Past Event: 2026 NCSBN Scientific Symposium - Jennifer Hayden Keynote Address: Evidence to Action: Virtual School Nurse Video Transcript

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2026 NCSBN Scientific Symposium

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Presenter
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- [Sheila] Well, welcome to "Illuminating Evidence." I am so excited to join you today. My name is Sheila Freed. I am the clinical operations director for School Health and Senior Care. Now, I think it's always nice if you have a little bit of an opportunity to know who it is that's speaking to you.

So really, I wanted to let you know, for the last 20 years, I have been a school nurse. My first dip of my toe into school nursing was in rural South Dakota. We'll talk a little bit more about rural later on, where I drove 100 miles a day just to complete all the tasks that I needed to complete. And then we moved to, in South Dakota, our largest urban center, a city of about 200,000 and the school district about 25,000.

So now I was going to have three buildings, and I was like, "Oh my gosh, I'm so excited not to have to drive as much as I was driving before." And that was true. I didn't have to drive 100 miles a day, but I still could never be in the right building at the right time.

I have a theory about that. My theory is as soon as the school nurse walks out of the building, there's a notification that goes to all the children that says, "Hey, now would be a great time to go to the office and say, 'You need to see the nurse.'" I don't know whether we need to research that or not, but maybe. And then we moved to North Dakota. And at that point in time, there was now a public health setting where I was a school health liaison and eventually the director of nursing.

And we did seven counties, and there was never enough coverage for what we needed. So that's a little bit about my background, but I have a secret to tell you now. I cannot think of a new idea to save my life. Now, I can implement a lot of different things.

New ideas, I just can't think of them. But you know who can? Researchers. Researchers have that curious mind. They have that problem-solving mind, like how is it that we could study to see what would be a solution for this problem?

And really, the story that I'm going to tell you today is about that. How really, like the title says, "Evidence to Action," but it's a story of a community of collaborators that have come together to

increase the school health benefit to children. So it's always good to know, where is that person coming from?

So let me tell you a little bit about where I work today. It's a telemedicine hospital. So if you think about... We started 30 years delivering telemedicine services as part of a health system, and then became a standalone telemedicine or telehealth hospital. School health started in 2015 for our entity, but the program started long before that.

It really started with the South Dakota Board of Nursing. And it started because they had really a problem, and that was access to care for individuals living with diabetes in settings where a nurse might not be present to deliver the care.

There were legal barriers to delegation and supervision of insulin administration, and there was a cost of sustaining the current economic model of care. And also, there just wasn't enough nurses to do the care that was needed. So the Board of Nursing decided, what is it that we could do? So they designed the purpose of the study, which was what possibilities exist to enhance diabetes management when a nurse isn't present to provide care.

And then the real work began. And so the Board of Nursing did a variety of different things to look into the system. Like, what could it be? How could we fix this? How could it be better? But they knew that they weren't the only answers. So they talked to stakeholders.

They found that some kids were being driven every day to a nursing home so that the nurse could give insulin. They learned that some parents couldn't work outside of the home because they always needed to be available to the school to take care of their student that had Type 1 diabetes. So they conducted World Cafes. They did polls.

They listened to stakeholders. And really, there was a theme that started emerging. And that was that theme of a virtual model of nursing practice. Could you connect trained unlicensed assistive personnel, UAPs, with a virtual nurse nourished by a means of technology and safely administer insulin? So they really decided they would want to study this in a school setting.

And they needed funding. And the funding, the original funding, came from a grant from the NCSBN group. Isn't that interesting? Research started here. And the pilot program was developed. Now, if you have questions as we go along, just let me know. Put them in the chat.

And so with this collective wisdom, the study began. And at that point in time, I was the school nurse supervisor for the Sioux Falls area schools. And so the superintendent said, "We've been invited to be a part of a pilot study." And I was like, "Oh, no, I think that's a terrible idea. I don't think we should be able to delegate insulin."

I was thinking about really my own nurses, thinking about... I was afraid of what might happen. And the superintendent gave me great wisdom. She said, "It's those kinds of studies that we need to be involved with the most because that's what we need to learn about." And so we became a pilot project.

