The Lead in Peds

Transcript: Season 2, Episode 2 - Seconds Count: How Pediatric Emergency Medicine Is Evolving

Host: Nathan Kuppermann, MD, MPH

Guests: Joelle Simpson, MD, MPH and Kenneth McKinley, MD

Dr. Nathan Kuppermann (00:00):

Before coming to Children's National Hospital, I spent 35 years working in the emergency department, so I know firsthand that the ED is one of the most demanding and unpredictable environments in medicine. Every day, teams make rapid decisions in high stakes situations, often with incomplete information while caring for children with a wide range of medical and surgical needs.

(00:25):

It is a field that demands speed, precision, teamwork, and constant innovation. Today, we're talking about pediatric emergency medicine and how the field is evolving, from new approaches to care delivery, to the use of data, technology, and research to improve outcomes for children.

(00:43):

Welcome to The Lead in Peds, the podcast where we highlight the breakthroughs, driving pediatric research and clinical care. I'm Dr. Nathan Kuppermann, Chief Academic Officer and Chair of Pediatrics at Children's National Hospital. And today I'm joined by two outstanding leaders in pediatric emergency medicine.

(01:02):

Dr. Joelle Simpson who is Chief of Emergency Medicine here at Children's National and is a national leader in pediatric emergency preparedness and public health. Dr. Kenneth McKinley is an emergency medicine physician with a research focus in predictive analytics using artificial intelligence to enhance care and reduce overcrowding.

(01:23):

Joelle, Kenny, welcome to the show. Before we start, I want to ask you something that's been on my mind, particularly for you all who represent pediatric emergency medicine. As you know, the show, The Pitt, has been on, it's a big hit in popular culture, for our listeners out there who have not watched The Pitt. It really depicts life in the emergency department in a pretty realistic fashion. Having practiced for 35 years myself, I watch it occasionally, and it is fairly realistic. Just would love to hear your views on The Pit, and I'll start with you, Joelle.

Dr. Joelle Simpson (02:00):

Yeah, I agree. I think The Pitt is quite realistic. I especially think about when I'm watching it, that it's couched around the pandemic, and that's when I stepped into my role as chief. So having that leadership view of pediatric emergency medicine and the toll that the pandemic took on us, that hits home quite a bit when I watch. I think it almost makes me tired just because I remember so much of that experience and still living through some of those challenges.

Dr. Nathan Kuppermann (02:27):

How about you, Kenny? What are your thoughts about The Pitt?

Dr. Kenneth McKinley (02:30):

I really enjoy my job, but there are things about my job that are challenging, that are really hard. And what I've heard about The Pitt, is that those are the pieces of my job that are highlighted. So I have stayed away from it. I have not yet tapped into that vein of pop culture.

Dr. Nathan Kuppermann (02:48):

Yeah. It's funny, actually, when I watch it, and I watch it on occasion, I actually have PTSD watching because to credit to the show, it's pretty realistic. And it's definitely an octave higher than any show previously on the topic. Although I have to say, that this is like a shameless plug for the Pediatric Emergency Care Applied Research Network. Episode one, season two, there was a brief comment about this research network that you guys participated in and know about. That I thought was pretty cool.

(03:22):

So anyway, but all joking aside, television can capture things these days, pretty realistically, but in fact, what you guys are doing is even more complex than can be captured on television. So, as we know, working in a pediatric emergency department, high stakes, very fast, challenging, sick patients, well patients, what is the kind of most challenging aspect to overall the pediatric emergency care to you?

(03:53):

And again, I'll start with you, Joelle.

Dr. Joelle Simpson (03:55):

Honestly, I think we all gravitate to the field because we enjoy the excitement, sometimes even enjoying the unknown, what's going to show up at the door. To me, the most challenging thing though is, anything too much of a good thing can sometimes be overwhelming. And from my position, especially running the emergency department, being sure that my team doesn't wear themselves out, and this catchphrase of burnout is so prevalent nowadays, that I worry about us wanting to give so much to our patients and to healthcare, that sometimes we need to be very mindful of taking care of ourselves. And I see that as one of my top jobs, but certainly one of the biggest challenges.

