

MedStar Health Performance Improvement & Analytics Case Study

Overview

MedStar Health's operational leaders needed a single, reliable source of truth to manage patient flow across their entire system, in real time. In response, our team developed an executive-level throughput dashboard that consolidates critical metrics across facilities into one unified view, enabling faster, more confident decision-making at both the system and facility levels. This tool is now embedded in MedStar Health's daily operational huddles.

The Challenge

- **Data Quality and Findability Issues**

Key throughput metrics like average length of stay, daily census, number of transfers, discharges, average discharge clean times, and transport turnaround time were tracked inconsistently across the system. Poor data quality, lack of standard metric definitions, and disconnected reporting meant that even when data existed, it could not be trusted or easily found.

- **Process and Bandwidth Constraints**

Limited data team bandwidth, the absence of real-time reporting, and a proliferation of adhoc reports created a slow and fragmented experience for business users seeking answers. A typical data request meant choosing between 20+ reports, waiting on an analyst backlog, and often getting conflicting answers depending on who you asked and which report they used.

The Approach

Rather than building yet another dashboard, we set out to consolidate 100+ existing adhoc reports and fragmented dashboards, covering initial placement, transfers, discharges, EVS, and transport, into a single, connected data product.

The key steps to delivering were:

- Creating a robust data model
 - Separate, but integrated, data models for both live and historical data to ensure the right data was available at the right time without compromising performance or accuracy.
- Near-real-time operation view
 - Allows for immediate identification of bottlenecks to take action
- Historical trend layer
 - Enables leaders to identify patterns and detect anomalies before escalating into larger problems
- Self-service root cause analysis (RCA)

- A built-in RCA capability lets operational users drill down into problem areas, such as unusually high length of stay or delayed discharges, without writing code or waiting for an analyst.
- Utilization Tracking
 - To ensure the tool was actually driving behavior change, we tracked dashboard utilization over time, comparing adoption of the new executive dashboard against legacy adhoc dashboards to validate impact and guide ongoing training.

The Results

- MedStar Health's operational leaders now use the dashboard **daily as part of their system-wide huddles**
- 100+ fragmented adhoc reports and dashboards were **consolidated into a single connected data product**
- Real-time bottleneck identification enabled **faster, more proactive responses** to capacity and flow issues
- The built-in RCA tool **significantly reduced analyst dependency** for ad hoc investigations
- Metric standardization reduced conflicting reports and improved **data trust across the organization**
- Utilization tracking confirmed meaningful adoption and helped **guide user training efforts**

Key Takeaways

- **Standardize metric definitions first.** Before building anything, align stakeholders on what each metric means system-wide. Inconsistent definitions are the root cause of conflicting reports and eroded data trust, and solving this is as important as the technology itself.
- **Build a connected data product, not another dashboard.** The goal wasn't to add to the noise of 100+ existing reports. It was to replace fragmentation with a single, trusted source of truth that ties together census, discharges, transfers, transport, and support services in one view.
- **Build trust in the data.** Standardized, system-approved metric definitions and self-serve analytics capabilities reduce the chaos of conflicting reports. This is one of the most important contributors to improving time-to-value when using data to drive hospital operations.
- **Self-service tools empower and scale.** Embedding RCA directly into the dashboard means operational leaders can investigate issues independently. Reducing analyst dependency doesn't just save time; it shifts the culture toward data-driven decision-making at every level.

- **Track utilization over time.** Adoption doesn't happen automatically. Monitoring how the tool is actually being used, and investing in ongoing user training, is what turns a dashboard from a deliverable into a durable operational habit.

Team

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