And look at me today, it changed my view. And so what we found from that initial pilot study for the Board of Nursing is that insulin could be administered safely with the virtual oversight of a nurse. Now, we also found from the study, we, as in the collective group of the stakeholder group, there did need to

be some education that was performed, and there needed to be some guardrails related to what the staff needed to know.

But the project was a success. And so in 2014, the Board of Nursing was able to put forward new nursing rules to allow RN to delegate insulin administration to UAPs. So I also appreciated that the Board had good guidance for us nurses, training for the UAPs, UAP exam, and then the RN Train-the-Trainer program.

How important is that? That is so important because diabetes changes so quickly. We need to make sure that the people that are doing the training of our UAPs have the most up-to-date information. And then they decided they needed to have a registration process for those UAPs so they could make sure that safe care was being given.

And then they gave them a name, they're called Unlicensed Diabetic Aides. And so with this change of rules, there were things that happened. Well, what happened, you ask? Well, I'm glad you asked that question because the regulation change made it so that there was an opening to fill a gap that we've been seeing in the schools.

But what kind of gap was that? And so our Sioux Falls school district asked us, "Can you help us? Can you help extend our nursing services here?" So at eCare, we decided we better look and see what is the gap. Wow, look at the gap we found. So this is from 2016.

There was a lot of schools that had very little coverage, especially in our wide open spaces in our country. There is a gap. And then we had to decide, okay, we can see there's a gap, but what really do school nurses do? And even sometimes in our nurse community, there is a question: is it band-aids?

Is it boo-boos? And yet what it really is, is school nurses bridge the gap between the healthcare and the educational system. And so school nurses understand two languages. They understand the language of education, and they understand the language of healthcare. They pull these together so that students with medical needs or students that have accident, illness at school can be in a safe environment and have the same educational resources as other children.

And so that's really what the school nurses do. So we're like, "Okay, now we know there's a gap. We have an idea what school nurses do, but then what do we need to do?" We came to 2016, and we were starting to develop that idea, the program in partnership with our local school district, but we received a grant from HRSA, the Telehealth Network Grant.

And really, what this grant was for, research coming into the play again, was really to study, is there a way to increase access to care for students related in our rural areas specifically? And so we received the grant, and we started on the work.

Now, my next picture is because... I put this picture in because rural has a wide variety of meanings. So type in the chat, what does rural look like to you? It could be that this to you would be frontier, where to me, this might be rural. This was one of our first school districts that we served.

This is in Standing Rock, on the Standing Rock Reservation in North Dakota, it's Solen, North Dakota. My first picture that I took with the bus in the picture is facing the school. Then I did a 90-degree pivot. And the picture with the trees is what we see from the front door of the school. This was rural to me, maybe it's frontier to you.

Rural looks different to different people. But the important part about this picture is when 911 is called at this school, it takes 30 to 45 minutes for the ambulance to get there, if the ambulance is available. If the ambulance is out on a transport, it takes even longer because it has to come from a different town.

So when you think about access, access is important. And I love this cartoon. What I love about it the most is it really helps describe what our front office staff do at our small schools. Now, a small school is somewhere between 100, 200, 300, 400 kids. These schools can be rural.

These schools can also be urban. And so what we have is front office staff that take care of IT. They take care of the office things. They take care of assisting teachers. They also many times do whatever medical care comes to that office desk. And so it was like, how can we help support these people who...? They don't do this work because they make a lot of money.

They do this work because they want to care for the kids. But let's give them the right tools. So what were the considerations that we had as we were developing the program? Well, of course, we had the regulatory considerations, which the South Dakota Board of Nursing had taken care of. They changed those delegation rules. Of course, we need to be licensed by the Board of Nursing, whatever state that is we're serving.

But we also might need to be licensed with the Department of Ed. What are their requirements? In South Dakota, we don't have requirements, but in Minnesota, we're also licensed, all licensed school nurses through the Department of Ed. Also, we needed to consider what is the regulatory guidance for the education needed for our school partners that are our assisted staff that help us?

What is needed for the provider, the school nurse? What kind of a skill set is needed? And of course, they need those assessment skills that any school nurse needs. But there is another kind of skill set that is needed, and that is a collaboration, because we're always dealing with our partners, which is so good, but an important skill set when you're thinking of telehealth.

