Due Diligence for Computer-Assisted Coding Software

By Akhila Skiftenes

As the healthcare industry moves from ICD-9 to the much more complex ICD-10 coding system, computer-assisted coding is gaining in popularity. To ensure this technology lives up to its reputation, healthcare finance leaders need to take certain precautions.

Computer-assisted coding (CAC) offers many potential benefits, as compared with manual coding, including increased productivity and accuracy. However, these benefits must be weighed against the significant investment CAC requires. Due diligence in planning, selection, and implementation can help ensure that an organization makes the most of its investment in CAC.

Determining the Priorities
Before beginning the software evaluation process, the selection committee should prioritize the criteria pertinent to selecting the right CAC software. The exhibit on page 2 provides a list of potential criteria to use during the evaluation process. By assigning a weight to each criterion, the selection team can build consensus about what is most important, paving the way for conversations with vendors and subsequent software demos.

It is important to come away from vendor conversations with a good understanding of how their products perform and to use this information in conjunction with pricing considerations to make an informed decision.

Estimating Realistic Productivity Gains
In developing realistic estimates of the productivity gains that can be achieved with CAC, the following factors should be taken into account. These factors should be incorporated into estimates of how much productivity can be realized through CAC, and CAC vendors should be asked to commit to a reasonable level of productivity improvement.

Inpatient stay documentation. A vendor’s experience with outpatient clinics is not necessarily relevant to inpatient settings. Inherent variability makes accurate CAC for inpatient stays much more complex than documentation for outpatient procedures. Industry benchmarks and case studies of innovators that have already implemented CAC can help predict productivity gains in inpatient settings.

Standardization of inputs. Documentation inputs for CAC should be standardized, using one of four standard formats: consultation note, history and physical, operative note, and diagnostic imaging report. This prevents extreme variability in the documentation format, which is apt to slow down the CAC process and affect accuracy.
Over the past two years, the Health Story Project, a group that specializes in setting standards for the use and exchange of electronic health information (www.healthstory.com), has developed implementation guidelines. It is important to understand how an organization’s documentation matches up to these guidelines.

In addition, the standard medical terminology used by a hospital’s electronic health record (EHR) plays into the effectiveness of CAC. If an EHR uses ICD-9 rather than Systematized Nomenclature of Human Medicine – Clinical Terms (SNOMED-CT) for physician documentation, it will reduce CAC accuracy. SNOMED-CT, along with ICD-10, has a more modern standard and a greater level of specificity than ICD-9. This may not be factored into vendor estimates of productivity.

**Working relationships between HIM and IT.**

Once CAC is implemented, a hospital’s HIM department should audit the output and identify any issues with the software’s documentation interpretation. HIM should have a strong working relationship with IT to promote a free and open exchange of information between the two areas.

**Implementing CAC**

Once a CAC product has been purchased, a hospital can take the following steps to ensure it gets the most out of its CAC investment (Morsch, M., “Measuring Up: Best Practices for Computer-Assisted Coding,” Healthcare Exchange, Oct. 2011).

**Know the CAC inputs.** Understand physician documentation consistency and how it compares to standards. Also, be aware that clinical documentation improvement markup, or suggested improvements that may be produced from clinical documentation systems, could be lost when data are pulled into data repositories.

**Test any documentation format changes.**

CAC speed and accuracy depend on consistency of inputs, so test any changes to documentation formatting and allow time for CAC optimization.

**Manage productivity expectations.** Coding managers should clearly define and communicate to staff how productivity expectations will change with the advent of CAC. It is helpful if coding staff are involved in these decisions.

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**Criteria for Choosing a Computer-Assisted Coding Product**

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<th>Criteria</th>
<th>Key Questions</th>
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| Natural language processor approach<sup>a</sup> | > What is the logic driving the natural language processor?  
> Can the engine correct terms in context, especially in complex sentences?  
> Does the natural language processor understand negation?  
> Is there a single natural language processor engine or two separate engines for inpatient and outpatient environments? |
| Integration with encoder<sup>b</sup>     | > How does computer-assisted coding integrate with an existing encoder? Is there an interface agreement? |
| Natural language processor workflow      | > How compatible is the natural language processor workflow with existing systems? |
| Coding accuracy                         | > Based on the complexity of operations, how accurate is the coding? |
| Code traceability                       | > How easy will auditing be after implementation? |
| Ease of use                             | > What level of training is required to use the software to its fullest? |
| Coder adaptability                      | > How easy will it be for coders to adapt to new processes driven by computer-assisted coding? |
| Reporting                               | > Does the system track and report on coder productivity? |

<sup>a</sup> Computer-assisted coding uses a natural language processor to select diagnosis and procedure codes from the physician documentation.  
<sup>b</sup> An encoder generates medical codes from applicable national and international standards for clinical coding based on key words entered by coders.

Track and address the quality of coding through CAC. Productivity is very likely to increase with CAC, but maintaining quality is less certain. Use the auditing tools embedded in CAC solutions to identify opportunities to improve CAC logic and functionality.

Use benchmark tracking to identify issues. Measure and track the case mix index. Significant changes after CAC implementation could be due to improvements in coding accuracy or could indicate that errors have been introduced. Either way, it is important to track these changes as they have a significant impact on revenue.

Monitor metrics over time. Set realistic goals and metrics at the outset, continually measure against these goals, leverage them as an opportunity to brainstorm ways of improving them, and measure again once a change is implemented.

Perform audits. Perform internal and external audits to shed light on any issues that should be addressed. Use audit results to provide feedback and additional training to those who may need it.

Ensuring Value
If proper due diligence is done throughout the planning, selection, and implementation process, CAC can be a valuable tool to improve coding productivity, accuracy, and consistency, as well as achieve ICD-10 compliance.

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