argument made for individual protection. But the relative risk for a child is small, and I think it's disingenuous to not acknowledge that. So we push the societal argument forth. But I have heard, including from many vaccine experts, that you can't ask people to do stuff for other people, they're only going to do if it's for their kid. And I find that frankly amazing.

Dr. Chandy John:

So every communication that I put out about this, I try to emphasize, this is for everyone, and you should care for all kids. Because there's a lot of statements about, oh, fear mongering the pediatric population and stuff. And I always say, it's not fear mongering, the numbers are the numbers. This is 1,000 children that have died, this is 550,000 hospitalization days for children. These are facts, and so kids do get sick with this. But also the goal of one shouldn't vaccinate out of fear, one should vaccinate out of love for all children. I honestly, and probably naively, assumed that that was a very powerful argument. But it's not that powerful an argument apparently

Aaron Carroll:

I would love to see evidence on that because I'm just baffled by that sentiment. You probably know, one of my all time favorite papers was that, and I've talked about it so many times, was this study of the

varicella vaccine, chickenpox, for those of us who listening who don't know varicella. But that before the varicella vaccine was widely used, some number of babies died every year of varicella. And then, of course, we instituted widespread vaccination at one and up. And a couple years later, zero babies died of vaccination. Now, we don't vaccinate babies, we don't do it, they start at one. But by vaccinating their siblings, we prevented all the baby deaths. And we ask now grandparents to get re-upped for pertussis or other things before they see a baby.

Aaron Carroll:

This is to protect babies and everybody does it because, well of course you protect babies. So I don't understand that argument to say that we are unwilling to vaccinate to protect. Even with my kids, I'm telling them like, "I want you to get vaccinated." And they're like, "Why? I don't want another shot." And I'm like, "Because your grandparents could die." And then they're like, "Oh, okay, I get that. I get that totally, I got to do that to protect grandpa." We have loved ones who are elderly or babies or who have cancer, why does that not work? Are we sure that doesn't work or is this just people being cynical?

Dr. Chandy John:

I think it should be studied. I get feedback when I put out announcements of like, well most kids just do fine, so we're not going to do it. Which seems like they're not directly saying we don't care about all kids, but they are. But I think... So the varicella vaccine is a very interesting example because even among physicians, there was some question about it because varicella it was more visible than COVID 19. But like COVID 19, it was a pretty benign disease in most children. And the deaths were largely from necrotizing fasciitis, from group A strep. So that was the deadly thing, was the super infection with group A strep. And like you said, it was I think a couple of hundred kids, maybe 200 to 300 children that died every year. So not a small number, but a terrible thing.

Dr. Chandy John:

And I would have to look up the actual data, but I believe the story with the varicella vaccine was that uptake initially was not that great. And then people started to accept it and then uptake went up and then... So it wasn't like the first year that vaccine uptake was so great, that it took a little bit longer. But it held because, as you said, the deaths went from a couple of hundred to zero. So even if the couple of hundred didn't totally register with people, the zero did and they took it. So that gives me a little bit of hope maybe for the COVID vaccine. That part of this is about people having hesitancy because of mRNA is new vaccine and what does it do in kids and stuff. And you can tell people it's safe, but they have to internalize that. So maybe either seeing that kids do fine with it and/or getting new vaccines that aren't mRNA vaccines will mean that more people get vaccinated.

Aaron Carroll:

Yeah, we can always hope on that. Jim, I'd love to circle back around to you and to ask, we're in a relative period of calm it feels like, do you agree with that? And what do you see if you, I know how hard it is to predict these things, but where do you think we go from here?

Dr. James Wood:

No, I do agree. I think that case numbers and hospitalization numbers bear that out. But also just interactions and things seem to calm, it is a state of calm. Of course, everyone I think is cautiously

optimistic, hopefully some people have been over it for a long time. But if the pandemic has taught us anything, it's that we don't know as much as we think we do. We think we have a handle on something and things change up. But it wouldn't surprise me if we get into this area or state where we're monitoring things, we see where things are going and we start seeing trends. It doesn't mean we go into complete total lockdown mode, but we start to try to get into a little bit more of a let's get on top of this.