And then we also have to have the right skill set for the onsite staff. Now, of course, we want simple equipment so that they can be successful, willingness to partner. And sometimes we found we would have staff that were... We had one person... Let me tell you a story. We had one person that loved the kids, wanted to help, but every time she helped us by looking in a throat, it made her want to throw up herself.

She was not the best partner. Her heart was in the right place, but it wasn't the skill set that she needed. So we needed to find a different partner at that school. And then, as good as telemedicine is, it does not fulfill every need that is found at the school. So if we can't do a great assessment, then we need to move it on.

So how does it work? As we developed the program, we developed two different pieces of the program. The first part is the primary school nurse, and the second part is the extender. So what the primary school nurse is is for schools that have never had nursing services before, and we serve them in the virtual capacity.

And so we support by immunization review, we do individual education plan meetings, we intersect with the parents, we get doctor's orders, we write care plans, we do 504 support. All the things that you do as a regular school nurse, onsite school nurse, because it is school nursing services just served in a virtual manner.

And then the other part of our program that we have is the extender program. And that's where we partner with those onsite nurses. So we can serve the students the best. Let me give you an example of why that on-demand is important. I was in Sioux Falls again with my three buildings.

I'd received a call from one of my schools that said, "We had a student that fainted, can you come on over?" And I was like, "Yep, I'll be there in 10 minutes." I'm assuming. Didn't hear back from the school again. I'm assuming that the student is in my office resting and that we'll do some assessment and see what happened. I walk in the door, and I said, "Is the student in my office?"

And they were like, "Oh, no, they're still passed out. They're down the hall." Now, it has been 10 to 15 minutes now since I received that original call. I go running down the hallway, see the student. I tell the principal, "Call 911." He said, "Are you sure? We haven't splashed water on their face yet." And so I say that to tell you that our educator friends are so good at what they do, which is education, but they need that intersection of the medical personnel to keep the kids safe.

A push of a button could have saved us 10 to 15 minutes of getting that kid the immediate care that they need. And also, then me as that onsite school nurse, when I was at my other building, I would know those kids had that direct interaction and were safe immediately. So that's kind of how we help with the extender program and the primary.

So then what do we do? I told you about the program support. What kind of assessments really do we do? So, you know, school nurses don't diagnose. Most of you know that. But what we do need to know, we need to know what is not normal. We need to know and give the best report to the parents so they can make their best decision.

So we do acute care assessments like accidents, injury, illness, emergencies. Let me give you an example. We had a student who had been stung by a bee, primary student, first, second grade. Come to the office, they did first aid appropriately, and then sent the student back. A few minutes later, maybe 10 minutes, the teacher brought the student back down.

The student was becoming lethargic. Didn't complain of any breathing problems, no hives, nothing going on. So they pushed the button and brought the school nurse on. The virtual school nurse used a stethoscope. There was hardly any air moving. So she said, "We're going to need to use the Epi4Schools program epinephrine. So there's a program where you can use Epi just for these kind of situations, undiagnosed anaphylactic reactions.

And the secretary, bless her heart, said, "How about if we just wait until the parents get here? They'll be here in 20 minutes, no big deal." And Amanda, our nurse, said, "We can't wait. I need you to call 911, and then I'll walk you through everything. It's just like we trained you to do." Long story short, Epi was given, ambulance came, student was transported, parent met at the hospital.

What really happened? A life was saved. Small school, very few medical needs. But in this case, it was an emergent need that saved a life. Where does this even go back to? It really goes back all the way to that initial study done by the Board of Nursing that gave the insight of maybe we can do virtual services in the school.

Chronic care visits. Those are diabetic care, asthma, seizure. So think about oversight of insulin. I would say also, we have two students that started in preschool, a small school in South Dakota, about 250 kids. No nursing services. No nursing services in the region, really, for those small schools.

And so we had 3-year-olds that started on the program with their nurse in preschool. They now will be fourth graders next year. They've had the same nurse all that time. Seven years, I believe, is what it is. The mom had considered changing to another school, but the boys didn't want to change. They said, "We need Nurse Jennifer."

