

A Cloud-Native Blueprint for Hospital Analytics at Dayton Children's

The Challenge | Bridging the Gap to a Cloud-Native Future

Dayton Children's Hospital is an independent, freestanding hospital dedicated to relentlessly pursuing optimal health for every child within its reach - serving over 400,000 children across 20 counties annually.

Dayton Children's recognized a pivotal shift in the healthcare landscape driven by two converging trends. Microsoft's launch of Fabric redefined the data stack by consolidating engineering, warehousing, and BI into a single, unified environment - and introduced a new Power BI pricing model. Also, the electronic health records company Epic announced plans to migrate its analytics ecosystem to the new Epic Cogito Cloud, a platform built natively on Microsoft Fabric.

To stay ahead of these industry shifts, Dayton Children's chose to modernize its infrastructure now, ensuring it is prepared for tomorrow's cloud-native innovations. As Dayton Children's advanced toward a more mature analytics platform, the patient Net Promoter Score (NPS) workflow emerged as the ideal high-impact pilot. NPS data moved through fragmented, operationally heavy processes that slowed the delivery of timely insights needed to improve patient experience

Outcomes

By partnering with CoStrategix, Dayton Children's successfully established a foundation for its next generation of healthcare analytics. Migrating its NPS workflow to a scalable, cloud-based medallion architecture on Microsoft Fabric, Dayton Children's could more efficiently integrate third-party NPS data with internal Epic records, spotting critical trends faster and supporting initiatives that influence both patient experience strategy and provider compensation.

- **Accelerated Readiness for Epic Cogito Cloud:** The project delivered a production-ready, cloud-native Microsoft Fabric environment. This allows Dayton Children's to proactively transition custom semantic models, ensuring they are ahead of the curve for the upcoming Epic migration.
- **Strategic Insulation Against System Changes:** By converting hospital-specific business logic into Dimensional (DIM/Fact) tables within Microsoft Fabric, the hospital is effectively decoupling its reporting layer from the underlying data source. This ensures that critical metrics and reports remain stable, regardless of future changes to Epic's operating database.



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- **A Lean, Cloud-Native Data Pipeline:** The new architecture eliminates the legacy requirement of funneling third-party patient satisfaction data through on-premises servers. Instead, a direct, automated path from the vendor to the Fabric lakehouse will reduce latency and infrastructure overhead.
- **Enterprise-Wide Scalability:** This foundation creates a clear roadmap for the clinical, financial, and data services teams. By providing a centralized, high-fidelity data source, the hospital can now scale future use cases with consistent logic across the entire enterprise.

The Process

CoStrategix and Dayton Children's took a strategic, co-creation approach - partnering closely to deliver immediate business value while building long-term internal capability. CoStrategix facilitated a "learn-by-doing" model in which the teams jointly built the hospital's cloud analytics foundation on Microsoft Fabric, including a medallion architecture for scalable, trusted data. This approach allowed Dayton Children's to validate the impact on patient experience analytics first, then carry the playbook forward to expand adoption across data services and clinical teams. CoStrategix was instrumental in:

- Implementing a medallion architecture within Microsoft Fabric based on industry best practices to ensure data quality and traceability
- Streamlining a strategic use case - the NPS data flow - to demonstrate how Dayton Children's could reduce manual "data hauling" and provide faster visibility into patient satisfaction
- Collaborating on the development of the new Fabric infrastructure to build institutional knowledge, so the hospital's IT staff would have the skills and capabilities to move forward on their own

"By starting now to build cloud-native hospital analytics in Microsoft Fabric, we ensure that Dayton Children's will not be starting from scratch when Epic's SaaS analytics platform goes live," Whitlock said.

"The co-development approach with CoStrategix was invaluable. CoStrategix helped us build the internal capability to scale these automation frameworks across the hospital independently, ensuring our data strategy grows alongside our clinical needs," he added.

Future use cases for Dayton Children's newly created MS Fabric environment may include integrating data from third-party apps and building an enterprise scorecard that combines data from Epic, Workday, and patient safety data.

"CoStrategix helped get us started in building our own custom data logic based on hospital-specific organization and processes into our new Fabric instance," said J.D. Whitlock, CIO, Dayton Children's Hospital. "That way, we will be able to layer our own semantic models on top of the standard models when the time comes to transition to Epic's Cogito Cloud."

Technology Behind the Build:



“CoStrategix didn’t just build a platform; they helped us build a bridge. By centralizing our tech stack in Fabric, we’ve given our decentralized analysts across the hospital a single source of truth that is faster and more flexible than anything we had on-prem,”



J.D. Whitlock
Chief Information Officer

