

# Transforming clinical documentation and coding with artificial intelligence (AI) and advanced analytics

In 2021, Banner Health implemented Optum® Enterprise Computer-Assisted Coding (eCAC) and Optum Clinical Documentation Improvement 3D (CDI 3D). The use of AI-powered technology with advanced analytics led Banner Health to advance their CDI program to focus on quality and risk-adjustment initiatives.

## Introduction

This case study showcases the strategic partnership between Banner Health, a top U.S. health care system, and Optum, a leading provider of health care technology solutions. Banner Health implemented Optum Enterprise CAC (Computer-Assisted Coding), CDI 3D (Clinical Documentation Improvement) and ACM (Audit & Compliance Manager) technology. This case study focuses on the CDI innovation, resulting in:



**Enhanced clinical documentation integrity and coding efficiency**



**Automated prioritization of case reviews**



**Expanded focus on quality and risk-adjustment initiatives**



Banner Health shared valuable insights on transforming their CDI program at Becker's Healthcare CDI Roundtable held on October 9, 2023.

Listen to the full recorded session [here](#).

By leveraging AI-powered technology and advanced analytics, Banner Health successfully achieved significant improvements in quality and risk-adjustment, while ensuring documentation integrity and coding compliance.

## About Banner Health:

Banner Health is one of the largest nonprofit hospital systems in the U.S. Based in Phoenix, Arizona, it including 3 academic medical centers, in 6 states (Arizona, California, Colorado, Nebraska, Nevada and Wyoming).



Named a Top 5 Large Health System 3 out of 5 years by Truven Analytics (formerly Thomson Reuters)



21 of Banner Health hospitals are at the highest level of electronic medical records



Fully integrated system includes significantly expanded services through Banner Health Network, Banner Medical Group and, in 2015, with Banner - University Medicine



More than 1 million members currently served by Banner Health's provider networks



50,000+ employees, making Banner Health the largest private employer in Arizona and third largest employer in the Northern Colorado front range area

## Banner Health KPIs\*

# 8%

**increase**

in cases with risk-adjustment comorbidity

# 94%+

provider query agreement rate

\* Data comparison based on 2023 YTD and 2022 monthly averages.

Prior to implementation of integrated technology from Optum, Banner Health faced challenges to improve several areas related to clinical documentation and coding:



**Streamline CDI and coding workflows**



**Prioritize and improve efficiency with chart reviews**



**Provide a comprehensive single source of CDI and coded data for enterprise-wide reporting**



**Reduce technology maintenance for the IT team**

Improving the accuracy of documentation to support patient care initiatives, such as length of stay, quality and denial rates, was also a key area of focus.

## The solution

To address these challenges, Banner Health sought to invest in AI-powered CDI and coding technology with advanced analytics to “tell their story accurately,” according to Jessica Risner, senior director for CDI and Clinical Denials at Banner Health.

Banner Health partnered with Optum, a trusted provider of health care technology solutions. Optum offered their AI-powered, integrated technology, which leverages clinical language intelligence and advanced analytics to analyze clinical and coded data in real time. This technology identifies potential documentation improvement opportunities, automates query markers, and suggests codes to improve coding accuracy for each case.



### Optum as a strategic partner

Optum has proven to be a strategic partner for Banner Health throughout the implementation of CDI and coding technology. Optum conducts regular Performance Management Program (PMP) touch points with Banner Health operational leaders, providing actionable insights through quarterly data trend reviews. They also offer live clinical/coding webinars with continuing education credits (CEUs), product training webinars, user groups and regional summits where customers can provide feedback and shape the roadmap for future product and analytics development. Continuous support in technology innovation and analytics has further strengthened the partnership with Banner Health.



### Transformation in clinical documentation integrity and coding accuracy

The implementation of Optum CDI and coding technology brought about significant transformations in clinical documentation integrity and coding accuracy at Banner Health. The automated code assignments and prioritized case reviews allowed CDI staff to focus on higher-value tasks, such as engaging with providers for education, and collaboration with coding, quality and case management teams.

The Banner Health CDI team had an 8% increase in cases with risk-adjustment comorbidities. The technology supported clinically intelligent documentation queries to providers, which helped improve the accuracy of provider documentation, leading to improved severity of illness (SOI) and risk-of-mortality (ROM) coding. Banner Health’s provider query agreement rate averaged 94% in the most recent 2 years, an indication of high provider engagement and query quality.



### Impact on documentation integrity supporting clinical and quality outcomes reporting

The partnership between Banner Health and Optum using integrated CDI and coding technology has had a significant impact on documentation integrity supporting clinical and quality outcomes reporting. By leveraging Optum technology and data analytics, Banner Health has been able to support the development of a multidisciplinary MOVE initiative. This initiative involves physician advisors, quality, and CDI-coding experts working together to prevent complications in post-surgical patients through data-driven action plans. The accuracy of provider documentation monitored by robust query markers has improved the

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Optum as a strategic partner is more than just a buzzword to us. They sit with us, they review our data, they really listen to what we’re trying to achieve.”

– Jessica Risner

Senior Director, CDI and Clinical Denials, Banner Health

severity of illness (SOI) and risk-of-mortality (ROM) coding, supporting Banner Health's Mortality initiative. Clinical validation queries from Optum have led to a reduction in the risk of denials and supported Banner Health's Cost-Savings Percentage Initiative (CSPI).



## Transitioning to advanced analytics

Banner Health leveraged the Optum business intelligence (BI) analytics platform with advanced analytics and reporting. This transition to advanced metrics empowered Banner Health to make data-driven decisions and drive continuous improvement in patient care outcomes. Beth Simms is RN program manager, CDI and Acute Care Coding at Banner Health. "The custom reporting enabled us to delve deeper into data analysis, beyond DRG shifts, and explore areas such as risk-adjusted diagnoses and quality measures," says Simms.

The advanced metrics facilitated:

- The development of provider scorecards with specialty-level reporting
- Peer benchmarking to compare individual performance against national benchmarks
- CDI staff performance reports to deliver targeted education

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## Effective communication of analytics

Banner Health implemented a robust communication strategy to ensure effective dissemination of real-time actionable insights to stakeholders. "Banner Health needed multiple means of communication," says Beth Simms. This strategy included:

- Quarterly live meetings with facility leaders
- Automated email summaries of CDI key performance indicator (KPI) reports
- Access to reports on SharePoint and the CDI intranet site

Regular meetings were held for engagement and education, where explanations of clinical/coded data and background information were provided. This effective communication of metrics from Optum reporting fostered collaboration between different teams, including quality, case management and utilization review, leading to improved discharge planning and reduced length of stay.

Banner Health continues to adopt innovation with the use of Optum BI analytics' automated reporting and scheduling capabilities. They also use secure file transfers (FTP) to further automate the analytics experience.

## Conclusion

The partnership between Banner Health and Optum, utilizing CDI and coding technology, has resulted in transformative improvements in clinical documentation integrity and coding accuracy. By implementing AI-powered technology and advanced analytics, Banner Health has been able to advance their mature CDI program to expand on quality and risk-adjustment initiatives.

The effective communication of metrics and continuous support in technology innovation and analytics from Optum have further strengthened this partnership. Banner Health and Optum are well-positioned to use emerging trends and technologies to drive further advancements in documentation integrity and coding to support accurate reporting of clinical and quality outcomes.

For organizations considering automation, Jessica Risner has this advice: “Embrace AI technology and understand how automation and innovation works, be willing to look at the data honestly and identify opportunities, and have a strategic partner that can understand your pain points and ensure you are getting value for your investment.”



Learn more at [optum.com](https://www.optum.com)

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