And the other school did not have a nurse. Mom said, "I'll change my older daughter. The boys will stay here." Understand, they have never met their nurse in person, and yet the relationship has been formed. And so there's a few things that you need to have. You need to have assessment equipment that is easy for unlicensed people to use. So with this equipment, we can take a temperature, look in an ear, listen to heart and lungs, look at the throat, and really then give information that is needed to the parents.

Or if it's an emergent situation, we can stay on with the school until the ambulance gets there. Here, it's showing even how you look in the throat. We can even do a pupil check if we're examining and looking at a head bump situation. So that's kind of how the program developed. So what was that outcome from that HRSA grant?

It started out slow because we were trying to convince people, "This is what a school nurse does. This is how we can help you. And we can do it in a virtual manner." We also had to let them know that when the grant was done, the program would still be worth their while. So this showed how the program grew slowly at first, and then the growth sped up.

But we weren't done yet. More research was needed. The first research study from the Board of Nursing showed you could oversight insulin. The HRSA study showed you can do access and increase access to those rural areas, especially. But now, with our partners from Helmsley Charitable Trust and Breakthrough T1D, we needed to understand, do we do what we say we would do?

And so an evaluation study was set up to really see, do we affect the hemoglobin A1Cs? That was the primary aim that we were looking at. Although we looked at so many other things as well, and the data continues to come out related to how did the training affect the care of the kids?

How did school staff training, how did it affect the grades? How was the whole school affected with the care of a nurse? This really shows where the student population was that we studied for this grant with Breakthrough T1D and Helmsley Trust. And then this here is hot off the presses. And so this was just presented at the American Diabetes Association Research Conference in June by our researcher, Dr.

Christine Hockett. And so what we found was that the mean hemoglobin A1C decreased from 8.7% to 7.6% following the implementation of the eCare School Health Program, representing an unadjusted 1.1 percentage point improvement in the glycemic index. So yes, we did make a difference.

And so the conclusion from that study is that there was improved glycemic control. There was benefit, especially for those younger children and for those that were new to diabetes. There will be more research coming out, or really conclusions coming out from this study, but we've made a difference in attendance overall for the school setting.

We increased executive functioning of the students. And so all those things may mean better education. The research is so important, but what's so much more important is the impact on student lives, the impact on family lives. So where are we today?

We're in 14 different states. Some states, we have one or two schools. Some states we have 40. We serve some of the most remote areas. We have two schools on Navajo Nation. We have schools up in Northern Maine, remote. There is no one else to hire.

And then I love this slide because it really shows the impact. It shows the impact of all that research study that started with the South Dakota Board of Nursing. When you look at this, we see that we have kept safe nearly 50,000 kids over the last 5 years, as from 2020 to 2025. We've done over 100,000 visits, seen over 20,000 individual kids.

But I would say on this slide, what I'm most proud of is the learning days saved. And the reason that is, is because the whole point of school is to learn. And you learn best when you're in school. And sometimes there are reasons that you need to go home: illness, accident. There are times when you need to go home, but many times kids can stay in school.

But if you go to the administrative staff and say, "I have a tummy ache, I want to go home," they may call and let you go home. But if you need to go to the nurse and the nurse does an assessment and asks the questions, you might stay in school. Let me give you an example.

We had a student that was coming to the office every day around 1 after lunch. The secretary said, "I'm going to call you, but I know that they have math after lunch, and I know they just hate math. I know that's why they're coming down." Nurse did her assessment, decided to call the parent. The assessment was really non, there wasn't anything too alarming about it.

Called the parent, and the parent was like, "Wow, they're complaining that same discomfort after they eat supper. I better take them in." Oh, took them into the doctor, got a medicine for reflux. It wasn't a school avoidance issue.

It was actually a reflux issue. Got in the medicine, student quit coming down to the office. Problem was solved. Sometimes it's the opposite way. A student comes in with frequent stomach aches, don't really know what's going on. We refer to the counselor. Maybe there's something.

Maybe it's more of a mental health issue. It's how you work together to keep the kids in school so that they can learn. That's what changes their outcome. And then when we think about our chronic care kids, over 45,000 visits with the chronic care, calls to parents. Of course, these kids stay in school.

