HealthCatalyst®

Widespread Data Utilization Ensures Continuous Data-Driven Improvement

Allina Health™

EXECUTIVE SUMMARY

While healthcare use of data and analytics is increasing, physicians, nurses, and other members of the care team often lack the data required to help them understand their performance and improve the outcomes of care.

To ensure it continues to reap the benefits associated with the widespread use of data and analytics, Allina Health needed a plan to ensure ongoing data utilization and continuous, data-driven improvement, increasing the number of people learning from the valuable data in its data platform. By leveraging an advanced data platform and a robust suite of analytics accelerators, the health system achieved the following:

> 107 percent relative improvement in the number of users accessing the data platform each month, achieved in just one year.

> 351,513 unique sessions in Allina Health's top ten analytics applications in one year.

> More than $33M in positive margin impact by expense reduction and additional hospital in/outpatient revenue.

AS HEALTHCARE DATA UTILIZATION RISES, UNDERSTANDING LAGS

Physicians, nurses, and other members of the care team often lack the data required to help them understand their performance and improve the outcomes of care.[1] According to a recent survey, only 28 percent of clinicians, clinical leaders, and executives report that their organizations are good at learning from data, in spite of increasing use of data and analytics across healthcare.[1]

A not-for-profit health system, Allina Health is dedicated to the prevention and treatment of illness and enhancing the greater health of individuals, families, and communities throughout Minnesota and western Wisconsin.

INCREASING DATA UTILIZATION

Allina Health understands the power of integrated data and analytics to improve clinical, financial, and operational improvements. The organization has successfully reduced the cost of delivering care, while improving patient outcomes, and provider satisfaction.

To ensure it continues to reap the benefits associated with the widespread use of data and analytics, Allina Health needed a plan to ensure ongoing healthcare data utilization and continuous, data-driven improvement. It aimed to increase the number of people learning from the valuable data in its data platform.

INTEGRATED DATA DRIVES COMPREHENSIVE IMPROVEMENT

Support for broad-based use of data and analytics at Allina Health starts at the top, with strong support from the CEO and senior leadership team, who understand the importance of integrated data in driving clinical, operational, and financial improvements. Allina Health empowers employees, clinicians, and affiliates to deliver the best care at the best value for the community and at the best cost of production for the communities it serves. The following practices and processes help Allina Health gain insight from data:

- **The right data infrastructure:** using the Health Catalyst® Data Operating System (DOS™) and a robust suite of analytics applications that integrates data from 65 different source systems.

  - Rather than providing its employees access to only clinical data, or only financial data, Allina Health provides access to all of its data. Business, operational, and clinical leaders can drill into detailed clinical data, understand unintentional variation in care, and quickly and easily identify the impact of that variation on clinical, organizational, and financial outcomes.

> "Unleashing the data at Allina Health has been key to increasing organizational efficiency, reducing costs, and improving outcomes for our patients. Using data and analytics, Allina Health has saved millions of dollars and improved our ability to deliver on our mission of enhancing the greater health of individuals, families, and communities throughout Minnesota and western Wisconsin.
>
> Jonathan Shoemaker
> Senior Vice President
> Chief Information Officer
> Allina Health

- **The right data culture:** Allina Health enables access to high-quality data along with standard security practices that support its employees in accessing the data required to continuously improve.

- **Prioritization of data and resource requests:** Allina Health has a prioritization process for analytic requests, clarifying the business request, how the data and analytics will be used, and clearly identifying the problem the data will help solve before embarking on new development requests. Allina Health allocates resources to sustain and build solutions where it has the greatest impact on the community it serves.

- **Self-service data tools:** Allina Health has more than 90 different analytics applications with easy-to-view visualizations, providing ready insight into performance.

  - In addition to self-service tools, Allina Health supports users performing direct queries of the data platform.

- **Advanced analytics:** Allina Health leverages predictive analytics to identify potentially preventable events, including a variety of risk stratification and patient safety triggers, enabling clinicians to intervene and prevent undesirable events.

- **Expertise for key initiatives:** analytics engineers, data scientists, and domain expertise are assigned to key initiatives, improving the time to value.

  - The flexibility and structure of the data platform supports the analytics engineers in improving the time to value for new build requests, allowing the analytics engineers to also partner with clinical and operational leaders to drive change and improvement.

