How to Conduct a Thorough CAC Readiness Assessment

A White Paper from Nuance Healthcare
# COMPUTER-ASSISTED CODING

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INTRODUCTION

Computer-assisted coding (CAC) is a term most hospital executives and health information management (HIM) professionals are exploring, but CAC continues to be an unknown technology. It has been defined by the American Health Information Management Association (AHIMA) as “…the use of computer software that automatically generates a set of medical codes for review, validation and use based upon clinical documentation provided by healthcare practitioners.”¹

The learning objective of this white paper is to identify the critical success factors for positioning CAC in your organization. These include:

• Prepare your workplan to create a future state environment for CAC.

• Assess your own readiness for CAC – resulting in next steps in workflow redesign and technology adoption.

• Analyze documentation and workflow requirements.

• Analyze vendors – assess resources.

CAC is often misunderstood and mistakenly associated with the concept of auto-coding. Auto-coding completely supplants the need for human coding professionals. Indeed, in a few areas of clinical practice with very limited code selection — such as laboratory, radiology or physical therapy services, for instance — a CAC solution could significantly reduce the need for a human coder to validate code assignment. More often than not, however, CAC will transform the role and enhance the work of human coding professionals.

IDENTIFY THE GOALS AND OBJECTIVES FOR EMBRACING CAC TECHNOLOGY: THE BENEFITS OF CAC

Improved coder productivity, coding accuracy, data integrity, coding compliance, physician relations, and coder retention are among the many long-term benefits promised by a well-planned and well-executed CAC solution.

Throughout the healthcare industry, there is evidence that CAC increases coder productivity. In fact, hospitals report that CAC improves coder productivity by as much as 20 percent. It is difficult to argue that a well implemented automated code validation process could be less efficient than a traditional coding process in which every single code must be manually researched and entered. By automating formerly manual coding and documentation processes, healthcare organizations can also begin to take advantage of software interfaces. CAC systems are capable of linking code selections back to their original supporting documentation, which can help facilitate review and correction. In addition, documents that are well organized, with important terms and likely codes clearly highlighted, have been shown to help coders improve accuracy.

With greater accuracy, of course, comes enhanced data integrity and quality. In the increasingly data-driven healthcare environment, higher quality data can have far-reaching implications for meeting Meaningful Use and quality care goals. Furthermore, improved accuracy better supports coding compliance efforts aimed at reducing potential payer audit liability.

CAC will strengthen the accuracy and speed of data for decision making, as it streamlines the revenue cycle workflow for clinical documentation improvement, coding and billing processes. In addition, a CAC work environment will be very beneficial to recruit and retain top HIM talent. Consider, for example, the role a CAC could play in making the transition to ICD-10 a more interesting, empowering — and less daunting — experience.

CREATE A FUTURE STATE FOR CAC AND PREPARE YOUR WORKPLAN: THE NEW ROLE OF THE CODER

Throughout the healthcare industry, enabling technologies that streamline workflow are rapidly changing traditional paper-based workflows. CAC, clinical documentation improvement methodologies and technology, and other tools are redesigning the role of the coding professional.

Whereas coders now are tasked with reviewing documentation and then assigning appropriate codes, the coders of the near future are destined to become code ‘validators’. On any given record, CAC will be used to narrow the field of applicable codes, with coders making the critical final affirmation based on their professional knowledge, skills, and ability to ensure accuracy and compliance.

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4 AHIMA, “CAC 2010–11 Industry Outlook and Resources Report,” 2011: 3-4: organizations will not realize all of the solution’s potential benefits. In fact, those who rush to implement CAC without first conducting a thorough analysis of their existing technologies and processes may well find that the implementation falls far short of expectations.
CHANGE MANAGEMENT, WORKFLOW AND TECHNOLOGY
BEST PRACTICE: CONDUCT A CAC READINESS ASSESSMENT

Proper preparation will ensure the successful introduction of new technology such as CAC into your organization’s workflow processes. There are three main components to an effective CAC readiness assessment:

- Understand the different types of clinical documentation capture.
- Know the technology that will be affected by CAC within your organization.
- Review your productivity standards.

