Delays in Adopting Computer-Assisted Coding Impact the Bottom Line

The ICD-10 implementation deadline has changed once again, delighting some stakeholders, while fueling frustration among others. With a new deadline of October 2014, some physician practices that were looking to implement computer-assisted coding (CAC) solutions to help them with the ICD-10 transition are now placing their plans on hold. This may prove to be a costly mistake.

Although the deadline extension may have decreased the sense of urgency to implement CAC solutions, lost or delayed revenue opportunities may be continuing to accrue. In short, practices could be failing to bill for all the services they provide their patients in a timely manner due to inefficiencies, human error, inadequate documentation, and poor coding practices. CAC solutions remedy these problems by helping physician practices accurately bill for complex patient diagnoses, CPT, and E/M codes. With CAC solutions, physicians can rely upon accurate code assignment that happens within a second to help reduce A/R days and speed the revenue cycle. Delaying a CAC implementation may negatively impact revenue, which few practices can afford — especially with the declining reimbursement rates that are impacting the industry.

Why Implement CAC Solutions Now?
The ICD-10 deadline extension is an opportunity to invest in the future. It’s a chance to optimize revenue cycle processes now so that the transition to ICD-10 will be smoother. It’s additional time to implement technology platforms, train staff, and get them accustomed to using systems before they must learn and implement ICD-10 guidelines.

CAC solutions don’t necessarily help physicians or billing companies find new revenue streams. Instead, CAC solutions help prevent physicians from losing the revenue that they’ve already earned. By improving documentation and coding practices through the use of CAC solutions, physicians can bill for the correct levels of care, capture clinical complexities that increase reimbursement, ensure that quality measures are correctly reported to qualify for PQRS funds, and achieve medical necessity requirements to improve cash flow by reducing pended, denied, or delayed claims.

With potential revenue to be gained in the near term, delaying the implementation of CAC solutions may negatively affect practice profitability. The time to implement CAC solutions is now.

How CAC Solutions Help with ICD-10
ICD-10 is substantially more complex than ICD-9, making it difficult for coders to solely rely on their ability to recall or manually look up codes when doing their jobs. There are approximately 155,000 ICD-10 diagnosis and procedure codes, versus only about 17,000 ICD-9 codes. Many of the additional codes in ICD-10 represent laterality (e.g., right side versus left side), while others are more precise codes to represent specific anatomy and physiology. As a result, coding a diagnosis in ICD-10 is likely to require more codes to accurately represent the clinical detail of the condition. For example, the ankle sprain
category in ICD-9 has only four codes, while in ICD-10 the ankle sprain category contains 72 codes.

CAC solutions reduce the burden of code selection through automation that analyzes clinical documentation and converts it into the appropriate billing codes. Coders are then able to review the code selections, or use the solution to assist them with navigating the ICD-10 code set to find more suitable or additional codes. These capabilities improve coder workflow and increase productivity, effectively enhancing coder efficiency and accuracy to expedite claim reimbursement.

With CAC solutions, coders are still very much part of the coding process, as the human touch is still beneficial. The roles of coders, however, will change. The use of CAC solutions elevates the role of coders to reviewers or auditors, increasing the overall productivity and accuracy of the coding process. Bringing coders into the process as early as possible, rather than waiting until ICD-10 is imminent, will ease the transition, promote proper training and reduced errors, as well as maximize the reimbursement potential for organizations in the long run.

Furthermore, CAC solutions can help offset the revenue decreases that are expected with the implementation of ICD-10. A recent survey of health care providers found that 46 percent of respondents expect losses to exceed 6 percent of revenue for up to two years following the implementation of ICD-10. Using CAC solutions can alleviate many of the anticipated revenue decreases through increased productivity and improved code selection to reduce claim denials.

**How CAC Solutions Work — An Overview**

CAC, as defined by the American Health Information Management Association (AHIMA), is “the use of computer software that automatically generates a set of medical codes for review, validation, and use based upon clinical documentation.”