Dr. Kenneth McKinley (04:34):

I totally agree that what makes the emergency department challenging is also what makes our work so fulfilling. The time pressure is exciting. I think that that is part of what draws us to emergency department medicine and emergency medicine in general. But there's also, because of the time pressure, there's this need to rely on our colleagues and the other team members. There's a democratization around the work that goes into resuscitating a patient, that the work of the tech is just as important as the work of the nurse, is just as important as the work of the pharmacist. And our job as emergency medicine attendings is to make sure everybody is speaking up and contributing to try and tie everything together, but that reliance on everybody in the team is hard and awesome. Very, very fulfilling.

Dr. Nathan Kuppermann (05:32):

But the truth is, in the ED, it's a team sport as you guys are describing. And I look back at the pressures that we faced. I started working in the PDD in 1990 and looking at the pressures, how things have changed and progressed over time. If you look at emergency medicine now, what do you think is the biggest stress pressure point now compared to like five years ago? Let me start with you, Kenny, on that.

Dr. Kenneth McKinley (06:00):

There's been a trend toward decreasing acute care capacity for adults as well, but very pronounced for pediatrics. And I am not sure whether that is a phenomenon that the general population is aware of, that we are trying to treat more kids. There's more chronic illness. So we're trying to treat more sicker kids with less resources in the health system and something's got to give. And there is pressure at every level of every health system to try and continue providing quality care, but there's more pressure to make that happen and it's getting harder and harder to make those ends meet.

Dr. Nathan Kuppermann (06:45):

What I think the general population doesn't know, they see crowded emergency departments, right? And they think, "Oh, people are going there to get their colds taken care of and whatnot." But what people don't really realize, it's crowded with sick people. And the reason is that, to your point, Kenny, there aren't enough beds. And this is a national crisis. And of course, as less children get access to primary care, they present even more sick to the emergency department. So that is clearly a big pressure point. Joelle, how about you? What are one of the other big pressure points for you?

Dr. Joelle Simpson (07:20):

Yeah. Well, just to piggyback a little bit, I frame my career in work around, what we call disaster science. And some of the things we think about in the disaster framework is our capacity and our capability. Certainly, our capabilities in terms of skillsets to see patients, care for patients, one versus 20 is there for emergency medicine, but our capacity is really impacted by what Kenny was saying, which is our system. Also in disaster medicine, we think about staff, space, supplies, systems, the four S's. And I feel that the public is probably not as aware how interconnected we are as one puzzle piece of the larger system. And many tend to think that the emergency department often is sort of the recipient of system failures that are happening across not just a hospital, but across multiple networks. The patient that's transferred from a facility that doesn't typically care for kids, what they're able to do in the early stages of that child's presentation impacts what we're receiving in the specialty children's hospital emergency department.

Dr. Nathan Kuppermann (08:25):

There is the stress, the crowdedness, the pace. At the same time, it's a place that is set up for safety failures. As the leader of the department, how do you balance taking care of patients with a rapid pace as you have to do, but at the same time, making sure that the care is safe?

Dr. Joelle Simpson (08:46):

Well, we're fortunate to be part of large networks that study this. So just like the airline industry that pilots have sort of their thing that they do, lots of simulation, a lot of training, but also a lot of communication with, as you mentioned, things like research networks that study what are the players that need to be at the table in order to safely care for a child under those pressures.

(09:08):

And we do that not just for one patient, but we do that also for things like mass casualty events. We analyze what are the greatest risks either in terms of what are the top things affecting children from an epidemiology, what's the highest rate of infection at certain times of the year. But we also think about within our own communities, what are we most vulnerable to based on vaccination rates, based on the level of violence that we're seeing, all of these things that factor in for us to be best prepared.

(09:35):
And we drill to that, we exercise to that, we study it, and then we repeat that whole cycle all over again.

Dr. Nathan Kuppermann (09:41):
Joelle, let me ask about you. You're a national expert on preparedness, disaster preparedness. Give me your thoughts again about preparedness in our ED at Children's National vis-a-vis preparedness in the community setting. And I guess how could we improve them both?

