



The Promise of AI for CDI

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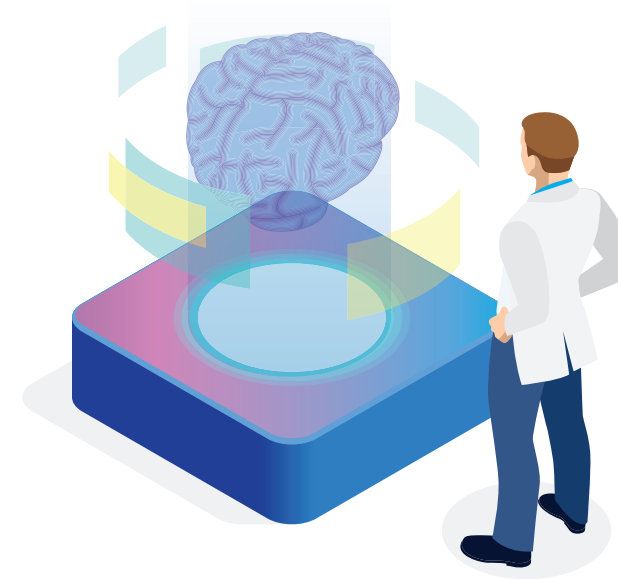
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For many years, clinical documentation integrity (CDI) was primarily a manual process, beginning with a specially trained nurse or coding professional who combed through paper medical records and retrospectively evaluated clinical evidence to identify potential gaps in the record. Later came concurrent CDI and other advancements, such as applications allowing the clinical documentation specialist (CDS) to create and send electronic queries.

In recent years, AI has transformed the world of CDI through rapidly evolving innovations that supplement CDSs in their role and enhance efficiency. For example, instead of manually sorting through information and clinical evidence within the patient record, CDSs can now leverage AI to pinpoint evidence of documentation opportunities, allowing them to review more cases and, ultimately, drive more impact. AI can also maximize the impact of CDI team members by prioritizing cases with the greatest potential for improvement, allowing CDSs to strategically focus their expertise on the cases that will have the greatest ‘return.’

“Most importantly, early solutions demonstrated that AI could accurately identify diagnoses, which led us to the more progressive, high-level interactive AI platforms we have now for both physicians and CDSs.”

—Anthony Oliva, DO, MMM, FACPE, Chief Medical Officer
at Nuance Communications



Importantly, the proliferation of AI-powered documentation integrity solutions has not been exclusive to CDI teams. Computer-Assisted Physician Documentation (CAPD) solutions infuse real-time intelligence into the clinician workflow to *proactively* identify documentation opportunities at the point of care. By combining actionable intelligence in the front-end clinician workflow and back-end CDI workflow, organizations now have the ability to create an integrated and comprehensive approach to documentation integrity.

Together, these AI-driven tools can elevate CDI programs: enabling CDSs to work smarter, expanding case coverage, and boosting physician engagement. This, in turn, can position CDI teams to meet broader organizational goals, such as improving quality outcomes, driving appropriate reimbursement, and reducing denials. Despite the many promises of AI, however, healthcare organizations must approach technology adoption strategically.

AI’s Role in Optimizing CDI & Care Team Efficiency

AI has made significant progress in the field of CDI, allowing teams to work more efficiently. “Early AI technology was rudimentary and built to support ICD-10, which was useful at the time, but became less so as the new codes were not as burdensome to physicians as was originally predicted,” says Anthony Oliva, DO, MMM, FACPE, Chief Medical Officer at Nuance Communications.



“Most importantly, early solutions demonstrated that AI could accurately identify diagnoses, which led us to the more progressive, high-level interactive AI platforms we have now for both physicians and CDSs,” says Oliva, noting that Nuance’s CDI offering uses an AI-driven CDS Assistant to streamline workflow. “Putting AI in a workflow makes that person much more efficient.” He explains that when the CDS logs in, a significant portion of the initial review process is already done. By proactively scanning the patient record, the AI tells the CDS which charts have the greatest opportunities, so they can focus their expertise on those higher-priority areas. Beyond the efficiency benefits of case prioritization, the ability to access this information in a centralized location can unlock further productivity gains. “The technology organizes information to enhance workflow, putting it in a singular place, so the CDS doesn’t have to go back and forth between their CDI solution and the EHR,” says Oliva.

Streamlining workflow with CAPD

CAPD is yet another AI-backed solution that has proven to be highly effective in enhancing documentation integrity and streamlining workflow. Rather than the CDS manually finding the diagnosis, writing a query, and sending it to the physician, CAPD technology scans the entire patient chart and identifies those potential documentation errors and omissions—while the physician is in the process of documenting. The ability to do this in real-time is a critical step in alleviating the cognitive overload that often plagues clinicians today. “Because CAPD provides

guidance to physicians on the front end, they no longer have to rework the chart after hours and try to recall the patient, which is a different perspective for them and a huge step forward in AI technology,” says Oliva.

With evidence-based guidance delivered at the point of care, physicians can quickly review AI findings, make a clinical assessment, and add it to the chart within a matter of seconds. “For example, if the physician documents the patient has CHF, the CAPD solution can immediately flag the physician to clarify the type of CHF,” says Robin Friday, RN, MHA, CCS, CCDS, CDIP, and Director of Clinical Content CoE for Nuance Communications. “Then, as the AI churns in the background, it can sort through newer issues that need to be addressed by the clinical documentation specialist to capture the patient’s full clinical story.”

Not only does CAPD help streamline the clinician workflow, but it can also free up valuable CDS time. By proactively addressing documentation gaps, CAPD technology can increase the capacity of CDI teams to focus their clinical expertise on higher-priority documentation integrity efforts, furthering their impact.