A driving force behind CAC solutions is a technology known as natural language processing (NLP), which is the intelligence engine that scans and analyzes clinical documentation, then recommends codes for assigning to a clinical case.

NLP identifies a set of technologies and approaches, each of which varies in its effectiveness. Most NLP technologies today for CAC fall into one of five methods (see Table 1). To understand how these methods differ, it’s necessary to define the standard measurements of NLP accuracy:

- **Precision** — Measures the number of accurate results compared to total results. Higher rates of precision mean lower false positives.
- **Recall** — Measures the number of accurate results compared to the potential number of accurate results. Higher rates of recall mean lower false negatives (or missed codes).

### Table 1

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
<th>Precision</th>
<th>Recall</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Dictionary Matching</td>
<td>Matches individual words or groups of words found within the documentation to standard terminology from a medical dictionary. For words that match, the text is typically highlighted and validated by the coder.</td>
<td>Very Low</td>
<td>High</td>
<td>Coders sift through many false positives to find accurate codes, lacks intelligence to apply coding guidelines to analyses.</td>
</tr>
<tr>
<td>Pattern Matching</td>
<td>Extends the capabilities of medical dictionary matching by coordinating terms with specific patterns of text that describe a diagnosis or a procedure.</td>
<td>Moderate</td>
<td>Low</td>
<td>Has much lower recall than medical dictionary matching, lacks intelligence to apply coding guidelines to analyses.</td>
</tr>
<tr>
<td>Statistical</td>
<td>Gathers information from a large, pre-coded sample of documents to train algorithms based upon word and pattern distributions.</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Limited by system training to recognize meaning of language so it can match to codes.</td>
</tr>
<tr>
<td>Symbolic Rules</td>
<td>Analyzes language using rules or lexicons, identifying the elements of language with symbols that can be manipulated by the system.</td>
<td>High</td>
<td>Moderate</td>
<td>Difficult to maintain for large code sets.</td>
</tr>
<tr>
<td>Symbolic Rules and Statistical Components</td>
<td>Uses both symbolic NLP and a mathematical model of linguistics, including semantics (levels of language that contribute to meaning) and pragmatics (applying domain knowledge to recognize information in the correct context).</td>
<td>Very High</td>
<td>Very High</td>
<td>Combines the benefits of statistical and symbolic rules matching with fewer drawbacks.</td>
</tr>
</tbody>
</table>

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1 HealthLeaders Media Intelligence Unit, April 2011.
Optum’s LifeCode® NLP engine combines the strengths of symbolic rules with statistical components. LifeCode has sophisticated inference rules that allow it to “understand” how documentation relates to coding rules, and integrates its symbolic analysis with a knowledge base that consists of more than 10 million medical facts, which allows for consistent interpretation of clinical content. LifeCode is the engine within Optum CAC that is ICD-10-compliant and presents coders with diagnosis and procedure codes that are more complete and accurate, based on their high degree of recall and precision. LifeCode is the only patented NLP technology on the market today, earning two U.S. patents for “vector processing” and “mere-parsing.”

**CAC Solution Benefits**

Implementing CAC solutions now, instead of waiting until closer to the ICD-10 deadline, enables physician practices and billing companies to take advantage of numerous benefits in the near term while they prepare for ICD-10. CAC solutions provide practices with the potential to:

**Increase Revenue** — Using CAC solutions enables organizations to improve their coding and identify missed codes so they get paid for all the care they deliver. Also, achieving higher levels of coding accuracy prevents lost revenue opportunities that result from under-coding, as well as avoiding over-coding that leads to claim denials, decreased cash flow, and increased chances of being audited. Higher coder productivity levels achieved by using CAC solutions accelerate the billing process and shorten accounts receivable days so practices get paid faster. In addition, recovery and resubmission tools alert coders when additional documentation is received on a chart after it has been billed, allowing the billing staff to resubmit claims to obtain higher levels of reimbursement.