Dr. Joelle Simpson (09:57):
So I think about our preparedness in terms of where we are in the larger network of children's hospitals. And we're proud to be the recipients of a federally funded award recently called the Pediatric Pandemic Network, soon to be named the Pediatric Prevention Network. Let's call it PPN. And it's a network of children's hospitals really thinking about the role they play in communities, not just to be partners to other systems that don't have children's hospitals, but also to be more intentional partners to our communities.

(10:25):
So some of the things we've learned, for instance, is why are we not partnering more with school systems? There's a whole network of school nurses that we should rely on in order to better design what could be occurring in the schools to better educate families and parents for disaster events so that when you bring them to the hospital, families are already engaged in what that planning looks like.

(10:47):
Other systems are things like our surveillance networks and other community centers that I think are thinking about how do we better ready kids themselves who are our patients. We learned from the pandemic that a lot of our adolescents out there actually had a lot of thoughts about what could have gone better. We're learning from that across children's hospitals, and we're trying to put that into our framework for disaster planning.

Dr. Nathan Kuppermann (11:09):
One of the things that is really interesting about working at Children's National, you are in the nation's capital and it does bring a particular spotlight to the care that we all deliver. I'd love to hear your thoughts about working at Children's National being in the nation's capital. How does

that kind of affect your thinking and your approach or what are your thoughts about it in general? I'll start with you, Joelle.

Dr. Joelle Simpson (11:37):

Yeah. Well, first of all, I'm proud to be what, the only children's hospital in the nation's capital, it's a badge of honor, for sure. And then being the emergency department to serve for any threat that might occur and to be there as a safety mechanism for the rest of the community is awesome. So what it means is we have a different way of approaching even disaster preparedness. Every year there's a lot of mass gatherings at the nation's capital and we have a global destination as well as sort of global entities, embassies that are in our midst. So we tend to think very much about the different types of patients that are coming to us and being able to meet that need, not just on a local level, but also national for many, many teams that travel here, but then also thinking about our global community and how we lead in that space.

Dr. Kenneth McKinley (12:26):

Part of the reason I like working in the emergency department is we have a real need to treat patients in the order of how sick they are. And we're the only children's emergency department in the nation's capital. We see patients from across the city. We are e-safety net for patients who do not have healthcare access, and we have the opportunity to champion the healthcare access issues that drove them to require emergency care.

Dr. Nathan Kuppermann (13:03):

It is interesting, and it is kind of humbling that we work in this environment where it's a city that there's a lot of need and we care for those in need. And it's also a city with some of the wealthiest, most powerful people in the world, and we care for them all, but with great equity in the manner that you guys have described. And it's a really kind of a... To your point, Joelle, it is a badge of honor that we get to do that. I'll add one other thing. As a researcher, an educator, one of the great things that I think we have access to by working here at the nation's capital is one of the four things that we were not really well-educated in medical school, or residency. Of course, we learned how to take care of sick patients and how to teach and then how to do research more as a fellowship, but we did not learn how to advocate.

(13:54):

And this is the city in which we can advocate. So we have access to the capital to advocate, not in a partisan way, across party lines, it's just all about children. And that's another great thing about being in DC for me. One thing that I really love for our viewers and listeners to be aware of is that, again, the vast majority of children are seen elsewhere.

(14:21):

And one of the issues that we all face, because we care about children no matter where they are, how do we get expertise to that 80%? Because there's never going to be enough pediatric emergency physicians to work out there. In fact, the finances around that are just impossible. So how do we deliver high quality? How do we facilitate things that you're doing with the PPN, certainly play a role. And with that, I'm going to actually ask you a question, Kenny.

(14:50):

So a lot of your work is focused around improving outcomes through research, quality improvement, initiatives, et cetera. Why don't you talk just a little bit about research in the ED and why, by the way, the acronym ED is emergency department. Most people know of it as the ER. And actually, you know what? It's a good time for me just to dispel that for everybody out there.

Dr. Joelle Simpson (15:10):

Thank you.