And I think there's sometimes a question with the way technology is advancing. Do we even really need a school nurse? Is a school...? Will the technology be able to take care of the kids with diabetes? And I would offer to you that we still need those critical thinkers. The reason being is we went into a school that the student had a continuous glucose monitor.

They had an insulin pump. They had had education by a diabetic educator. The parents had come and talked to them. And they brought us in because they could not keep control of the student's blood glucose levels. So as I was doing my training, one of their biggest questions they asked me is, how many carbs do we put into the pump?

And I said, "Are you putting the same amount of carbs that the student eats?" And I was like, "Oh, no, that doesn't work. When we put that in, the student goes so low." So I said, "Well, let me watch you. Let's see what you do." Oh, the aha: the blood glucose they were putting in was not before lunch, it was after lunch. And so it was already being elevated by what the student was eating.

So the student was getting...essentially, the pump was giving the student too much insulin. Not because... They were giving them the appropriate amount because of the numbers plugged in, but the school staff was just a little confused of when they needed to put those numbers in. Critical thinkers, they're important.

Our educator friends are wonderful partners to keep these kids safe at school with that oversight. So if we're looking at evidence in action, I would say this is a perfect example of how the research really made a difference in kids' lives, keeping them safe at school, but really saving lives. I love that.

I love how those questions that we ask say, "Hey, is there something we can do different?" Researchers have the answer that we can put into practice. I would really like to thank Linda Young and Gloria Damgaard for those original studies that they were part of for the National Council on the State Boards of Nursing that gave that money to start this impact that we see.

Also, Dr. Christine Hockett, who did the research with us with that last study we did related to Type 1 diabetic kids. And thank you for your time. Thank you for your attention. Please put any questions you have into the chat. I'll be happy to answer them. So I'm here to tell you that research makes a difference.

Research saves lives. Thank you.

- [Jason] Hello, I'm Jason Schwartz, director of Member Outreach at NCSBN. And today it's my pleasure to serve as one of your Q&A moderators for the symposium.

So Sheila, I can see we have several questions that have come in already. I suspect we'll have even more as the two of us talk. So let me just kick it off with the first one, which is, can you say a little bit more about how the South Dakota Board came up with the idea for their virtual model?

- They did a lot of work, is really how they came up with that idea. They had World Cafes. They did multiple surveys of the nurses across the state, and just did a lot of listening to say, "How is it that we could come up with a different kind of a solution?" So that really...

They did their due diligence to understand what were some of the possible solutions.

- Thank you for that. Another question is, who pays for the equipment needed for all of this, and how the vision and hearing assessments may have been done?

- Yeah. So the equipment is paid for by the schools. It's really like a technology, an annual technology fee, so that the schools can...if something breaks, we just send them something new, so that they have a set price, so that they know. And we are unable to do those vision and hearing screens, so we find someone to partner with in order to take care of those screenings.

- Thank you, Sheila. Another question that came in is for attendees whose states are not yet part of the study. Are there ways that they can get involved? Anything you can speak to on that?

- Well, the study related to the Breakthrough T1D, that study has been completed. If there are needs in the states for a service like this, certainly you can reach out to me, and we can discuss how we can bring the service into other places.

- Okay. And on this one, I hope I get my acronyms right here, but what other kinds of outcomes were there in the Type 1 diabetes study besides the hemoglobin A1Cs?

- Yeah, it was a multi-level study, so we studied impact to family, we studied impact to education, we studied impact to the buildings where we were at in general, not just the students with Type 1 diabetes. So some of the research studies, the publishings that will be coming out will be related to how the executive functioning changed with the students that have the access to the nurse.

And I think that one of the things really that we found was, this is a nurse telling you in researcher language, but what we really found was that when the students don't have to be making all those decisions related to the diabetes, there's more brain space to be learning.

And so their executive function went up. We also found that as the nurse intersected with the families, the family learning increased and the anxiety of the parents went down. So that quality of life study. There will also be a study, or a research article coming out discussing the financial impact of having a school nurse on a family.

So those are some of the other things that will be coming out yet in the next year or so.

