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Marshfield Clinic®

HEALTH SYSTEM

Supporting healthcare  
with ethical *advanced*  
*technology*



Mitchell Kwiatkowski, Chief Data & Analytics  
Officer at Marshfield Clinic Health System,  
explains the company's IT overhaul and how  
AI can be used ethically

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itchell Kwiatkowski, Chief Data & Analytics Officer at Marshfield Clinic Health System, has witnessed the incredible development of IT in healthcare over the span of two decades. He worked in the technology space from the beginning of

his career, and very quickly shifted slightly into electronic health record implementation and support. This meant he became focused less on IT support and more on building infrastructure, as well as supporting clinical applications and everything involved with that.

At the time when he was moving into this side of healthcare tech, he worked for an independent primary care group, which allowed him to wear a lot of hats. “The role was everything from helping physicians use the software, to building interfaces between them and external systems, to building clinical decision support tools,” says Kwiatkowski. “I realised I liked a lot of these things more than the infrastructure. After 11 years there, I decided I wanted to get some more varied experience in the healthcare space.”

Kwiatkowski then moved into the hospital space and became more focused on data & analytics, which has become a favourite topic of his. Since then, his experience has continued to develop and he has a broad range of skills under his belt, all the way from the patient care side to the health insurance side.

## **20 YEARS OF CHANGING HEALTHCARE**

IT in healthcare has evolved to an enormous degree during Kwiatkowski’s time in the sector. At the start of his career, health organisations were just shifting away from paper to computer-based electronic health records (EHRs).





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– Mitchell Kwiatkowski,  
Chief Data & Analytics Officer

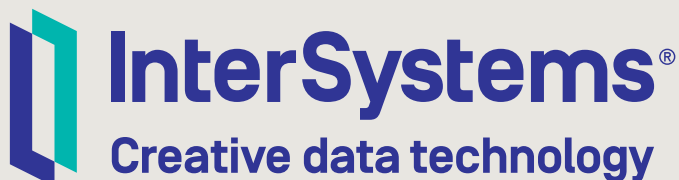


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In working on Marshfield's interoperability, InterSystems has acted as a vital hub. "InterSystems has really been the foundation of our ability to meet mandates on our health plan side and allow health plan members access to their information through an app of their choosing," Kwiatkowski explains. "They're also used as our engine for moving data within internal to external systems.

"We've also used InterSystems as a means to store a lot of older records. Perhaps they're digitised from older EHRs as we've moved over to the new system, or as patients move into our system and bring records over; we use it to store those and make them available. We can make that data interoperable as well, and with interoperability, there are often challenges even with the EHR vendors where they don't always give you everything you want to be able to move. InterSystems has helped us plug that gap and they not only meet regulatory requirements, but support a lot of those business cases that help streamline patient care for us."

"Within a few years, it became regulation for physicians to implement these EHRs," Kwiatkowski explains, which is unsurprising given the pace of technology.

"It was a really quick shift. Some organisations, including Marshfield Clinic Health System, have been using EHRs since the 80s and 90s. In the early 2000s, financial incentives were put in place for physicians and hospitals to implement an EHR, and that eventually shifted to penalties. First it was the carrot, then the stick. It was a tricky transition because physicians were used to taking care of patients and being hands-on about that, and suddenly they were thrown into a world where technology was taking centre stage. A lot of my role, at that time, was to work with physicians to help them learn these new processes. I would be in exam rooms helping them input patient information into a computer."

This change gradually became easier and has highlighted both risks and opportunities as the technology has developed. The main thing that's apparent to Kwiatkowski,

as someone who's witnessed this change, is that healthcare has historically been behind the times due to it being a highly regulated area. Technology providers like the ones Kwiatkowski worked for have strict boundaries around what they can and can't do in the healthcare space, so supplying IT solutions has been a tightrope walk.

"We're trying to toe that line while examining new technologies as they come out – understanding what they are, how they can help, and implementing the things that are mature enough and show promise," says Kwiatkowski. "I don't think healthcare is necessarily risk-averse; I think it's a highly-regulated area that doesn't always have deep pockets for investment. Also it's people's health that's at stake, so we have to be careful and make sure we're not doing anything that's going to hurt people in the end."