Dr. Nathan Kuppermann (15:11):

Yeah. Let me just talk about that because shows a generation ago, of course, there was a show, ER, and even some people who've been around a long time in big fancy hospitals call it the ER. ER stands for emergency room. It is not a room.

(15:27):

It is a department. So just a teachable moment for our viewers out there, don't call it the ER, call it the ED. It is a department of emergency medicine as bigger, bigger than many, if not most other departments at academic hospitals. So my teaching moment for a second there, back to you, Kenny, about research. So just talk about the research view and why the emergency department is such a ripe location to study it and why is it so important?

Dr. Kenneth McKinley (16:00):

Yeah. I think the biggest reason that the emergency department is such a crucial partner in any research that happens in a pediatric setting is that we are the interface between the community and the hospital. We are the front door. And when patients who have chronic medical needs, multiple subspecialists, or just complex medical histories in general, when they have an acute exacerbation of their disease, they're going to come to the emergency department. Not always. Sometimes there are processes to get them admitted to an inpatient floor. Sometimes they might

be able to get their acute exacerbation managed in an outpatient setting, but when patients are at their most medically vulnerable, the emergency department is the resource that can meet their needs. And if our goal in research is to improve pediatric health, then one major effort always has to be, how do we manage acute exacerbations? How do we improve the care of patients when they're at their most medically vulnerable?

(17:08):

And in the emergency department, our clinical work, like we were discussing earlier, is so focused on teamwork. We rely on every member of our team. There's this democratization around the efforts of resuscitating a really sick patient. So it's second nature for us to want to reach out and want to collaborate on research efforts as well. And our subspecialty colleagues in hematology, for example, recognize that we're team players. They recognize the value of the emergency department as a place where we can start an intervention before anyone else in the hospital, and they recognize the value of studying and deploying new interventions that might revolutionize care in the future for patients who have complex disease.

Dr. Nathan Kuppermann (17:54):

It is really interesting. I consider the emergency department and experts like you guys in the emergency department expert in the first few hours of care of a lot of different things, but it is real. And a lot of what you do there, I mean, it really does kind of set the course for the patient. It is really critical timing for stuff. So research is really important. And when I think of new innovations that are happening in emergency medicine, you can look at them in a number of different ways. There's new technologies, there's new workflows, there's new ways to do decision making and stuff, but what do you see now as the most important area of innovation in the emergency department? So what do you think is going to really have the biggest impact right now, 2026? Thoughts? Let me start with you, Joelle, go ahead.

Dr. Joelle Simpson (18:46):

Yeah. That's a big question.

Dr. Nathan Kuppermann (18:48):

Yeah. Yeah. Sorry. Sorry about that.

Dr. Joelle Simpson (18:49):

And so for anybody that has deep pockets that are going to support this, this is my plug. But certainly I think something that we realize is that we are so concentrated in our subspecialty at children's hospitals for good reason. That's where the highest volume of the sickest kids come. However, we recognize that across the country, like you mentioned, 80% of kids are seen in

spaces where there is not subspecialty training like you, myself, or Kenny. And so what tools do we have that we can develop to reach those spaces?

(19:20):

It may be the technology of telemedicine that launched during the pandemic, but are there other things we should be thinking about? Wearable devices so we can communicate or monitor patients in their home, in their household? Certainly there's also ways that we could be picking up signals across our communities so that we know when something is coming, whether that's traditionally we've done surveillance, but are there things in social media that could also tell us trends of where we're seeing pockets or hotspots of certain things that we come to the emergency department?

(19:54):

So that's where I am in terms of thinking about as a disaster person, how can I detect this disaster coming sooner? And how can I better prepare the communities that don't have subspecialists like myself to be ready for that?

Dr. Nathan Kuppermann (20:06):

Kenny, what about you? What do you think?

Dr. Kenneth McKinley (20:08):

Joelle hit on three points that I think are crucially important for the element that I think is going to change innovation and change the way we practice, which is of course artificial intelligence.

