

Back to the future: The journey to automation with advanced CAC and CDI technology

Midwest Catholic health system



10-15 inpatient acute care facilities



Midwest



20 CDI staff throughout the Midwest, 27 inpatient coders/users of CAC

The challenge

A Catholic health system located in the Midwest strives to bring together the latest technology, innovative procedures and the brightest, most compassionate people to serve its patients. The health system has achieved this over the years by being an early adopter of innovative healthcare technologies and solutions.

Continuing its technology adoption journey, this health system took lessons from its past to inform its strategy for the future. Specifically, the team looked back to how it handled the ICD-10 transition as it now prepares coding staff for a more autonomous coding experience.

Leading up to the ICD-10 transition, the health system proactively planned for the productivity loss that typically follows such a monumental change. Today, its medical coding and billing professionals face ongoing change and challenges due to the COVID-19 pandemic and staffing shortages.¹ These factors, coupled with continuous coding and regulatory updates, prompted the health system to again look to technology for help.

Proactively managing productivity wasn't the only challenge though. The health system is regionally divided, and each location has its own approach to coding and operates under different leadership. The health system needed a standardized approach to coding to achieve more consistent communication between the clinical documentation integrity (CDI) and coding teams.

Solventum technologies

- Solventum™ Coding and Reimbursement System (CRS)
- Solventum™ 360 Encompass™ Computer-Assisted Coding System
- Solventum™ 360 Encompass™ Clinical Documentation Integrity System

Foundational solutions

The health system already had a solid technology foundation with Solventum CRS, but needed to mitigate the potential productivity loss it faced without having to hire more coding staff. Health system leadership decided to add Solventum 360 Encompass CAC and Solventum 360 Encompass CDI to their technology portfolio.

The health system was an early adopter of the Solventum 360 Encompass to streamline workflows for both CDI and inpatient coding. As with any change, the technology was initially met with trepidation. The health system's CDI and coding professionals already had familiar workflows and were reluctant to make the change, so leadership launched "Project Trust," which outlined new workflows and explained how to fine tune the software to make it as accurate as possible.

As a test, and to prove how accurate the system could be, for two weeks, the coders coded the account in the system the old way, then compared it against the new CAC reporting system. The manual codes matched the results of the codes from the technology and the team began to slowly trust the software.

The health system also collaborated with Solventum to adapt the software to meet specific needs and help streamline processes for different environments. The corporate coding director at the health system described the collaboration process: "No maintenance nightmare for queues and data analytics – Solventum does that for us and we just build swim lanes."

Fast forward to automating with confidence

The health system used the same approach as "Project Trust" to adopt the next level of coding automation and became an early adopter of Solventum 360 Encompass' newest facility coding feature, Solventum code confidence. Solventum's code confidence leverages the organization's own auto-suggested precision and recall statistics to determine codes that meet its selected confidence parameters.

These codes are automatically dropped into the summary screen of Solventum CRS within the Solventum 360 Encompass application. Codes that do not meet the selected confidence parameter are flagged for coder review. This process further expedites the coding workflow and gets teams ready for a future autonomous coding experience.

"Minutes per chart have already dropped and coders are comfortable with the workflow. We expect to see even more from Solventum code confidence as time continues."

–Corporate coding director

Overall results with Solventum 360 Encompass



Precision and recall:

This health system went from low levels of precision and high levels of recall, to high levels of both (a 55 percent improvement in precision, and a 14 percent improvement in recall), which equates to a higher percentage of accuracy in return.



Productivity:

The health system coding team's ICD-10 coding productivity baseline was 1.3 charts an hour when it first adopted Solventum 360 Encompass CAC and CDI. Today, the team charts 2.6 an hour. This is a 50 percent increase in coder productivity and well above the industry standard of 1.5 charts per hour.²



CMI:

Case mix index (CMI) on the CDI side went from 1.58 to now 1.93*, reflecting the complexity of cases the health system sees, resulting in more accurate reimbursement.

The health system has expanded into quality and case management and it uses Solventum 360 Encompass for Agency for Healthcare Research and Quality (AHRQ) and quality measures. The health system leadership and coding teams see the benefit of having that communication tool and the ability to review documentation and coding more concurrently. After coding and CDI, it was a springboard into quality and case management, and improved overall communication.

Results with Solventum code confidence

The new Solventum code confidence feature offered significant results. Additional early results from the health system after just a few months of implementing inpatient code confidence include:

Final codes

- 25 percent of codes were auto-dropped and accepted
 - Of these auto-dropped codes, 57 percent did not have to be reviewed – meaning that about 14 percent of all final codes dropped didn't have to be touched by coders, helping improve coder productivity even more.

Productivity and other metrics

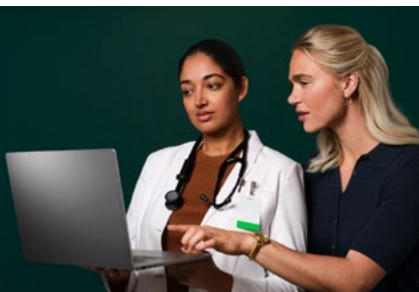
- 1.5 minutes per chart decrease
- 2.4 codes per chart increase
- Effective staff training, rollout and implementation

Outlook: On the road to an autonomous experience

The health system looked back to the ICD-10 transition for lessons on how to get ahead of productivity losses following a major change. In this case, the move toward autonomous coding amid a global pandemic induced productivity challenges for medical coding professionals. The health system integrated new technology to streamline coding and CDI workflows for improved communication between CDI and coding teams.

* The health system used other tools along with Solventum tools to get to this number

1. <https://khn.org/news/article/hospitals-cut-jobs-services-rising-costs-budgets-covid-pandemic-inflation/>
2. <https://bok.ahima.org/doc?oid=302649#.YxCyhtPMKUK>



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