Dr. James Wood:

Again, I think case numbers are one thing, and that shouldn't probably dictate a lot of what we do as opposed to what are our hospitalization numbers? What are our resources look like? Because that's, again, we don't want people to get it. But what we really don't want is to get hospitals to get overwhelmed again and to have a lack of resources and a lack of personnel. And that's where we start to get into that scary danger mode. So I think that there is this balance of the mental health and the societal parts of this are huge. So it's not without consequence that we talk about shutting things down or going back to masking and stuff like that. But I think that the analogy of putting out wildfires isn't probably a great one, but it's looking at areas where things are starting to trend up. Okay, let's try to get some of the mitigation measures that we know are working or work and then keep those hospitals from becoming overwhelmed.

Aaron Carroll:

Do you think we've learned anything from this? Will we be better in the future? Or are you as cynical and depressed as I am, that we will just be caught with our pants down the same way next time?

Dr. James Wood:

To me, the tricky part with most of the things in this country is we become very heightened in the moment. And then when it becomes on the back page, things go back. So public health is not something that is usually prioritized and it's not something that's very glamorous. So yes, in our acute/subacute phase of this, we are still thinking about it a lot. But it won't take long before this starts to get less of a urgency, less of a prioritization I think. So I really, shameless plug here, I think the key is to take what we know right now and get the generation of people that are living through this to invest in this and become scientists, researchers, public health officials, whatever to build this base of educated people that can help, especially things like this where, how about communication?

Dr. James Wood:

Let's work and figure out how we talk about this better. Because it is not a matter of whether this will happen again, it's when another pandemic will happen again. I don't think that there's any debate about that. It really just comes down to, I think, can we keep the momentum of this and funnel it into something good? Because I do think we've learned a lot. Access to care and things like that we never imagined could happen through telehealth and other things we're able to do. And highlighting things like health inequities and really, okay, this is now no longer this little thing we brush under the rug, but we put this in the forefront of everything we do. Those are things we can tangibly learn from and do something about now.

Aaron Carroll:

If we were to say this is what we need to do, if we've learned this lesson, this is what we need to continue or build, what specifics would you point to? How would you change the United States let alone the world?

Dr. Chandy John:

Falling up on the last comment Jim made? I think that a fundamental issue that we have not come close to solving or even fully acknowledging is health equity and global health equity. So thinking about global health, one of the other things that struck me in the pandemic is that low income countries have more or less been on their own, that there hasn't been a whole lot of support for control of the pandemic in those areas from higher income nations. Initially that was somewhat understandable in that things were a disaster here and people had to focus on at least getting things out of control. But the fact is that if we don't get a control elsewhere, it will come back to bite us.

Dr. Chandy John:

So even from a purely selfish standpoint, I think addressing capacity, things like vaccine manufacturer and the capacity to do that in low income countries, supporting public health infrastructure, and combating misinformation, something Jim touched on as well, that to me may have been the single most striking thing that I saw during the pandemic, is the power of misinformation and how way behind the people with accurate information were at getting the message out as compared to those who wanted to put out misinformation. And how unprepared we were for how powerful that misinformation would be and the downstream public health effects it would have. So these are all huge solutions that would require a lot of investment.

Dr. Chandy John:

But I just wrote an article with a colleague of mine who works in Nigeria and did her fellowship research with me on global health equity and laid out 10 steps to get there. I feel like those things, which largely have to do with supporting a global center that deals with the pandemic in tangible, meaningful ways and dealing with and prioritizing the needs of vulnerable and marginalized populations, whether in high income countries or low income countries is right at the core of what we need to do. There are many things we need to do, but that's right at the core of what we need to do to deal with this. And I am quite skeptical that much will get done in that area. But I think that if it doesn't, we'll see the consequences as we have already.

