Truth about Computer-Assisted Coding: A Consultant, HIM Professional, and Vendor Weigh in on the Real CAC Impact

By Mark Crawford

HIM professionals have been looking for some truth and straight talk on computer-assisted coding (CAC). The technology has been billed as everything from the savior of coding-based bottom lines due to ICD-10-CM/PCS (ICD-10) to the automated destroyer of human coding jobs. As the technology moves from "up-and-coming" to "must-have" in the industry, many are looking for hard answers on how CAC will help, or hurt, their facility.

Ample talk has circulated across the healthcare industry about how computer-assisted coding can reduce coding costs while increasing coder productivity. The implementation of ICD-10, and its productivity-draining commitment, has caused many to turn to CAC for help. Many HIM professionals wonder if all that vendors promise about CAC has actually been achieved by implementers. Looking to get a cross section of the HIM industry to answer that question, the *Journal of AHIMA* asked a HIM consultant, a HIM professional, and a vendor to weigh in on just how CAC technology is changing healthcare and coding. The short answer—the benefits are real.

Many Look to CAC for Coding

Improvement Opportunities

Computer-assisted coding is viewed by many HIM professionals as a valuable tool for improving the efficiency of coding and billing. Using a natural language processing (NLP) engine, CAC software scans medical documentation in the electronic health record (EHR), identifying key terminology and suggesting codes for that particular treatment or service. These codes are then reviewed by a human coder. CAC can also analyze the context of key words to determine whether they require coding.

CAC is an especially hot topic these days because it speeds up the coding process. As more healthcare facilities adopt EHRs, and clinicians become more specific in their documentation efforts, coders have more to read, slowing down their production. There is also pressure to get claims to insurance companies quickly so payments arrive faster. Since the start of ICD-10 in October 2014 will change the structure of coding and volume of documentation for review, healthcare systems are hoping CAC will accelerate their preparations for the launch and keep productivity steady after the transition.

Software vendors have positioned CAC as a tool that streamlines coding and eliminates bottlenecks, transforming coders into higher-level coding auditors. CAC is not expected to cause job losses among coders, according to industry experts. In fact, increased productivity through CAC will have prepared coders for the anticipated additional work that will come with the onset of ICD-10. Some vendors even predict that more detailed billing will generate more revenue—possibly enough to cover the cost of CAC implementation.

With ICD-10 looming large, many organizations are concerned about their lack of CAC readiness. Marilyn Marchant, a healthcare IT consultant at Marchant IT and Business Consulting, based in Philadelphia, PA, estimates that less than 10 percent of providers have implemented CAC to date. "In the next 18 months, providers will be pushing to purchase and install quickly," she says. "Everyone will need to focus on efficient implementation and final preparations for ICD-10, followed by a period of stabilization and refinement."

"ICD-10 is going to require more specificity," adds Kathy Westhafer, RHIA, CHPS, manager of enterprise data management for Christiana Care Health System in Wilmington, DE. Christiana Care was an early adopter of CAC technology and has direct experience with its impact on the workflow and workforce. "ICD-9 has been used for about 30 years, so ICD-10 will be new for everyone."

The good news is that implementing CAC will be worth the effort, experts say. CAC has improved coder productivity in every organization Marchant has studied. “Each organization measures productivity differently, such as charts/person, charts/day, full-time employees, size of the backlog, etc.,” she says. “But no matter what the measure, the numbers all show improvement. This [CAC] will be vital as we transition into ICD-10.”

CAC Improves Accuracy and Productivity

Ann Chenoweth, MBA, RHIA, senior director of industry relations for 3M Health Information Systems, reports that CAC solutions improve both coder productivity and coding accuracy, as defined by precision and recall. “The positive impact to productivity and accuracy often can be seen within days of the implementation go-live, in both the inpatient and outpatient settings,” she says. “Average coder productivity improvement is typically in the 20 percent to 40 percent range.”

Research recently conducted by the AHIMA Foundation and the Cleveland Clinic backs the claim that CAC improves coder productivity (see ["Study Reveals Hard Facts on CaC"]). “The largest gains are seen when workflow is optimized and coders work more like editors,” adds Westhafer. “Improvements in efficiency can be as high as 50 percent.”

CAC improves coder productivity by streamlining the access and viewing of EHR documents. This can eliminate the need for coders to access multiple systems to retrieve the documents needed for coding. Users can also select which documents from the various sources are brought into the engine and customize the viewing of these documents based on their preferences. Because relevant diagnoses and procedures are annotated with the appropriate codes identified, coders can review the record much more quickly and validate the correct codes.
“CAC solutions often incorporate workflow capabilities, which allow even greater improvements to productivity,” Chenoweth says. “Examples of these include work queues and auditing features.”

Accuracy is improved through greater coding consistency, fewer missed codes, and the reduction of incorrect codes. As a result, CAC can reduce denials and compliance risk. “The positive impact is often realized shortly after implementation go-live and will continue to improve as the NLP engine is tuned and coders become more comfortable with using the technology,” Chenoweth says.

If the CAC solution also integrates clinical documentation improvement (CDI) automation, coders can easily identify potential documentation gaps at the point of care. “As a result,” Chenoweth says, “the increased capture rate of co-morbidities and complications improves the overall picture of the quality of care.”

In certain circumstances, when there is confidence that the NLP engine can determine the accurate codes, a decision can be made to allow the CAC engine to go “direct to bill,” bypassing coder review, Westhafer says.