(20:20):

And artificial intelligence is going to give us more opportunities to collect new data points, whether that's with wearable technology, digital exhaust, or just facilitating extraction of data that's already available in the electronic health record. It's going to give us new insights from those data, and it's going to help us filter through all the extra noise from all this extra insight and focus on what matters. I think all of those pieces are going to be relevant across healthcare systems, not simply in pediatric emergency medicine departments. In the community where my brother works in Central Pennsylvania, these technologies that we can't even really imagine what type of insights we might be getting in five, 10 or 15 years, but they will be available very broadly and they need to be studied robustly and rigorously and they need to be implemented in a safe clinical environment before they're deployed across the country.

Dr. Nathan Kuppermann (21:29):

You kind of threw a softball to the podcaster, to the podcastee. I know you're actually one of the leaders at Children's National in AI work. Why don't you just tell us the work that you're doing in AI and ED and how that's working?

Dr. Kenneth McKinley (21:42):

Sure. Yeah. So I'm going to start a little bit with the problem. My clinical work became very challenging really in 2022 and 2023, and this is very much related to emergency department crowding. Emergency department crowding, as you know, is a chronic problem. This is a situation where the emergency needs of the community are greater than the resources to meet those needs.

(22:09):

It's a disaster in many ways, in as much as demands exceed resources. The difference between crowding and a disaster or a mass casualty event is crowding is routine. It's persistent. It's not paroxysmal in the same way. And for children's hospitals, crowding is usually worse when there's a spike in the circulating respiratory illnesses in a community. With the end of pandemic era quarantine restrictions, we saw the flu RSV COVID triple-demic. This led to a surge in the number of patients who required pediatric care.

(22:49):

We knew that we needed to do more to address crowding when we began to see a persistent pattern in high acuity patients leaving the emergency department without being seen by a provider. These are patients who have already been identified by an experienced triage nurse as truly having an emergency condition, and they were leaving before a provider could evaluate or treat them. We needed to be able to predict when would crowding be so severe that kids with real emergencies would leave without having their conditions addressed. And machine learning, which is really a subdiscipline under artificial intelligence that uses algorithms to automatically detect patterns and data.

(23:37):

I suspected that machine learning might provide some opportunity to identify periods where we needed extra resources in the emergency department and deploy them in a nimble and effective way. And I was supported by the leadership in the emergency department to try piloting some of those technologies.

Dr. Nathan Kuppermann (23:58):

Tell me a little bit more about that and what have the results been and...

Dr. Kenneth McKinley (24:03):

Sure. So we've been working with world-class forecasting experts at Virginia Tech Sanghani Center for AI. And we just published actually with them paper [inaudible 00:24:15] about the development and retrospective model validation for a number of machine learning algorithms to predict the number of high acuity patients who are going to leave the emergency department without being seen by a provider within an eight-hour period. And what's especially interesting is how do models perform when we want them to identify periods that are going to have at least two high acuity patients leaving within an eight-hour period?

(24:44):

Because Joelle and I have talked about this. If we want to have an operational outcome that we might actually do something about that outcome, it needs to be something impactful, something that matters. And when you have multiple high acuity patients leaving the emergency department without being seen by a provider, those are the periods where we would want to deploy extra resources.

(25:08):

And the work with Virginia Tech, we were able to demonstrate that there are two machine learning algorithms that perform very well in discriminating between periods that will or will not have this bad outcome where there will be multiple truly sick kids who are leaving and they shouldn't be leaving. And using those models, we can deploy extra resources in an optimal way.

(25:32):

So we're not wasting scarce resources and we're not missing periods where we really do need the extra help in the emergency department. We've been doing that at Children's National, and that makes it especially fun for our partners at Virginia Tech because they know we're going to use the insights from our collaboration to really improve pediatric care.

(25:54):

Let me give you an example in March. They were currently using an extreme gradient boosted machine learning algorithm to predict which periods are going to require extra resources in the emergency department.

(26:09):

I personally worked an additional six shifts in March because it was one of the busiest months we've had since 2023. We saw almost 6,000 patients in our emergency department in one month, and previously this would have been very challenging for our system to absorb, but we are

developing a system and we're now at the point where we can deploy extra resources and we can bring in an extra nurse and an extra doctor.