- Thank you. We're definitely seeing a theme in the Q&A in terms of getting involved. So you mentioned rural opportunities. Are there opportunities in urban settings as well?

- Certainly there are. We serve schools in urban settings as well. And with that idea of you think about, it's related to access. And so really our roots were born in that rural access because of where we live. But as we've spread out across the nation, there's access issues everywhere. And so we serve urban schools where there isn't a nurse every day.

And so each state and each setting that we go into, we learn really the different challenges. We have a school in Illinois that is in a more urban area, and air quality is really an issue. We have a lot of students that we see with asthma.

And so access, it can be rurban. Is that rural and urban together?

- I think that works. I think that works. We just coined a term here. So you heard it here first. Are there legislative or regulatory policy changes needed to implement a program like this? Is that something you can speak to?

- Yes. I do think that there are some states that don't allow the delegation of insulin or the oversight of insulin. So that does make a difference in what we can provide virtually because a nurse needs to be doing those tasks directly. And so that kind of change makes it so that a program like this could succeed. I think it also depends on your workforce.

If you have an on-site nurse and you have enough people to hire that can go into the school setting, that's a great model. But if you don't, you have to find ways that you can still really address that public safety. And this is one of the ways that that can help.

- I see a question here as well in terms of whether there are other healthcare providers, let's say OT, PT, speech that might be included in the telehealth here.

- What I know for sure is that we definitely have the speech-language pathologists that use technology to serve the schools. I am uncertain whether the technology is being used with the OT, PT. I do know that there are some school psychologists that use kind of a hybrid model with the evaluation of kids for the individual education plans.

- Okay. I appreciate it. And a question here in terms of the methodology. Was there any consideration given to using licensed or certified nursing assistants versus the UAP in the model?

- Not really, because that's not the schools that we serve. The schools we serve have the UAP model because there aren't the nurses really to hire.

- Okay. And a question about if you've partnered with any Native American tribes in your area, the attendee comments that in their particular area, Native American tribes are very active in their healthcare.

- We do. We have schools, a variety of different places. Typically we partner with the school district. So we have some schools that are public schools on Native lands. We have some schools that are tribal grant schools where the tribe has the educational money, and really in the school setting, they run the schools, and then we have a couple of schools that are Bureau of Indian Education schools.

So we have a few different models of how we've served that population.

- Fantastic, Sheila. Well, I think this next one may be an idea for an entirely new study. We'll see. Let's get your thoughts on this. So the participant asks, "Since we're now in the age of AI, do you have any thoughts on how AI could potentially improve the work that's going on here?"

- Yeah, it's interesting how you ask. I think that since we work with technology all the time, we certainly are always thinking about what is the next. So with this title care that we use, there are AI applications that have come. And the technology is also used in a home setting.

And so with the technology, the AI can help with the assessment tools related to, like, looking at a parent doing an ear exam, and then the AI can give guidance of, yes, you should go to the doctor. No, you shouldn't go to the doctor, or something like that. I think also when I think about AI, it's like how do we make our school nurses so that they're the most effective?

Like, how do we make our immunization programs talk to each other easier so that it can just be a simple download with the AI versus trying to manually enter? Or I think there always is opportunity for technology.

- That makes sense. Okay. The next question, the participant notes that they are in a state that routinely cuts funding for school nursing. And so putting a hopeful spin, the question is, where can they find your work published so they can use it to potentially advocate for school nursing?

- So related to the Juvenile Diabetes Research Foundation, that study that research article has not found a home yet. The University of Iowa, they published the study in...gosh, I think it was School Health Digest.

I think that I would have to get back to you on some of those things because there are some articles out there. And then I think that the original board study for the South Dakota Board was in the Journal of the Regulatory of this body.

- Okay. Fantastic. Sheila, thank you so much for the presentation. Thank you so much for research that makes a difference, and thank you for taking these questions. I believe the Q&A queue is empty. So at this point, we'll be taking a short break until 10 a.m. Central Time, at which point you'll want to return to

the lobby as we begin our concurrent sessions, and you'll decide which of two sessions you'd like to attend.

So thank you very much. We'll see you after the break.