Aaron Carroll:

I think we've been talking mostly about the United States and, of course, this is a global pandemic, where even if things do look better here, they do not in many other parts of the world. Billions of people still have no vaccines whatsoever. What do you see as the potential dangers there? And what do you think we need to do about that?

Dr. Chandy John:

I think one danger is something we already saw with Delta happening elsewhere and then Omicron, maybe it didn't start in South Africa, but starting in other regions and then coming to the United States and Europe and causing catastrophe there as well. So any time the virus isn't under control anywhere, the pandemic has shown us that we're one world, whether we acknowledge it or not, and the virus can

spread anywhere if it starts in one place. So we're going to have a possibility of successive waves of this unless we get it under control everywhere. I think that's one thing. And it applies not just to SARS-CoV-2, but any other virus that could jump from animals to humans. So I think the consequences of not acting globally are the potential for another pandemic or the potential for this pandemic getting worse.

Dr. Chandy John:

The reason why I am doubtful about a quick solution is that I think it's just so hard. We've seen this with the WHO right now. They're the group that's supposedly empowered to make decisions, but they can say things, but they still need support from the highest income countries to get things done, and that's been forthcoming in very small amounts. So what it would require it seems to me is an agreement from all countries that we're going to make this a priority, that low income countries will have an equal seat at the table in making decisions, and then that this is going to be supported in an ongoing way, to get to Jim's point about, as soon as things get off the news, they are not supported anymore. That in an ongoing way, this is going to be supported so that when things happen we're not caught to totally flat footed. That's what I think a major part of the solution is. I don't think it's going to happen.

Dr. James Wood:

I think there needs to be a shift in the way that we think about this as opposed to, again, being very reactionary and looking at things as they come. This is almost like a security issue or this is a large scale societal issue that needs to be thought of all the time. So I think maybe an analogy might be something like FEMA or disaster preparedness. There aren't earthquakes every day or every month or devastating catastrophes, well, they're becoming more and more common. But we have something in place that is able to react and able to go to things and look at things hopefully before they happen. I think we need to start shifting our mindset into like, okay, what is the machinery? What is the things we have in place in case X, Y, and Z happens?

Dr. James Wood:

This is very much something that we need to shift our thinking. As a country, we've never been very good at preventative healthcare. So to scale it up on a public health scale is really challenging. But I think it's going to take a shift in mindset of we have the capacity to scale this up in a rapid manner if needed and these are the tools that we have to do it. So it's keeping that and having that, have an infrastructure within the country. And then again, just like Chandy said, globally it's quite striking to think that we can do this on our own with the way that we're so interconnected to everything and everybody. Maybe 150 years ago when people were not traveling the globe like this, maybe. But we're just not in a place where that will ever be possible again. The virus does not care what country it's in or who it's affecting, it's going to continue to do what viruses do, which is to mutate so it can live and prosper. So that is what's going to happen until we get a more global thinking around this.

Dr. Chandy John:

Aaron, can I follow up on that? And actually, I don't know if as a host you're allowed to interject your opinion, but I would love your opinion on this. So I was part of this group called the Forum on Microbial Threats, which is a group based in the National Academy of Sciences, Engineering, and medicine that's designed to think about problems like this. So a subgroup of us was asked, what do you think is needed for this very question, how to deal with the current pandemic and plan for future problems? One of the things that came up, and I guess it's quite obvious, is that the way that our public health system is

structured, with lots of state and county departments of health and then the CDC, which doesn't really have power over those but is separate from them, it interacts with them.

Dr. Chandy John:

For something that happens nationally, it doesn't work nearly as well as some other public health systems that are a national public health system. So one of the key things is, what's going to happen with that? Are we just going to go back to what we've done, which we know is really harmful for public health? Or are we going to somehow better nationalized our public health system? So I feel like that's a core issue, and I bet you've thought about this quite a bit and perhaps talked about it to people.