(26:37):

And Julia Volcjak, our nurse champion for this work, she and I took on two additional shifts this week, Monday and Tuesday, the model suggested that there was going to be severe crowding and that extra resources would be needed to not have lots of patients who were high acuity leaving before they got evaluated by a doctor. And it felt like we saw the world this week and we could feel the impact of this program because fewer patients left than the model predicted.

(27:14):

And for every patient we treated, we could treat them with the knowledge that they were getting seen earlier than they otherwise would. It gives my job joy and it brings fulfillment to our partners at Virginia Tech who have partnered with us in this work to improve pediatric health with AI.

Dr. Nathan Kuppermann (27:34):

So I'd just like to have a question for Joelle and then a comment. First of all, extra pay for the extra shifts?

Dr. Joelle Simpson (27:40):

Definitely.

Dr. Nathan Kuppermann (27:41):

Definitely. Okay. Excellent. Just making sure on that. And I just want to say for our listeners out there, because I also use some machine learning in my own statistical modeling. And when we talk about things like machine learning, there's traditional statistics where when you're looking at associations between certain predictors and certain outcomes, but you have to make some assumptions about how they're related in a linear or log linear way or whatever, the power of machine learning used in the right situation like ED overcrowding is just, it's looking at patterns and the data that are not necessarily picked up by traditional statistical modeling.

(28:26):

Maybe too much for our listeners, but important, when we talk about AI, machine learning, this is kind of what we're talking about, to demystify it a little bit because I think people hear about AI and they think, "Whoa, this is space age, this is scary." Of course, we have to use it wisely and we know that there's particular challenges that we have guardrails with, but importantly, AI

is able to see things, patterns and data that we can't see and that traditional statistical modeling can't really capture. Is that a fair assessment?

Dr. Kenneth McKinley (29:00):
That's a perfect description.

Dr. Nathan Kuppermann (29:00):
What I actually would love to hear is that, first of all, and I think all three of us can relate to a lot of important research that happens, it's based on a particular child you saw. And for me, from my research, that we did something to a certain child and I think, "God, why did we do it this way? Does that really make sense?" So I guess the question that I have for you specifically about the research that you're doing, is there any particular patient that comes to mind that was the driver for your research?

Dr. Kenneth McKinley (29:29):
So I worked collaboratively with our director of patient safety in the emergency department. And my experience with emergency department crowding was very self-reflective, anecdotal, idiosyncratic. This is how I feel when I'm working a shift and we need more resources.

(29:49):
Dr. Sarah Isbey, who I worked with to put together a whole process to address crowding when we predict that more resources are needed, she came at it from a patient safety angle. There was a patient who she shared with me had left without being seen. They were in the emergency department. They waited for a couple hours. They'd been vomiting a lot. They left without being seen and returned later with a pH less than seven because of course they were vomiting from DKA.

Dr. Nathan Kuppermann (30:21):
I'm just going to say for the listeners, that means a child who's very acidotic, it means they're really sick when you have that level of acids in your body.

Dr. Kenneth McKinley (30:33):
And this is a patient who was identified as a high acuity patient. So we use a five level acuity scale, the Emergency Severity Index. And this patient had been identified as an Emergency Severity Index 3 patient. This is a patient where generally we would expect to have them evaluated by a provider within an hour and they'd waited a couple hours and families are stressed. The waiting room is a stressful environment. When wait times are prolonged, there's

often lots of other people there. It's noisy, people are coughing, and we know that it's unpleasant and patients sometimes leave when we hope that they wouldn't.

(31:08):

This is a kid who came back very, very sick, spent a long time in the ICU, and I understand is doing well, but nobody wants to have to work in a system where we can't provide timely care to that type of patient.

(31:24):

And Dr. Isbey and I thought that there are opportunities to improve the system to make ourselves more nimble, but we have to be able to identify the periods where extra resources are needed.

Dr. Nathan Kuppermann (31:36):

Joelle, let me just ask you with the PPN and stuff, how are you guys thinking about knowledge translation and implementation and getting the science out there so it improves the care to all children in the country?