## IT AT MARSHFIELD

Healthcare being a little behind other industries technology-wise often manifests

itself as having a lot of legacy or siloed systems, which was the case when Kwiatkowski joined Marshfield Clinic. As an integrated delivery system, many parts of the organisation were somewhat fragmented, which is to be expected when the enterprise consists of 11 hospitals, a health plan, and a research institute.

“The health plan does what it’s doing because there’s a certain way it needs to run its business,” he explains. “Hospitals and physician practices need to do things their way to care for patients, and research has its own processes, too. Everyone has their own data environment, they’re using different tools, so you end up with a few manual processes as well as fragmented data. The technology’s not necessarily as modern as we’d like, but as we’re shifting out of the world of the reliable, home-grown EHR that we had used for so many years, we are trying to use the opportunity to make some adjustments.”

As a result, Marshfield is working on balancing the migration over to the new EHR while keeping the existing data & analytics moving. This is challenging, but Kwiatkowski’s hand on the tiller is helping drive Marshfield forward. The technology side of the organisation has evolved significantly since he joined the team, as he brings all of his knowledge and experience to the role.

“On the analytics side, change has come quite easily,” Kwiatkowski says. “We’ve done a lot of great dashboarding, we have a lot of good reports, and we do descriptive analytics which is something this organisation does incredibly well. We are adapting to needs by working towards more AI products that we can integrate into workflows and digital products. As we do this, we try to think big rather than building for use cases. We think beyond what one person or a group is asking for, and consider whether we can

build something that might apply to other departments as well, to streamline things.”

Kwiatkowski’s aim is to improve the use of data & analytics across the board and cut down on disparate systems, so that the technology footprint is significantly more centralised than it has been. He’s also working on building out a strong data & analytics strategy, and he recognises that it’s easy to fall into the trap of implementing analytics and AI for the sake of investing in modern technology, but there needs to be a focus.

“The reality is, our focus needs to be on growth and maturity and where we should be as an organisation,” Kwiatkowski explains. “Also, where do we want to be by 2025? So we’re thinking about how we modernise in a way that genuinely improves the entirety of Marshfield and future-proofs what we do.”

## **ETHICAL AND RESPONSIBLE AI**

While the use of AI is something Marshfield – and healthcare more broadly – can benefit

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– Mitchell Kwiatkowski,  
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greatly from, Kwiatkowski is adamant that it must be used ethically and responsibly. This is particularly important in the highly regulated world of healthcare, which is rife with sensitive data.

“Any time we’re creating something, or buying a product or service, we have to make sure all the information is being treated fairly,” Kwiatkowski explains. “Whatever it’s doing, however we’re using it, it must be treated fairly. We need to make sure we’re not injecting bias in there, we’re not harming anybody, and we’re ensuring there are no other unintended consequences. This is the responsibility side.

“The ethics part can be a little more challenging because perspectives can differ when it comes to ethics, so we have to be transparent about what we’re doing and not shy away from difficult conversation. It’s about being careful with what data is being

used, what the algorithms or AI solution are doing, and what we’re doing with the output in the end.”

To this end, over summer 2023, Marshfield implemented a governance program to stay on top of risk. The organisation has been fortunate on the risk side of things and has yet to have any issues regarding harm caused by anything being implemented, but part of its dedication to responsibility includes always being vigilant about risk. The use of AI – or the desire to use AI – is now commonplace and many want to use it, including Marshfield Clinic. So, Kwiatkowski worked on putting something in place quickly, with the goal of moving the organisation forward and really understanding how and why AI can help.

“Whether something is internally developed or something we’re getting through a vendor, we always ask questions like ‘how



much decision-making does a human still have with this?," says Kwiatkowski. "Does a human still make the final decision? Is it a fully automated AI process? We look at the risk level and manage or mitigate risks depending on what the solution does. Was it tested for bias when it was built? Who is it being used on? Is patient consent required with this? It's pretty in-depth. The internally developed solutions are easier to discuss because we can be fully transparent, but vendor discussions are a little more challenging. Having said that, vendors have been good at sharing the information we ask for."

What's important to Marshfield is that, beyond implementing AI for positive, concrete reasons, it's continuously reviewing

and monitoring that AI use to ensure risk is always being measured and no unintended consequences come up. Kwiatkowski describes this as an "active programme" that never stops, which is important because Marshfield wants to be able to share with patients what it's doing and why.

