

## Automating the Coding Process

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**LESLIE:** As I talk with coders around the country and within Care Communications Inc. (CARE), I hear examples of how coding experts are making a difference when it comes to improving the quality of data within their health care organizations. Teaming up with physicians, nurses and other providers, coders are essential to the nationwide movement to improve the quality of documentation and coding processes.

**PATTY:** Coding professionals are in the limelight. Or it might feel like the spotlight! Either way, it's challenging and professionally rewarding to be in a coding role today as our country strives to transform the quality of clinical documentation and coded data. I am particularly interested in the role of computer assisted coding (CAC) in this transformation and the impact on the coding function and the coding professional.

**LESLIE:** Let's bring Kathy Johnson, RHIA, director of coding services at CARE into this discussion. Kathy, what is your take on CAC and other methods to code clinical data?

**KATHY:** CAC works very well in repetitive and very structured work environments and with data sources that are structured to capture information at a granular level for code assignment.

**PATTY:** What is an example of a repetitive, structured environment?

**KATHY:** An example is a gastrointestinal (GI) practice or GI lab where colonoscopies are performed. Procedurally driven domains such as GI are predictable-the procedure itself, the way it's performed, the findings and the structure of the exam. The documentation thus lends itself to standardized documentation. Other examples include radiology, cardiology and emergency medicine.

**LESLIE:** It seems like CAC might be difficult to implement in an inpatient setting.

**KATHY:** CAC in the inpatient setting will take some time to come to fruition. It's a complex coding environment where there are multiple interrelated conditions and a need to distinguish symptoms vs. diagnoses. And one has to appreciate the diversity of the team involved in documentation. Unlike the procedural domains like the GI example where this is generally one provider documenting, the inpatient setting may have half a dozen providers that are involved in that care-a surgeon, a consultant, primary consultant, primary physician, resident, the list goes on.

**PATTY:** What are your predictions for the inpatient setting? When will it see an automated coding process?

**KATHY:** The speed at which we automate the coding process in the inpatient setting is largely dependent on the adoption of the EHR, a standardized terminology such as SNOMED-CT, and the ICD-10-CM and ICD-10-PCS classification systems.

**LESLIE:** How do the standards play into the automation of coding?

KATHY: Before I explain that, let me take a minute to talk about the two main approaches to CAC applications: Natural language processing (NLP) and structured input.

PATTY: I have heard of NLP. It's a technology that uses artificial intelligence and computational linguistics to extrapolate terms from text documents converting them subsequently to codes.

LESLIE: In English please?

PATTY: The computer, technically the software, can be taught to understand the human language and the language of medicine. This means a physician can document using free text. They document using their preferred words and phrases and the software then translates those words and phrases into meaning. It can make suggestions on likely codes.

KATHY: That's right Patty. A coding professional will function in the role of an expert editor, reviewing and validating documentation and codes to ensure correct code assignment. There are still some technical problems to resolve due to the complexity of the English language. We use words that have dual or even multiple meanings, which makes it hard for a computer to interpret what the care provider is saying in the narrative or transcribed document. The coding editor will respond to computer generated alerts, that is he or she will look at cases that the computer assisted system is essentially saying, "I am not sure about this one, please take a look."

Moving on, there is another CAC approach and it's called structured input.

LESLIE: I've got that one. Structured input is a form of documentation using pull down menus, structured templates, and point and click fields. This is a system where predefined documentation is linked to a code(s). The coding editor, as in the NLP approach, reviews and validates the resulting code(s).

KATHY: That's right. I think in both of these examples, we can see how coding can become more automated. However we will likely not see total automation without some human intervention. We can make significant stride toward automation but the complexity of what providers do for patients does not always lend itself to defined structured terms or recognizable words and phrases.

PATTY: It seems to me that CAC has a significant impact on coding workflow. Cases are more easily routed to work queues by procedure type, suggested code groupings or the CAC confidence level in the accuracy of coding assignment. This could lead to even more specialization than we see today.

KATHY: It also means that coders fundamentally move from a production role into an editor role.

LESLIE: You mentioned the importance of terminology and classification standards earlier. Can you elaborate?