STEP 1: Understand the Types of Clinical Documentation Capture

Take an inventory of the different ways in which documentation is captured in your organization today, paying particular attention to the format of each of the report types.

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<th>TYPE OF DATA</th>
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<td>Structured</td>
<td>Structured data capture is often associated with information entry into EHR fields. It is a method in which data is carefully constructed and coded.(^5) As a result, individual pieces of information within a record can be easily located and used.</td>
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<tr>
<td>Unstructured</td>
<td>Unstructured data capture typically refers to paper/scanned documents. While information may be retrieved and viewed in electronic form, the data itself is not chopped into discrete bits to allow it to be effectively searched and used electronically.</td>
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<td>Narrative</td>
<td>Narrative data generally enters the HIM workflow in the form of transcription. Many organizations use automated speech recognition to help turn providers’ spoken documentation into text, which medical transcriptionists then turn into a final document. Built on the Nuance Clinical Language Understanding (CLU) platform, CLU represents Nuance’s implementation of Natural Language Processing (NLP) in the clinical domain. Through CLU, implied facts can then be extracted from the text as structured data.(^6)</td>
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<td>Hybrid</td>
<td>Some form of hybrid data capture exists in most healthcare organizations today, usually a combination of electronic structured/narrative information and scanned document images. One key concept for organizations to recognize is that CLU — a vital element for CAC — will only be as good as:</td>
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<td>• The quality of the documentation in the underlying system (EHR).</td>
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<td>• The ability to analyze structured data in the most important components of the EHR — which means moving away from hybrid records.</td>
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\(^6\) Ibid: 16.
**STEP 2: Understand Your Technology**

Healthcare organizations must be careful not to make the common mistake of confusing a true Electronic Health Record (EHR) with a document imaging system. Very often, the legal medical record that is coded resides in an electronic document management (EDM) system, not the EHR. The difference? An EDM typically does not offer a structured data environment. Instead, much of the information is imaged.

The distinction is crucial, because unstructured imaged information often cannot be ‘read’ by CAC technology. For this reason, organizations must carefully evaluate all technology used — including dictation/transcription technology — and recognize whether it captures medical record information as structured or imaged data. In addition to examining individual technology systems, an investigation is necessary of how data passes through interfaces. CAC functionality relies on its ability to exchange information with clinical, financial, EHR, dictation, transcription and other systems in order to generate potential code lists for validation.7

**STEP 3: Review Your Productivity Standards**

As with any implementation, the ultimate success of CAC depends on the ability to set goals and measure improvement. To that end, there are several productivity and workflow considerations to take into account before moving forward with CAC. For instance, an organization may want to look at how much of its coding process is performed internally vs. outsourced. The adoption of CAC could very well affect future outsourcing decisions. Baseline productivity and accuracy rates should also be measured in order to effectively set – and reach – long-term, post-CAC productivity and accuracy goals.

**BEST PRACTICE: Analyze Your Documentation Readiness**

Once a high-level evaluation of existing workflow, technology and data capture has been performed, it’s time to drill deeper into the information most directly connected to CAC. Organizations contemplating CAC must know which documents and data are critical to their coding processes.

A high-level breakdown of coding workflow may reveal, for instance, that 50 percent of documentation is captured electronically and the other 50 percent is paper, scanned into the system. The question then becomes: “What is your core designated record set for coding?” If those records all fall within the ‘scanned’ category, your organization is not yet ready for CAC.

Seldom defined in coding compliance policies are the actual core medical record documents that should be used as the designated record set for coding. A good coding compliance policy should identify medical record documents that require a mandatory review by coding staff. A critical success factor in CAC readiness is to identify your core designated record set for coding, because it is essential for building your roadmap.

In a CAC environment, an encounter or inpatient discharge case has initial codes available to review, even if all the documents required for quality code assignment are not yet available. However, CAC systems can allow coding professionals to set a flag that ‘holds’ a record pending specific documentation (e.g., when a pathology report is missing). When the required document is available in the system, an alert is sent to the coding professional for final review. So, regardless of the CAC vendor, an organization’s HIM team must create and designate the data sources required for your coding compliance program.