"And I do strongly believe that this is our patients' data, and they should know how we're making decisions for them. We're increasingly taking steps in that direction which is a really positive thing."

As much as Marshfield is working hard to use AI in the right way, it remains a concern for Kwiatkowski, his team, and his wider peers that there's such a lack of governance around the ethical use of AI. Just recently, Kwiatkowski was in Washington D.C. for a



congressional briefing panel to discuss AI in the context of healthcare, and he believes talking about the topic with important decision-makers in this way is key to making a difference.

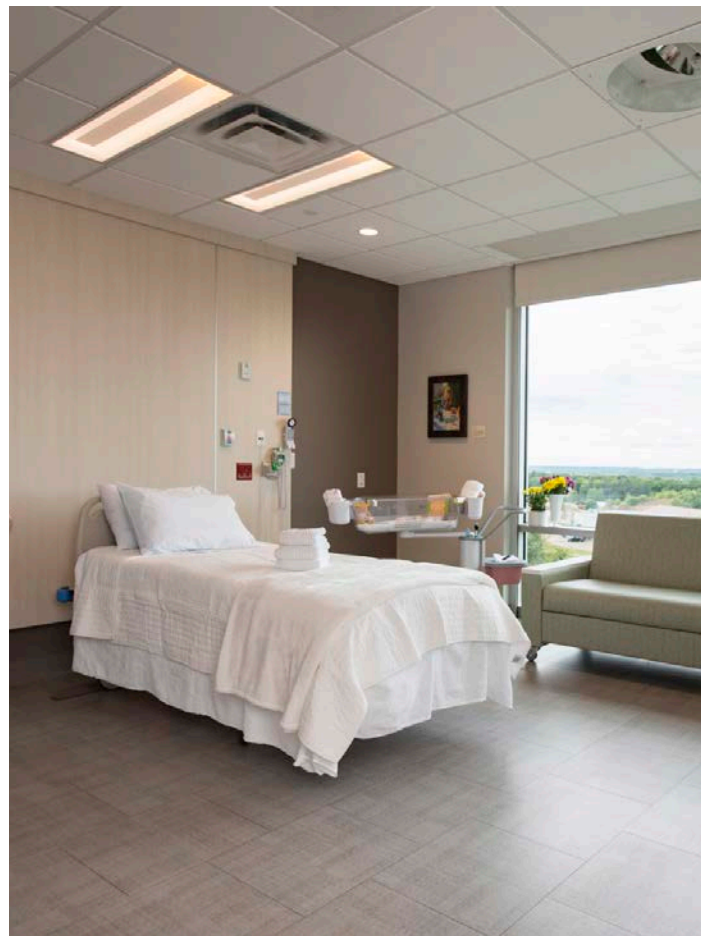
“I think some of the challenges that we still have are around data privacy,” he says. “Healthcare in the US has HIPAA, but that doesn’t apply to everyone that’s accessing or using healthcare data, particularly vendors.” There’s some nervousness about sharing information with vendors if they’re not covered under HIPAA, and for good reason; 23 and Me fell victim to a huge data breach in October, wherein hundreds of thousands of users’ data was stolen.

“One thing that’s a discussion we’ve been having internally – and I’m sure other

organisations are talking about – is when you engage with a vendor for a product or service and you have data that they’re using within an AI system, can they use that data to train their models to continuously optimise those models? That’s an interesting topic. Those discussions are leading us to take governance into our own hands because there are no broader rules around it yet. I do see regulation helping with the use of AI and potential breaches, but there’s a careful balance to be found to ensure we don’t over-regulate and end up going backwards.”

### **THE ROADMAP AHEAD**

Looking towards the near future, Kwiatkowski plans to continue modernising and defragmenting the data landscape at Marshfield, mindful that the organisation needs to do more. It already has a lot of AI



use cases, but it needs to find more ways to optimise and consolidate pipelines without just dumping all of its data into one place for the sake of it.

“We’ve got to do what makes sense,” he says. “Building out AI use cases and innovating are priorities. There’s also a lot we want to do around digital experiences for patients and how we support that, and I think we’ll start to see that accelerating very quickly. With our sights set on how we want the organisation to look by 2025, we think we’ll have caught up with a lot of other healthcare organisations, and we’re a rural organisation with our own specific challenges, so sometimes we have to get creative. Growth, maturity, and modernisation of the architecture – they’re our big focus areas.” ■



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