

## Carle Foundation Hospital increases coding efficiency and accuracy with Optum Enterprise CAC



Carle Foundation is an integrated network of health care services that includes Carle Foundation Hospital, Hoopston Regional Health Center, Carle Physician Group and Health Alliance Medical Plans. Carle Foundation Hospital, a 393-bed regional care hospital located in Urbana, Illinois, has achieved Magnet<sup>®</sup> designation, the nation's highest honor for nursing care, and offers the area's only Level I Trauma Center.

### Background

Acquiring a computer-assisted coding (CAC) system was the cornerstone of Carle's strategy for improving and maintaining coding productivity and accuracy. Based on industry expectations, Carle leaders were concerned about the additional coding resources likely to be required for ICD-10 and felt that it would be difficult to hire enough coders to meet the demand. As a result, they started investigating CAC tools well in advance of the original transition deadline.

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### Highlights

By implementing Optum Enterprise CAC, coder training and performance monitoring, Carle Foundation Hospital:

- Achieved a 20 percent increase in inpatient coder productivity
  - Reallocated two inpatient FTEs despite increased inpatient activity
  - Increased coding accuracy from 93 percent to 95 percent and greater within 90 days of ICD-10 go-live
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## Challenges

Carle undertook a rigorous CAC evaluation process that required, among other things, a solution that would:

- Provide a natural language processing (NLP) engine for coding across the enterprise, including inpatient, outpatient and professional billing
- Support a dual-coding environment
- Interface seamlessly with Carle's existing EMR and other health information systems

The Carle selection team, which included representatives from Health Information Management (HIM), IT and executive management, thoroughly analyzed potential solutions before selecting the Optum® Enterprise Computer-Assisted Coding Platform. "Optum360 offered the full suite of what we were looking for," says Tricia Truscott, director, HIM, Carle Foundation Hospital and Carle Physician Group. "They not only had a proven CAC solution with the features we wanted, but they could also interface with our existing systems, provide education modules and offer continuing feedback on our performance." In addition, Optum360 was able to fulfill Carle's requirement to provide references from other clients using Enterprise CAC, and offered the flexibility to purchase only the modules and functionality needed by the organization.

## Solutions

Carle worked with Optum360 to establish a road map for success, including Enterprise CAC implementation, physician and coder training, and dual coding. Post-implementation, Optum360 provided monthly follow-up through its performance monitoring program to ensure continued productivity and accuracy improvements.

The organization uses Enterprise CAC for all inpatient coding at both Carle Foundation Hospital and Hoopeston Regional Health Center. Enterprise CAC is powered by the Optum® LifeCode® natural language processing (NLP) engine, which leverages more than 10 million medical facts to read physician documentation and understand grammar, context and syntax, identifying key clinical facts and mapping those facts to codes.

"The implementation of any major technology such as CAC is challenging," says Dawn Walden, VP, revenue cycle operations at Carle. "So we adopted a co-project management strategy where, in addition to each team's project managers, we had a group of key sponsors from Carle and executives from Optum360 who met every Friday morning via conference call to talk about barriers, issues and opportunities. If we needed to escalate problems, executives at Optum360 took ownership and ran interference within the Optum infrastructure, and we did the same here. This spirit of collaboration and commitment from both teams made for a smooth implementation."

After the CAC implementation, Carle engaged its on-site and remote coders in Optum360 coding education. After they had been using Enterprise CAC for a few months, an Optum360 coding expert remotely shadowed each coder and provided individual tips about how to get the most out of the system. "The Optum expert gave feedback to each coder about what they were doing well and where they could improve their productivity," says Diann Wingler, RN, manager of coding and clinical document improvement at Carle Foundation Hospital. "This constructive feedback proved to be incredibly beneficial. The coders have been very positive. It's made their job easier and gives them a chance to ask questions and optimize what they're doing." Carle continues to use shadow coding as part of its new coder training.

"To our great shock, we actually need fewer inpatient coders than we did when we were coding in ICD-9, despite the fact that inpatient volume has increased."

— **Tricia Truscott**, Director  
HIM Carle Foundation Hospital  
and Physician Group

## Results

The combination of the Enterprise CAC implementation, coder training and the ongoing collaboration between Carle and Optum360 has yielded impressive results.

**Improved coding productivity:** Within three months of the ICD-10 transition, Carle's inpatient coders were exceeding their ICD-9 production benchmark by 10 percent. By the six-month mark in spring 2016, their performance improved to 20 percent above their ICD-9 standards. "It took a little while to catch up after the transition, but then we were off to the races," says Truscott. "In an ICD-10 world, instead of decreasing productivity as was expected, we've actually increased it. We believe that's because of Enterprise CAC."

**FTE requirements:** One of the most unexpected developments was that instead of having to increase the number of inpatient coders to manage in an ICD-10 world, Carle has been able to reallocate FTEs despite the fact that inpatient activity has increased. "We had two coders leave, and we were able to reassign those FTEs to the outpatient area where we had a greater need," says Truscott.

**Improved coding accuracy:** "We weren't just looking for productivity," says Walden. "We were also looking for quality." In September, the accuracy rate of the dual-coded ICD-10 charts was 93 percent. By the end of December, accuracy was 95 percent or better across all coders, and has remained at that level.

**Support leads to continuous improvement.** "The ongoing support that's included with Enterprise CAC has been invaluable," says Wingler. "We have our own Optum360 specialist and representative, and both stay in touch on a monthly basis as part of the Performance Monitoring Program. Even though we're past CAC go-live by a couple of years now, that ongoing support structure provides expertise that helps us continue to improve processes and also gives us a mechanism to quickly resolve issues as they come up."

The Carle team has been pleased with the strength of the LifeCode NLP engine and the overall performance of Enterprise CAC. "We were thrilled with how well it worked — how smooth our ride was, and how completely the coders embraced it," noted Truscott. "We knew we would have a good outcome, but didn't expect it could be this good."

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— **Diann Wingler, RN**  
Manager of coding and CDI  
Carle Foundation Hospital

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