To identify all diagnoses and procedures requiring coding and to increase the accuracy and specificity of coding, it is recommended that coders review the following medical record documents:

**INPATIENT CODING**
- **Face sheet** – code diagnoses and complications appearing on the face sheet.
- **Progress notes** – detect complications and/or secondary diagnoses for which the patient was treated and/or procedures performed.
- **History and physical (H&P)** – identify any additional conditions, such as history of cancer or a pacemaker in situ, for example. These conditions should be coded.
- **Discharge summary** – read if available and compare listed diagnoses with face sheet. Code diagnoses and procedures listed on discharge summary but not specified on face sheet.
- **Consultation report** – detect additional diagnoses or complications for which the patient was treated.
- **Operative report** – scan to identify additional procedures requiring coding.
- **Pathology report** – review to confirm or obtain more detail.
- **Laboratory report** – use reports as guides to identify diagnoses (e.g., types of infections) or more detail.
- **Radiology report** – use reports as guides to identify diagnoses or more detail (e.g., type of fractures).
- **Nutritional assessment**
- **Physician’s orders** – detect treatment for unlisted diagnoses. For example: the administration of insulin, antibiotics, or sulfonamides may indicate treatment of diabetes, respiratory or urinary infections which should be confirmed by the coder.

**OUTPATIENT CODING**
For accurate reporting of ICD-9-CM diagnosis codes, the documentation should describe the patient’s condition, using terminology that includes: specific diagnoses as well as symptoms, problems, or reasons for the encounter; an authenticated physician order for services; reason the service was ordered; and test results. There are ICD-9-CM codes to describe all of these. Coders may assign diagnosis codes based on the reason for a referral. A specific diagnosis based on test results is usually not available; in fact, it may not be available until after subsequent evaluations or physician visits. Examples of the documents that you should consider including in your outpatient coding compliance policy are the following:
- **Authenticated physician order for services**
- **Clinician visit notes**
- **Diagnosis or the reason the service was ordered**
- **Test results**
- **Therapies**
- **Problem list**
- **Medication list**
Outpatient diagnostic services – For patients receiving only diagnostic services during an encounter/visit, coders must review the documentation for the diagnosis, condition, problem, or other reason for encounter/visit shown in the medical record to be chiefly responsible for the outpatient services provided. These should be found in the encounter and diagnostic documents and physician interpretation reports.

Outpatient therapeutic services – For patients receiving only therapeutic services during an encounter/visit, coders must review the medical record for the diagnosis, condition, problem, or other reason for the encounter/visit documented in the medical record to be chiefly responsible for the outpatient services provided.

Outpatient or ambulatory surgery – For ambulatory surgery, coders must review the medical record for the diagnosis for which the surgery was performed. If the postoperative diagnosis is known to be different from the preoperative diagnosis, coders must review the history and physical examination, pre-operative report, operative/procedure report, anesthesia record, progress notes, face sheet and encounter summary.

Observation record – Coders must review, but should not be limited to, the following information in the medical record:

• History and physical
• Written progress notes
• Physician orders for admission to observation and for treatment
• Clinical observations
• Final progress note or summary that includes the diagnosis and any procedures performed or treatment rendered

Emergency department coding – Coders must review:

• Emergency department report
• Initial encounter physician documentation, including incident event description, chief complaint, clinical history and physical examination
• Diagnostic interventions
• Treatment interventions
• Nursing notes
• Physician’s orders
• Progress notes with principal diagnosis

After identifying the core records required for coding, check the format in which each exists (e.g., text documents, .pdfs) and the method used for accessing them. Ideally, the time to consider CAC is when laying foundational infrastructure, which is when the opportunity exists to place core electronic systems, including encoders, compliance tools and clinical documentation improvement tools all on one platform, before adding CAC technology. A single platform approach reduces integration struggles, thus easing information access across systems.
ANALYZE VENDORS, ASSESS RESOURCES

Naturally, the transition to CAC should include a requirements definition and will require a review of all potential vendors offering this solution. These might include your EDM, EHR, abstracting and encoder vendors. Discuss how the CAC will seamlessly integrate with all of them. For example, will it be integrated or interfaced with an existing encoder?