KATHY: CAC is really just a bridging technology. I think there is a more comprehensive solution in the long run.

PATTY: What would that be?

KATHY: Embedding a reference terminology standard such as SNOMED-CT in an EHR that is then linked to a classification standard such as ICD-10-CM and ICD-10-PCS.

LESLIE: Let me see if I understand this from what I know about terminology and classification systems. Care

givers would document in the EHR using a reference terminology, such as SNOMED-CT. The terminology would be mapped or linked to a classification system. The mapping would be automated and result in suggested codes, which would then need to be edited for accuracy. Is that it?

**KATHY:** Yes. Plus coding guidelines will need to be applied to the mapping process, but you've got it. This more robust solution holds much promise because it supports data collection and reporting activities using the groupings and codes derived from the terminology system and also provides classification for reimbursement purpose.

**PATTY:** Wow! This provides a lot more opportunities for coders as well doesn't it?

**KATHY:** Definitely. They become more than code editors in this environment. Coders transition from production coders to coding editors, and/or documentation or revenue cycle specialists, participating in creating, maintaining and implementing terminology and classification systems and associated mapping. I think these types of functions elevate the status of the coding professional that much more-moving away from doing very redundant repetitive coding to more complex advanced knowledge-based work.

**PATTY:** Do you think CAC or using reference terminology embedded in EHRs will reduce the number of coders?

**KATHY:** It is likely that we will see a relief from the coding shortage but I don't think it will create a reduction in the need for coding experts. I think changes like this create new roles for skilled coding professionals. New coding professionals will be learning a completely different set of competencies than today's coders. Coders will be in positions that require interacting with providers, understanding documentation and reimbursement requirements, and knowledge of quality measures and reporting. Knowledge of terminology and classification systems will be a core competency and key to understanding coded data. For some it's not so different from what they do now, but more frequently coders will be working with providers to accurately document the patient's condition and the services they are delivering.

**LESLIE:** Let's talk a little more about the coding editor role you mentioned earlier.

**KATHY:** As I read and appreciate the future of automated coding processes, I see the coding editor role as a trouble shooter for this automated process. Automated coding can only go so far, particularly with complex cases. CAC applications for example provide a report that says, these are the codes I have assigned to this account and the probability of accuracy is x percent. It provides you with an indicator of how confident the CAC is with the assignment. The coding editor takes a look at suggested codes with lesser than acceptable probability or does a random check to make sure that the logic behind the CAC is indeed reflective of the documentation.

The coding professionals will play a significant role in educating providers and working with them on the use of documentation terminologies and tools. It's critically important for coders to have a role in the EHR implementation right now. They can help providers define documentation requirements including where to record documentation in an EHR and the structure of that documentation. This involvement will make a difference in reflecting accurately the codes that translate the services and complexity of care provided. Expert coding editors will also be in positions to mine and analyze data.

**Leslie:** I am wondering if at one point you would envision the title coder changing to something else. Although throughout this discussion we have been using coding editor, I don't think the title really captures the expertise needed to assure accurately coded clinical data. Editing traditionally refers to changing or preparing text for publication. Clinical coding is so much more than that. I like data quality experts, which

denotes mastery of a body of knowledge related to clinical data input and output accuracy.

KATHY: You make a good point. Part of cementing change is the transition to new titles that match one's work. It certainly would help people see, feel and think about their work differently. Coded data is the life blood of a health care organization. In an automated coding environment, coding experts process and edit coded data; they do not actually code source data. It's appropriate that new titles emerge.

PATTY: So do you think we should have a title contest?

LESLIE: I think that is a great idea! How should we do this?

PATTY: Let's ask our readers to post their suggestions on the ADVANCE Blog. ADVANCE can then do an opinion poll on the suggested titles. The readers can then vote on which titles they believe capture the changing roles of the coding professional in an automated coding environment. It's just for fun, but it would be interesting to hear our readers' thoughts on titles.

LESLIE: Sounds like a plan. Readers, please go to the Blog titled "A New Title for Coders" at <http://community.advanceweb.com/bloggroups/4/home.aspx>. You can post your title suggestions in the comments section there during the next few weeks and watch for more information on this topic.

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