Dr. Joelle Simpson (31:51):

Well, first, I want to sort of piggyback on the fact that Kenny's being very humble, but a lot of this work was also supported in partnership with our colleagues at places like Virginia Tech and certainly with colleagues even across our own hospital. Other subspecialists helped us solve some of these issues. And so that's the power of networks, whether it is outside of pediatrics, such as spaces like Virginia Tech with our engineers and so forth, or whether it's across other disciplines outside of Peds Emergency Medicine.

(32:19):

So we thank our partners for that sort of work. And what's beautiful is that PPN is actually a place that Kenny has highlighted this work so that we could talk to other children's hospitals about what we put into place and to see whether that's replicable in these other systems that are challenged with the same or similar issues. We know that Children's National is in an urban environment, for example.

(32:40):

Does the same process work for some of our hospitals that are in more rural settings? Are there any elements of this that could work in our partner hospitals that are not children's hospitals? So those are some of the things we're exploring under PPN and funded at this large scale, because we're currently in 14 states, to be able to ask this question among leaders to see how this could

be implemented much, much broader. So that's some of our hope in this next iteration of funding that we have coming up for PPN.

Dr. Kenneth McKinley (33:10):

The PPN has recognized the value of tackling crowding as a disaster. And so we've talked a little bit about how disasters and crowdings share. There's a lot of overlap here that there are not the resources required to meet the emergency needs of a community. And for crowding, that's usually an intermittent brief blip, for disasters that can be different.

(33:34):

But because crowding is inextricably related to disaster medicine, it provides an opportunity to rehearse our responses. It allows us, if we have processes in place to optimally deploy resources when the ED is crowded, then that improves our preparation for larger scale disasters.

(33:59):

And my research has been supported extensively by the PPN because of their vision for how this is not a children's national problem. This is a national problem. This is an international problem. And the insights that we get from studying crowding and setting up responsive systems to address crowding and mitigate the harms from it, that makes us better for addressing other disasters as well.

Dr. Nathan Kuppermann (34:22):

So now actually, as we kind of slowly get to the end of the podcast, I want to make this, not that this has been pessimistic because it's not, but we're talking about disasters, crowding, COVID, all these things. So that's not that that's pessimistic, it's what we do. However, just looking ahead, so I'm going to ask each of you and I'll give you each an opportunity to answer. Five to 10 years from now, first of all, Joelle, what do you see? What do you see as going to be the major shift? What are we going to see in emergency medicine five to 10 years from now that we don't see right now?

Dr. Joelle Simpson (34:59):

That's such a loaded question, Nathan. So thanks for teeing that up for me first.

Dr. Kenneth McKinley (35:02):

Yeah, she can handle it.

Dr. Joelle Simpson (35:06):

I'll say, I mean, and I'm reflecting a little bit or a lot on what I experienced through the pandemic and now where I am, both in my career, but then also just seeing the way of the world. And I think the one element that I have not seen emphasize through my training and what I would've done differently in the pandemic is this concept of community engagement or patient engagement in the healthcare decision making, in collaborative decision making and those sort of things.

(35:35):

And I wonder if there's a space, especially with the path that science is taking now and how it's being talked about in the general public and maybe some of the mistrust that we've had because of sort of the mixed messaging out there. Is there a space in five years where we have these technologies that are going around are strengthening our relationship with our patients, being able to have them co-lead on some of these research questions, having them truly involved in the way that health systems get revamped and at the table.

(36:07):

And we're really pushing at Children's National, even to the experience that Kenny has been working in essentially the waiting room to mitigate the patients left without being seen. We also survey our patients to make sure that that experience is what they expect and what they hope for.

(36:22):

We also do studies with our EMS colleagues who bring in these patients who also get a fair amount of moral injury from having to wait with patients that they know are sick and also with our nursing colleagues. So there's a lot of players here where I think I'm not that old in my career, but I grew up in this idea that the doctor is at the head of the pinnacle of all things decision making. I'm ready to sort of challenge that concept and in five years, maybe see a space where it is a little bit more normalized and it's facilitated for our patients to help co-lead or at least contribute a little bit more to the decisions we make on their behalf.