- **Data literacy education:** Allina Health provides education for each of its data user types, building skill in its various users to:

  - Gather and analyze data, transforming data into intelligence

  - Gain new technical skills using specific tools.

  - Interpret data, making it actionable.

  - Access data and show others how to use data and analytics.

Allina Health uses analytics to proactively monitor utilization and uses this information to further influence analytics adoption. Allina Health's Usage Monitor Analytics Accelerator allows the organization to actively monitor the number of users for each of its analytics applications. The organization can easily identify top ten users and the number of sessions; users per month per application, including usage by physical location, title, week, and hour; and can review the number of times data from the applications are emailed (see Figure 1).
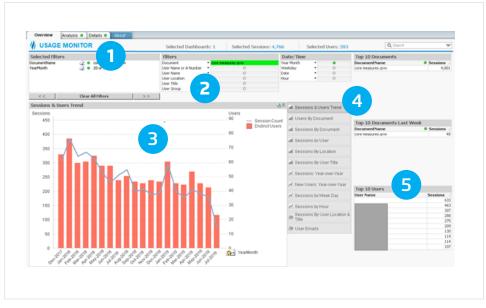
Figure 1: Usage Monitor Analytics Accelerator visualization

Ongoing, proactive monitoring of usage—and intervening when usage is low—allows Allina Health to maximize its analytics adoption and further generate an environment of continuous improvement, while supporting Allina Health in prioritizing improvement requests. For example, using the Report Usage Monitor Analytics Accelerator, the organization identified that usage of an open-access scheduling application was less than expected (see Figure 2).
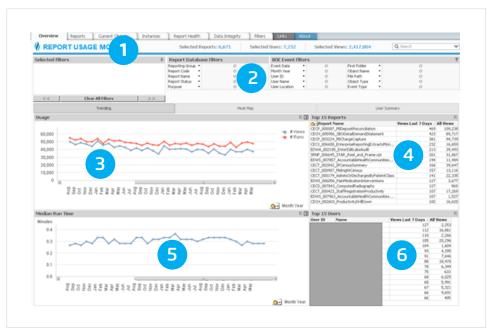
Figure 2: Report Usage Monitor Analytics Accelerator visualization

Leaders reached out to the users of the self-scheduling application about why utilization was lower than expected; this insight helped reconcile the barriers to use and improve the use of the self-scheduling application. Allina Health uses the analytics accelerators to assist with prioritization requests, first allocating resources to improve the applications and reports with the highest number of users.

RESULTS

Allina Health is increasing its organizational use of data to drive operations. In just one year, Allina Health observed significant improvements:

› A 107 percent relative improvement in the number of users accessing the data platform each month.

› 351,513 unique sessions in Allina Health's top ten analytics applications.

› 128,306 unique views of Allina Health's top ten reports.

With ready access to data via the data platform, Allina Health's data-driven improvement culture is helping the organization deliver the best care, at the best value for the community, and at the best cost of production for the communities it serves. Select results include the following:

- More than $33M in positive margin impact by expense reduction and additional hospital in- and outpatient revenue.

- Improved blood conservation.
  - $3.2M decrease in annual blood product acquisition costs since 2011.

- Sustaining and improving care for spine patients.
  - 31 percent of expected complications avoided.
  - 22 percent relative reduction in surgical site infections.
  - 8.8 percent relative reduction in length of stay.

WHAT'S NEXT

Allina Health plans to continue its analytics adoption journey and will further democratize data, continually improving the access and use of data to improve outcomes for the communities it serves.

REFERENCES

1. Compton-Phillips, A. & Mohta, N. S. (2019). Care redesign survey: How data and analytics improve clinical care. *NEJM Catalyst.* Retrieved from https://catalyst.nejm.org/data-and-analytics-improve-clinical-care/

ABOUT HEALTH CATALYST

Health Catalyst is a leading provider of data and analytics technology and services to healthcare organizations, committed to being the catalyst for massive, measurable, data-informed healthcare improvement. Our customers leverage our cloud-based data platform—powered by data from more than 100 million patient records, and encompassing trillions of facts—as well as our analytics software and professional services expertise to make data-informed decisions and realize measurable clinical, financial, and operational improvements. We envision a future in which all healthcare decisions are data informed. Learn more at www.healthcatalyst.com.

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