**Real-World Example**

- On the first day of using the Optum CAC Reconciliation Module, $40,000 of missing radiology reports were found by the billing staff at Computerized Management Services, a radiology management company located in southern California.

**Decrease Costs Through Increased Productivity** — CAC solutions enable coders to increase their productivity, which decreases the coding cost per record, and the need to use costly outsourced services to reduce coding backlogs. Productivity increases are achieved by the solution’s ability to automatically select codes for each encounter, which decreases human intervention. Plus, the ability of a CAC solution to automatically review documentation from multiple sources (e.g., electronic health records, admission/discharge/transfer solutions, billing/abstraction, etc.) reduces the need for the coding staff to manually access information from multiple sources to assign correct codes.

**Real-World Examples**

- Coder productivity increased from 20 to 60 charts per hour at Covenant Medical Group, Lubbock, Texas, by using Optum’s CAC solution.
- Covenant Medical Group reduced its coding backlog from 3.5 months to three weeks by using Optum’s CAC solution.

**Improve Compliance** — The rules-based decision engines within advanced CAC solutions enable physician practices and billing companies to increase coding consistency among the staff, which is especially important at practices with multiple locations. Audit trails within the solutions increase traceability, so staff can see how coding decisions were made — an especially useful tool when researching information for audits. For example, a medical record is fully reviewed and codified in less than a second based on local Medicare guidelines, and supporting language within the medical records is highlighted so staff can see how the codes were derived. This allows for full traceability for the life of the medical record. These combined capabilities improve compliance with payer and regulatory guidelines, so denials are minimized.

**Real-World Example**

- Claim denial rates decreased by 5 percent at Louisiana-based Acadiana Computer Systems, Inc., which provides billing and practice management services.

**Improve Documentation to Better Support Coding and PQRS Reporting Requirements** — ICD-10 requires more in-depth documentation to support the code set’s higher level of specificity. CAC solutions help coders identify when documentation specifics are missing to support higher levels of coding, and include problem reports that can be routed to physicians for clarification. These capabilities are also helpful for practices participating in the Physician Quality Reporting System.
(PQRS) program, enabling them to identify documentation weaknesses, missing clinical indicators, and other elements. The result is increased communications between coders and physicians that educate them about documentation needs — all of which helps improve documentation practices.

**Real-World Example**

- After manually compiling measures for PQRS reporting, Seattle-based Inland Imaging Business Associates transitioned to Optum’s CAC solution to automatically pend PQRS reporting codes — scanning more than 40,000 transaction codes each month. The result is streamlined processes that are more cost-efficient, enabling the organization to maximize its PQRS bonuses.

**Prioritize Efforts to Maximize Profitability**

Implementing ICD-10 will entail challenges, but physician practices and billing companies can minimize many of the issues they will encounter by optimizing their existing revenue cycle processes in advance of the deadline. Capturing missed codes and reducing inaccurate ones can increase reimbursement and improve coder productivity, enabling organizations to realize immediate results to their bottom line.

Although physician practices are facing numerous industry challenges simultaneously, they need to prioritize their information technology (IT) projects by focusing on the efforts that will drive profitability and deliver a return on investment now. With ICD-10 driving future reimbursement, organizations cannot afford to delay projects — such as CAC solutions — that will directly impact profitability today.

**About Optum**

Ingenix and A-Life Medical are now OptumInsight™, part of Optum™ — a leading health services business. Optum is an information and technology-enabled health services business platform serving the broad health marketplace, including care providers, plan sponsors, life sciences companies, and consumers. Its business units—OptumInsight, OptumHealth™, and OptumRx™—employ more than 30,000 people worldwide who are committed to enabling Sustainable Health Communities. OptumInsight specializes in improving the performance of the health system by providing analytics, technology, and consulting services, and is a leading provider of computer-assisted coding products and services for the health care industry.

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