

Clinical Data Abstraction as a Service Improves Accuracy and Efficiency




HEALTHCARE ORGANIZATION

Integrated Delivery System

PRODUCTS

- Health Catalyst® Analytics Platform, including the Late-Binding™ Data Warehouse and broad suite of analytics applications

SERVICES

- Professional Services

EXECUTIVE SUMMARY

Allina Health needed to ensure the data it reported to regulatory agencies was timely and accurate. The integrated health system sees 100,000 inpatient hospital admissions annually, 340,000 emergency care visits, and 6,000 physicians and 1,600 nurses providing and documenting care. Due to the sheer volume of patients and employees, clinical data abstraction at Allina Health is not a small undertaking.

Looking to stay compliant while reducing resource utilization, Allina Health sought to change its workflow procedures for faster, more accurate clinical data abstraction. A large amount of clinical data required for compliance with CMS performance measures and Joint Commission Core Measure resides in unstructured data, such as narrative notes, which require manual data abstraction. With the help of data analytics, Allina Health was able to develop evidence-based standardized processes for clinical reporting and automate some clinical data abstraction.

RESULTS

- 76 percent relative improvement in time to data availability at each site. Data is typically available within 14 days of discharge, far exceeding the 30-day target.
- 95.5 percent accuracy for CMS validation.

MAKING USE OF ANALYTICS FOR TIMELY, ACCURATE REPORTING

Healthcare organizations continue to face an increasing number of disparate data collection and reporting requirements.¹ The Health Information Technology for Economic and Clinical Health (HITECH) Act was designed to encourage widespread use of EHRs as a means to improve the quality, safety, and efficacy of care.² Many believed reporting of clinical outcomes would greatly improve with widespread EHR use, reducing the need for manual chart review and abstraction of data.



Our process improvements and technology have dramatically improved our timeliness of abstraction. Previously, we were abstracting 60 days after discharge, and it was common to have a queue of cases waiting to be reviewed. Now, we are consistently abstracting within two weeks of discharge and no longer have a backlog of cases.

Mary Jo Kaiser
Manager Clinical Data Abstraction

Unfortunately, this has not been the case. Literature suggests that EHRs are often poorly designed for clinical purposes, and costly customizations are necessary to meet the needs of a healthcare organization.²

Allina Health, an integrated health system with 12 hospitals throughout Minnesota and western Wisconsin needed to ensure the data it reported to regulatory agencies was accurate and timely. Even with ongoing customization, some of the clinical data required for reporting compliance with CMS performance measures and Joint Commission Core Measure still resides in unstructured data that requires manual abstraction (e.g. narrative notes).^{3,4} Failure to meet the defined CMS threshold of ≥ 75 percent accuracy of clinical abstraction negatively impacts reimbursement.

HEAVY VOLUME COMPLICATES CLINICAL DATA ABSTRACTION

Clinical data abstraction at Allina Health is not a small undertaking. The health system sees more than 340,000 emergency care visits and 100,000 inpatient hospital admissions annually, and has 6,000 physicians and 1,600 nurses providing and documenting care. Because of the sheer volume of patients and employees, it can be challenging for Allina Health to ensure widespread understanding of CMS and core measure requirements and the impact the documentation requirements have on publicly reported quality measures and revenue.

Additionally, when these measures change, it is difficult to coordinate EHR customizations and communicate new procedures to staff.

As changes are implemented, uninterrupted work is necessary to confirm that workflow processes support the clinical staff in completing the required documentation.

SUPPORTED BY ANALYTICS, STANDARD PROCESSES IMPROVE REPORTING

Allina Health relies on the Health Catalyst® Analytics Platform, including the Late-Binding™ Data Warehouse and broad suite of analytics applications, for data management and analytics. The health system also partners with Health Catalyst for clinical data abstraction services. At Allina Health, the Clinical Data Abstraction team supports regulatory reporting, including all data collection and submission for CMS and The Joint Commission Core Measures.

The Clinical Data Abstraction team at Allina Health has invested time and effort into ongoing process improvement for data abstraction. Key activities have included:



In previous roles as a clinical data abstractor, we did not have standard processes to improve interrater reliability and did not have automated systems. Our standard processes and tools, and the data abstract from the EDW, have improved our accuracy and our efficiency.

Heather Day MPH, BS, RN
Clinical Data Abstractor

Development of standard processes. The standardized workflow for abstraction includes a process for chart review and the quarterly evaluation of abstraction accuracy. A process for new specification review includes communication and education for key stakeholders, including participants from the reporting team, EHR support, pharmacy, and quality improvement specialists. This process ensures stakeholder understanding and agreement on process changes for new or changing measures. When measures are changed, communication and education are provided to nurses, physicians, and clinical data abstractors to ensure staff awareness.

Redesigned workflow to reduce resources required for manual abstraction. Abstractors worked with the reporting team to automatically pull structured data elements from the Health Catalyst Analytics Platform, populating the clinical data abstraction tool with 95 percent accuracy. The extract has reduced the number of data points that must be gathered via manual abstraction, improving the efficiency of the team.

Activities to ensure data accuracy. Monthly meetings are held to help ensure abstraction accuracy and to allow teams to identify potential opportunities for improvement. A process for the peer review of case validation and failures was also implemented to improve the accuracy and inter-rater reliability of data abstraction. Additionally, the abstraction team now reviews all selected charts prior to submission for CMS validation for accuracy, ensuring all appropriate documentation needed to fulfill a request is always included.

Ongoing workflow improvement, communication, and education. To improve the ability of the clinical team to accurately document various regulatory requirements, a quality improvement specialist facilitates workgroups, providing core measure education to physicians and nurses. The quality improvement specialist also reviews workflow and documentation, revising them as needed to ensure measure requirements are met.

RESULTS

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- 95.5 percent accuracy for CMS validation.

One hospital that became part of Allina Health had previously failed CMS validation. Now included in the clinical data abstraction services, the hospital is exceeding CMS validation requirements.

The Clinical Data Abstraction team also works with Clinical Decision Support teams to complete workflow improvements for the most common workflows, refine order sets, flowsheets, discharge documentation, and patient education, to improve the ability of physicians and providers to capture required documentation.

WHAT'S NEXT

The Clinical Data Abstraction team is continuing their improvements. Because of efficiencies gained through the process improvement activities, the team has expanded their work, supporting abstraction activities for infection prevention, patient safety, and clinical services lines. The team is also partnering with Health Catalyst for the development of applications that use natural language processing and text analytics to capture data in free text—a promising technology that has the potential to transform clinical data abstraction. 📌

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Health Catalyst is a next-generation data, analytics, and decision support company committed to being a catalyst for massive, sustained improvements in healthcare outcomes. We are the leaders in a new era of advanced predictive analytics for [population health](#) and [value-based care](#). with a suite of machine learning-driven solutions, decades of outcomes-improvement expertise, and an unparalleled ability to integrate data from across the healthcare ecosystem. Our proven data warehousing and analytics platform helps improve quality, add efficiency and lower costs in support of more than 85 million patients and growing, ranging from the largest US health system to forward-thinking physician practices. Our technology and professional services can help you keep patients engaged and healthy in their homes and workplaces, and we can help you optimize care delivery to those patients when it becomes necessary. We are grateful to be recognized by Fortune, Gallup, Glassdoor, Modern Healthcare and a host of others as a Best Place to Work in technology and healthcare.

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