Dr. Nathan Kuppermann (36:58):

That's great. And before I turn to Kenny, I'm going to give you the chance to also just give us one optimistic thought about what is the great optimism that you have for the future of pediatric emergency medicine?

Dr. Joelle Simpson (37:12):

Oh, let me think about that one. A great optimism. Do you have yours?

Dr. Kenneth McKinley (37:17):

You gave me something to be optimistic about.

Dr. Joelle Simpson (37:20):
Okay.

Dr. Kenneth McKinley (37:21):
This description of what Joel is... The pictures she's painting of a community engaged effort to improve the way that we deliver emergency care, I think we're going to get there. And I think that AI is part of the picture. I think that the way that some funding organizations are going, like PCORI, which is a patient-centered outcome research institute, there's more and more effort to get patient-centered voices, not only into the room to understand and interpret results, but to design the research that has value.

(37:59):
And I see increasingly more rapidly identifying problems that need to be addressed, getting the right people in the room that include community voices and translating findings from whatever data we collect, the way that that data is interpreted, translating those findings into real improvements in pediatric care. I do think AI is going to facilitate those conversations, facilitate those analyses, and as long as we're making an honest, genuine effort to get the right team in the room, those teams are going to make a faster difference.

Dr. Joelle Simpson (38:33):
So now you inspired me.

Dr. Nathan Kuppermann (38:34):
Go for it.

Dr. Joelle Simpson (38:35):
So my answer is, you talk about peds readiness. And one of the big research projects that's been out there is that peds readiness is sort of based on a score. Think about it just like we were in school, you get an A, B, C, D. And we've seen that our healthcare system in general is not really scoring that great. We're probably at a B minus. I say we get to B plus, A minus at least in the next five years with a goal of getting to A at some point.

Dr. Nathan Kuppermann (38:59):
And I know you're talking about pediatric emergency medicine in the nation because at Children's National, it's not-

Dr. Joelle Simpson (39:05):
Yeah, we're at an A.

Dr. Nathan Kuppermann (39:06):
You guys are A, I would say probably A plus.

Dr. Joelle Simpson (39:08):
A plus.

Dr. Nathan Kuppermann (39:08):
Okay. I'll give you an A plus, with a smiley face.

Dr. Joelle Simpson (39:11):
Correct.

Dr. Nathan Kuppermann (39:12):
But absolutely. And I guess if I could have just a closing comment listening to both you, this is what inspires me. Although this is not about me, it's about you guys, but I'm just going to say, you guys both inspire me. I think the future of pediatric emergency medicine, why I think it's bright is there are people like the two of you who have committed and dedicated to it.

(39:32):
And I see the next generation of people that you are training that we train in our research networks. There are people that see, I think, the value of being involved early in the acute care of children in collaborating with others to do that.

(39:47):
I'm inspired all the way around and we all have to kind of remain optimistic because we will get to where we need to be with people like you and the people that you train. So with that, I would just like to first thank you, Dr. Joelle Simpson for being here. Thank you, Dr. Kenny McKinley. Really been a pleasure to have you guys on the Lead in Peds.

Dr. Joelle Simpson (40:10):
Thank you.

Dr. Kenneth McKinley (40:11):

Thanks, Nathan. This was really fun.

Dr. Joelle Simpson (40:12):

Yeah, lots of fun.

Dr. Nathan Kuppermann (40:14):

Today we talked about the realities of pediatric emergency medicine, the challenges of delivering care in a fast moving and unpredictable environment, and the ways innovation, research, and new tools like artificial intelligence are helping us improve how we care for children.

(40:31):

It's clear that the emergency department is not only the frontline of care, but also a place where new ideas are constantly being tested, refined, and put into practice, all with the goal of delivering safer, faster, and more effective care for children and families. I want to thank Dr. Simpson and Dr. McKinley for joining us and for the work they do every day for patients at Children's National and beyond.

(40:57):

Thank you for listening to The Lead in Peds from Children's National Hospital. Be sure to subscribe wherever you get your podcasts so you don't miss future conversations with leaders who are advancing the future of pediatric medicine.