

Dimensional Insight discusses Data-Driven Pediatric Care



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To start, could you briefly describe your role at Dimensional Insight and your experience working with data in the healthcare sector, particularly in children's hospitals?

I have a nursing background. I've been a clinician for over 35 years and have worked within many facets of health-care. I started out in adult med surgery, moved into neonatal intensive care, traveled as a travel nurse for a year, and then settled into ED. I loved the emergency room. I worked in both pediatric trauma and then general EDs, seven bed ERs all the way up to 127-bed ERs. And then I moved into operations. I moved into some leadership positions where I became the liaison between finance, operations and clinical, to help everyone work together - getting the whole hospital to gather data and make decisions.

This journey naturally led me to explore analytics as my career progressed. I was a customer of Dimensional Insight before I came to work for them because I saw them as an asset helping me do my job better, bringing what I was doing manually into an electronic world and making it much easier.

So, at Dimensional Insight, I bring that broad knowledge and experience of having worked across all spectrums of the hospital, as well as my nursing knowledge to help them innovate for healthcare systems. I work with the consultants on applications, and to plan our next objectives. I act as a subject matter expert to communicate what they need to do, and translate what the operational and clinical teams need.

Tell us how analytics plays out differently in children's hospitals as opposed to adult medicine hospitals, and how does Dimensional Insight help address these challenges?

You can look at it whether it's operational or clinical, but there are very distinct differences between a pediatric hospital and an adult hospital, or a regular acute care facility - even going down as far as to the patients themselves. They're not just little adults. Medications are usually prescribed on a weight basis, but also based on the condition of the patient, their hydration, etc. - all those little things factor into it. When I worked in NICU, the doctors would take out their Harriet Lane Handbook - it's a book they carry in their pockets. They weren't embarrassed to say, "I needed this assistance", because everything about the child must be calculated to a finite number. That's just one of the major distinct differences.

You also have a difference in the settings. You have neonatal intensive care, pediatric intensive care, regular med, and you have parents who need to be there - they need to be at the bedside of their child. Oftentimes in regular acute care settings, you don't have that. So, you must understand those dynamics. And from a data collection standpoint, we always go by what we call evidence-based practice. But really, evidence-based practice may not be best in the pediatric environment - or even in the adult environment, if you think about it. They can use analytics to help decide, "just

because we've always done things this way, it may not be as effective as we think because it's part of a whole package". But when you start to break up the parts and pieces, you realize for example that "giving this medication at this phase of the process actually makes it worse". So, it doesn't do a thing, and we're just wasting our time.

It's really understanding how you handle the different processes and making sure you can get down to patient-centric, as opposed to just evidence-based.

Even at the medication level there's a lot of children's medication that must be filled manually. It might be in powder form or liquid form, and it must be dosaged manually, but administration errors can occur. When you look at the analytics, you must keep that in mind because typically most adult medication is in a unit form that's pre-dosaged, but not so for children.

That brings up a great example. I worked with a pediatric hospital pharmacy system for that very reason. They were doing their analytics by hand. They would take Excel spreadsheets, pull reports from all different places, and then a working pharmacist had to find time in between their other tasks to get this report done. It would take about 80 hours a week to do this. So how do you move forward for positive impact and not have a bad outcome? They also have four or five different systems. You have the dosage system, you have the system that you use for the compounds, you have the system that you use to dispense, and you have the system that holds them. So, pulling that together - 5, 6, 7 systems - and trying to get the analytics from that, you're always behind the eight ball and you're never ready. You can't fix the problem you have because you can't even find the problem. Or it's already too late. We've started working with this hospital system, and they now have over 87 different metrics that are refreshed daily in easy-to-understand dashboards, helping them streamline medication management. The goal is making data available to make necessary decisions and hopefully prevent any harm before it happens.

And it is invaluable to have a clinician like yourself who understands clinical processes and how things are done.

That was one of the things the pharmacy manager said, "I'm so glad you're on here". Because oftentimes - and this is one of the other things that I do in my role at Dimensional Insight - the customer is trying to convey what they need. But you're talking to a developer who is only thinking about, "how am I going to code what they're asking me to do?". They're not hearing or understanding the steps in between why you must pull the data. I help with that and bring that translation for the users.