CAC Reduces Backlogs, Coder Shortages

As organizations move toward new healthcare delivery models, HIM departments are being asked to absorb more work, such as coding or validating physician office encounters and ambulatory visits. These demands, combined with regional coder shortages, workflow fluctuations, and increased work volumes, have led many healthcare facilities to hire extra coders. Productivity improvements that result from CAC can help offset the need to hire additional personnel to handle increased workloads.

“Other improvements include fewer accounts receivable (AR) days, reduced claims denials, and better visibility into medical necessity edits,” Marchant says. CAC can also be effective for managing staff, assigning work, training coders, and recruiting new employees.

“Healthcare facilities have also been able to reduce missed charges and DNFB (discharged, not final billed) days by using CAC to address coding backlogs and incomplete documentation,” adds Chenoweth.

Handling Coder Concerns

New technology can be threatening to workers, especially when they don’t understand how it will be used in their jobs. Coders need to understand that CAC is a tool that helps them by scanning documents, highlighting relevant information, and suggesting

codes, Marchant says. CAC will not replace the coder as the decision-maker and code approver. A coder's expertise is still vital to healthcare organizations, even after they have implemented CAC and especially as they move toward ICD-10. "Organizations that are considering CAC should communicate this to coders and involve them in the project," Marchant says. "Once coders understand they are still needed, they usually embrace the technology."

Chenoweth agrees that after a few weeks of using CAC, coders typically appreciate the technology and "what it does for them," she says. Chenoweth is not aware of any organization where coders have lost their positions as a result of CAC implementation.

Many coding managers have had difficulty finding experienced coders. Therefore, improved CAC efficiency helps managers cover coder vacancies until appropriate candidates are hired. CAC technology supports remote coders, which gives hiring managers more options since the coder does not have to live in the area.

Some organizations also use CAC as a recruiting tool. "The position of coder has definitely been elevated with CAC," Marchant says. "Coders are freed from having to process routine, repetitious work such as radiology services. This type of work, which is considered drudgery by many coders, can be automated by CAC technology with accuracy and efficiency. Coders can then focus on the more complicated, specialized inpatient encounters." CAC also gives coders more time to prepare for the ICD-10 transition, perform dual coding, and support physician ICD-10 education.

By taking an active role in preparing for ICD-10, coders can share their experience and ideas, which contributes to the success of the transition. "They can also use CAC technology to become more familiar with the ICD-10 codes, which helps with the learning curve since most CAC products will present both ICD-9 and ICD-10 codes," Marchant states.

Return on Investment

Some CAC vendors claim that, because CAC produces more detailed and accurate codes, it will in turn result in more detailed bills and increased revenue for the facility—perhaps even enough to cover the cost of the CAC installation. Westhafer indicates it is difficult to predict reliable ROI because the efficiency and productivity of CAC is directly related to the level of documentation provided by physicians.

"It is all about improved accuracy," she says. "If the documentation is available, efficiency will improve. If the physician does not document it, it won't be there for the engine to read it."

The issue of whether there is enough documentation to support CAC technology also depends on the percentage of electronic documents. For example, an organization with 80 percent of its documents in an electronic format will be able to leverage the value of CAC technology much more than an organization with only 25 percent of its documents in an electronic format.

CAC performance can also be improved by clinical documentation improvement (CDI) programs, which in large part are driven by the transition to electronic health records. CAC technology can especially benefit CDI initiatives when it is used in a concurrent review process. "CAC technology can provide useful information to the CDI team while the patient is still receiving care," Marchant says. "Information regarding incomplete documentation, complexity of case, severity, and risk of mortality are most valuable to these initiatives and ultimately enable improved quality of care."

Moving Forward with CAC

Marchant has studied a variety of CAC implementations, ranging from rural acute care facilities to academic medical centers to multi-hospital health systems. All utilized a variety of different software (CAC products, CIS products, revenue cycle products, encoders, etc.) and all had different challenges and resources due to size, complexity, and location. "Despite these many differences, they have all seen measurable benefits from the CAC technology," Marchant says.

CAC technology offers one of the best solutions for the challenges HIM professionals face today, especially as coding managers scramble to fill open positions and prepare for the transition to ICD-10.

"The transition to ICD-10 will diminish coder productivity," Marchant says. "It is likely that the loss of productivity will be significant enough to affect an organization's reimbursement/revenue at a time when most providers are challenged economically."

"The coding landscape will be a very interesting place a few years from now," Westhafer predicts. "People will want a full suite of applications including physician-assisted coding, clinical documentation improvement, computer-assisted coding, workflow, and an encoder.

"Development cycles will be very short for new processes as vendors compete in this market space."

Westhafer notes that healthcare systems are anxious to pick up the pace to meet ICD-10 requirements in 2014.

"We're running out of time," she says. "Companies need robust clinical documentation improvement programs to really maximize optimization. We also need enough time to test the system with the payer. A few organizations are fully implemented, but most are not and some have barely started."

Over her long career in healthcare IT, Marchant has seen technologies emerge that never lived up to the initial claims—CAC, she says, is different. "I began looking at CAC technology about 18 months ago because I wanted to understand if it really lived up to the hype," Marchant says. "I found the results to be measurable and consistent across a variety of settings. CAC has value that is both positive and compelling."

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For More on CAC...
Read about the AHIMA Foundation collaboration with the Cleveland Clinic that studied how CAC impacted coding timelines and data quality (Dougherty, Michelle, Sandra Seabold, and Susan E. White. "Study Reveals Hard Facts on CAC" *J AHIMA* 84:7, p.54-56.).

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