Regardless of the method used, existing vendors should be willing to become business partners with the selected CAC vendor. In addition, all vendor contracts should clearly delineate the expectations of your organization, of the CAC vendor, and of all applicable business partners.

Likewise, CAC implementation requires scrutiny of the resources available within your organization. For example, do your in-house IT and HIM staff members have the expertise and bandwidth necessary for the endeavor? Before organizations can reap the benefits of CAC, HIM and IT staff must work together to champion its implementation.

NUANCE CLINTEGRITY 360 | COMPUTER ASSISTED CODING (CAC)

With its inherent ability to improve data capture and integrity, CAC represents an exciting future for clinical coding. The challenge now is to ensure that your organization is asking the right questions and putting the right technologies in place to support and maximize its long-term benefits.

Healthcare organizations can ensure accurate code assignment, improve productivity, maintain financial health and manage the transition to ICD-10, thanks to the Clintegrity 360 single-platform, web-enabled, CAC solution. Clintegrity 360 | CAC automates and streamlines coding processes to ensure data accuracy and increase efficiency, productivity, and compliance throughout all health information management processes. CAC is a component of the single-platform Clintegrity 360 suite, which works seamlessly with the Clintegrity 360 | Encoder; it is not a ‘bolt-on’ application. Clintegrity 360 offers ‘dual coding’, which gives coders the ability to code in ICD-9 or ICD-10 code sets with confidence. Clintegrity 360 | CAC, which also translates codes into SNOMED, is the coding solution for today and for tomorrow.
CAC GLOSSARY

• **Computer-Assisted Coding (CAC)** – The use of computer software that automatically generates a set of medical codes for review and validation by professional coders based upon clinical documentation provided by healthcare practitioners. The software uses natural language processing (NLP) to highlight key terms and phrases and automatically generate suggested codes for ICD-9 CM, CM and CPT coding.

• **Encoder** – Software that generates medical codes based on a key word that HIM coders enter from the clinical documentation. Encoders provide code options for the coder to review and decide if they apply using official guidelines. CAC systems typically work in conjunction with an encoder to read and interpret electronic clinical documentation provided by physicians. CAC automatically generates suggested codes for review and validation, which accelerates code submissions while enhancing accuracy.

• **Natural Language Processing (NLP)** – A branch of artificial intelligence that deals with analyzing, understanding and generating the languages that humans use naturally, in order to interface with computers in both written and spoken contexts, using natural human languages instead of computer languages. CAC is not possible without some form of NLP — it is the brain of the system that actually assigns the codes to be presented in the user interface. There are multiple technologies used for NLP in the CAC industry, from basic terminology to advanced artificial intelligence, and the NLP engine is a critical success factor for a CAC solution’s success or failure.

• **SNOMED CT** (Systematized Nomenclature of Medicine Clinical Terms) – A comprehensive and precise clinical reference terminology designed to make healthcare information useable and accessible. Global in scope, SNOMED CT provides a common language of great depth that enables a consistent way of capturing, sharing and aggregating health data across clinical specialties and sites of care. The 300,000+ concepts available when coding using SNOMED CT not only offer the facility to provide greater detail about a patient than was present in previous coding schemes, but also allow for additional context information to be coded and associated with the patient.
ABOUT NUANCE HEALTHCARE

Nuance Healthcare, a division of Nuance Communications, is the market leader in creating clinical understanding solutions that drive smart, efficient decisions across healthcare. As the largest clinical documentation provider in the U.S., Nuance provides solutions and services that improve the entire clinical documentation process—from capture of the complete patient record to clinical documentation improvement, coding, compliance and appropriate reimbursement. More than 450,000 physicians and 10,000 healthcare facilities worldwide leverage Nuance’s award-winning voice-enabled clinical documentation and analytics solutions to support the physician in any clinical workflow on any device.

To learn more about how Nuance Healthcare can help you improve financial performance, raise the quality of care, and increase clinician satisfaction, please contact us at 888-350-4836 or visit www.nuance.com/healthcare.