SOLUTION PROVIDER Q&A**So that leads to an interesting question. Engaging hospital staff and stakeholders and understanding and utilizing data analytics can be a challenge, right? How do you effectively engage clinicians and others to engage in the work?**

Well, I understand their pain - I'm able to hit a pain point early on, so I can have a conversation with them and bring up an issue. Then they understand, "okay, it's not just a regular of someone coming in and making a report, and they have no idea what I do". They begin to realize there's some value in it. But those receiving the data need to be brought into the process, before working through the process - that is the most critical piece.

Oftentimes, they put in a request, writers write a report and send it off to the end user, and the user thinks, "this has nothing to do with what I wanted". But had you sat down together, the number of steps can be decreased. So, it's critical that you involve the stakeholders at the very beginning, not at the end.

And clinicians will rebel if they don't like the answer. If you just hand them something and say, "Well, now we're going to do this.", they'll be like, "Really? We weren't consulted." And it doesn't make sense, as you said.

I'll give you a great lesson that was taught to me when I was a customer of Dimensional Insight's. A CEO who was a physician, said to me when he first met me, "oh, I hear you're good with data - but I just need to warn you that when you sit with doctors, they're going to beat it up. You need to be prepared for that. You need to know your answers because we have been taught to find what's wrong with something". Which was a lesson I learned early on. And it does make a difference being able to double check my report before I go and sit down with the team. So, when they say, "that doesn't look right", I can say, "you know, it didn't look right to me either, but here's why".

It makes a huge difference for the buy-in.

Exactly. As I like to say, physicians collectively are Missouri - they're the "show me" state. You must show them not only the data, but also the "why", as you just said. Now let's go beyond direct patient care development - how can children's hospitals utilize data analytics to optimize their operations, resource allocation, and patient experience?

They're different from the regular hospitals. Oftentimes, your inpatient census may not be as high. Your children's hospitals also have a lot of in-hospital clinics that are involved. Many times, kids will come to the clinic, but they go to five different places within the facility. They come in for lab work, they might have to do an x-ray, they might have to see the podiatrist before they go elsewhere, etc. It's one person, but there are several departments that are affected. So how do you manage staffing that way? You can pull the analytics on that, along with the types of patients that are coming to clinics, and what they need.

But one of the vital things in pediatrics is immunizations. Especially in those first couple of years of life, there are important milestones to meet. And how do you know that you're following up with your patients properly? It's really pulling in the data and creating work queues. It's taking the information and providing the ability to see the big picture.

And then from an operational standpoint, it's understanding your volumes, bringing in your hourly census and your staffing hours and saying, "how am I doing?". The fallacy that oftentimes comes from finance, is you have the "hours per patient per day" stat, and that's it. The reality is different. It would be nice if patients came in the way they're supposed to - one every hour, and I can meet my 4-patients to 1-nurse standard. But there are times when units will not be able to staff the way they need, because there's an emergency on the floor. But having the ability to communicate that anomaly in real-time makes it much easier at the end of the month when you're sitting in front of your leader. It provides a workflow, and insight for additional staffing.

And, and I'll just add to support what you said, in the old fee-for-service world, not a lot of data was collected because it didn't need to be. Now just to survive, hospitals and health systems must collect data, so it's a new world. And, speaking of that, let me just ask you this next question. For children's hospitals just starting their data analytics journey or looking to enhance their existing systems, what advice or recommendations can you provide to ensure success and meaningful insights?

Start small because once you have a tool that allows you to grab data and pull things together, the requests will be abundant. You need to make sure that you're sticking with your strategic plan for that year. So, picking projects that will help get the organization to the strategic goals for that year is critical. The organization also needs to understand no single department owns the analytics. We all need to work together because it's an interdisciplinary program. You need a data governance committee that determines everyone is looking at the same thing at the same time. It should be an enterprise process. It's critical you have a senior leadership stakeholder that can push the process forward and hold the group accountable. The accountable group needs to be multidisciplinary, with a governance committee using agreed upon measures. Then, start small. Get the initial buy-in and expand from there. Analytics is a full journey. It is not an endpoint. There is no endpoint to analytics.

So, to summarize, you need champions, good data governance, process governance, and process and project prioritization. Get early wins, and it's a marathon - not a sprint.

Correct. I do want to caution on the project management side - sometimes you try to get too finite with project management, and that stalls a project too. You need to have agile project management every step of the way.

Any last few words to wrap us up?

We are finally at a time where we can begin to take care of our patients in a patient-centric way, and not in a global perspective manner. We're still a long way off. AI is not where it needs to be just yet, but we have enough of a start to help us see what our next steps should be. I'm excited to see how we continue to expand as we go forward in the digital world. ■