Aaron Carroll:

So I'm incredibly skeptical about this in a weird, bizarre circumstance. I was actually asked to be on the keynote panel at the American Public Health Association's 2019 fall big meeting. It was actually the biggest meeting I think I've ever been to, that meeting is huge. It was me and a bunch of people who are probably more public health focused than I am, although I like to think I'm on the bridge. I was baffled and I just kept almost being almost forceful. They all just are talking like all they can... Except the scraps from the table that everything has to be cost savings, it can't even just be cost effective. They were like, "Well, we just got to get by with $6." And I just was like, "We spent three point something trillion on healthcare with bafflingly bad results at time. I don't understand how you can't be advocating for what you need."

Aaron Carroll:

But I felt like the public health infrastructure was almost cowed, as if like they had been forced to believe we can only take this and it we're never going to have more and we've got to learn to live with it. When drugs get approved all the time and they're like, "Yeah, they should cost $1 million a year, and maybe it'll work for one in a thousand people." I don't know how we get around that. And I was really upset because I think even inside public health, they were not good advocates for public health. I fear for the future in that respect, in that I don't see a lot of push.

Aaron Carroll:

They're were like, "Okay." I feel like they'll be like, "Maybe we can increase the budget by 3%." As opposed to saying, no, we should have a moonshot for public health like we have a moonshot for cancer, $100 billion in crazy large amounts of money. We're just going to massively ramp up the infrastructure and do what we need to do. And I don't think it's going to happen, I just don't. I know I'm cynical about that, you look at what's happening in our state and everywhere else, and it's just public health is relegated to the pawny town board. It's not like it's real, and I'm sometimes baffled by that. But again, I know I'm cynical about this, but we got to do better.

Dr. James Wood:

Again, to your horn, Aaron, I think one of the things I remember very early on too, was you talking about, in terms of IU, how you were going to lead and how you were going to manage this. It was like, why not? We're going to test and we're going to do all these things, why can't we, why won't we? And it was like, okay, we'll figure out. Obviously there's got to be funding, but you're like, this is how we're going to do it,

this is what we're going to do, why can't we? And it was almost like this revelation of like, yeah, why can't we?

Aaron Carroll:

I kept saying the only thing holding us back was resources, will, and a sense of shared sacrifice. And I feel like locally, and in many other places locally, people pulled that off. But statewide, countrywide, no way. That is unless we fix those things, I don't know how we forward and do better in the future. Well, and as we hope for the future still, let's focus on the present. So what do you think the downstream effects are of the pandemic as we're experiencing it now, especially for kids?

Dr. James Wood:

I think there's been talk about different phases in different areas or different timeframes of where we can expect to see things or maybe changes or effects. So obviously within this acute phase of the pandemic phase of things, children's actual physical health is being affected as well as disruptions in education and food security, things like that. So that is a very tangible thing with right now that we are living and maybe coming on the tail end of. I think there's also this maybe post pandemic or very subacute post pandemic phase, where all these things that have been delayed, delayed immunizations, kids not being in school, school closures, all those things.

Dr. James Wood:

We might start to see some of these things, again, just thinking about delayed immunizations and things, we as pediatricians need to be thinking about and looking out for things that we hadn't necessarily thought about before. In terms of vaccine preventable diseases coming back and the effects of kids being on a school, what that's going to look like. And then a lot further out, it's like, what are these mental health effects and things that kids have experienced now? What is that going to do? So I think there's a lot we still have to think about and a lot we have to learn. Again, it just comes down to, I think keeping it very much transparent and keeping it very much on the forefront of, we're not over this, they're not going to be over the effects of this for a long, long time.

Aaron Carroll:

I tend to think you're right. And obviously we'll need to watch things go. I hope you'll both return and talk to us more about what you're seeing and what you think about the future in the future.

Dr. James Wood:

Absolutely.

Dr. Chandy John:

Sounds great. Great talking to you, Aaron.

Aaron Carroll:

Once again, this Healthcare Triage Podcast is co-sponsored by Indiana University's School of Medicine, whose mission is to advance health in the state of Indiana and beyond by promoting innovation and excellence in education, research, and patient care and the Indiana Clinical and Translational Sciences Institute, a three way partnership among Indiana University, Purdue University, and the University of

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