Amplifying outcomes and alleviating pressures

AI is quickly becoming a strategic priority for many healthcare organizations, who, faced with budgetary and staffing pressures, are looking for innovative ways to work smarter and more efficiently.

How AI Can Address CDI’s Top Challenges

- > Expands CDI case coverage
- > Optimizes resources by prioritizing cases with greatest impact
- > Helps teams stay on top of continuously evolving standards
- > Supports improved reimbursement, quality outcomes, and reduced denials
- > Increases physician engagement

“Coming out of the pandemic, healthcare systems are trying to figure out how to do more with less, starting with capturing reimbursement for the care they provide,” says Friday. “AI, along with the clinical expertise of CDS, coding, and HIM professionals working as a multidisciplinary team, can help identify those areas in the medical record where clinical evidence shows the facility is treating a much sicker patient than is documented. Unfortunately, that severity of illness and risk of mortality will not be captured unless it is specifically documented in the medical record.”

Beyond boosting efficiency and outcomes, AI can help lessen the burden of constantly evolving medical coding-based regulations. With AI informed by industry experts, CDI teams can quickly incorporate CMS updates to identify and code billable diagnoses based on clinical indicators, risk factors, and treatments. “Having embedded AI to assist the CDI team in making those very quick changes has been quite helpful,” says Friday. This was especially critical during the early months of the pandemic when hospitals were confronted with unprecedented operational challenges amid surging patient volumes. Patrice A. Harris, MD, MA, president of the American Medical Association (AMA), reinforced this notion in a March 2020 [press release](#) as the pandemic began to unfold. “Equipping a health care workforce to accurately code medical procedures streamlines communication across the health system, reducing administrative and rework costs at a time when resources are stretched by the COVID-19 pandemic.”

Safeguarding Success

As organizations increasingly embrace AI to help achieve strategic goals, CDI teams have turned to it as a means to drive appropriate revenue capture while improving quality outcomes and patient safety. When done right, AI acts as a valuable extension of the CDI team, augmenting

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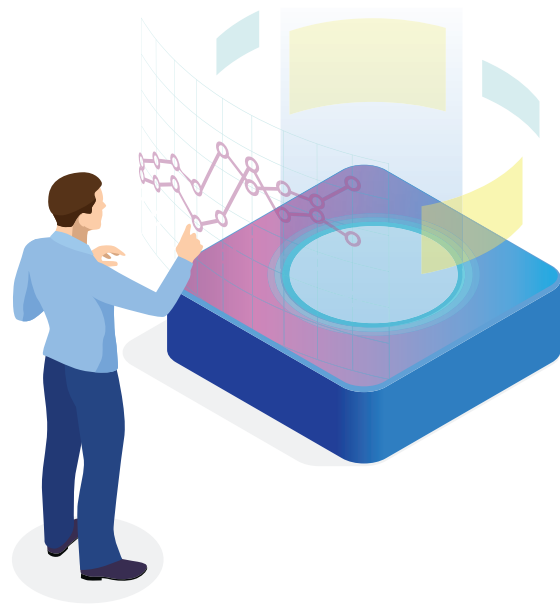


clinical expertise with helpful resources and productivity gains. “Having AI working in the background to support the CDI team allows organizations to truly optimize the impact of their program and maximize the value of their existing resources,” Friday notes.

Avoiding missteps with AI

However, healthcare organizations need to be mindful that as much as AI can help CDI departments, it can also create unwanted consequences if not vetted carefully. CDI teams should be wary of solutions that prioritize query quantity over quality, as this can lead to alert fatigue for clinicians and loss of CDS credibility. Selecting a vendor with proven AI backed by a vast repository of clinical data is essential to mitigate this risk, as AI accuracy and sophistication rely heavily on data.

Coupling the rollout of technology with immediate and ongoing education is also critical to success. As part of this education, leadership should be sure to debunk any misconceptions that AI will threaten CDI jobs. “CDI team members need to know that the technology is crucial to supplementing their ability to focus on high-priority cases,” says Friday. She notes that access to ongoing education and support for physicians and CDSs is a crucial component of Nuance’s carefully thought-out technology strategy. Even if AI appropriately identifies a documentation opportunity in the CDI workflow, CDSs can quickly lose credibility if they can’t facilitate an informed dialogue with physicians because they lack the educational resources and support.



While AI solutions should support CDI teams with centralized access to educational resources, Friday notes that ensuring you have the appropriate talent on your CDI teams is also critical. “Although you may have AI in place, it is also crucial to have the right individuals in CDI roles,” she says. “When a CDS asks a question or sends a prompt to a physician that is not credible, it can jeopardize the CDI program’s credibility. Pairing the AI with a clinical documentation specialist who has the appropriate level of expertise rounds out the picture to ensure those questions are credible.”

Technology’s Role in Provider Engagement

Even with the best talent and resources, CDI effectiveness inherently relies on provider engagement and collaboration. AI-based solutions can dramatically impact this relationship—for better or for worse. “CAPD drives physician engagement because it presents all the information and evidence generated by the AI engine into their workflow, making it easier to avoid rework,” says Oliva. “Most physicians prefer to answer queries at that time rather than the next day through a traditional retrospective query.”

However, he points out that it is vital to find the right balance of guidance delivered in-workflow and retrospectively to avoid alert fatigue and optimize outcomes. “Our vision is straightforward. If we put something in front of the physician, we want them to trust that it will produce value. There is a balancing act between what you ask the physician, how you ask the physician, and how often you ask the physician,” he says.

Helping physicians understand the “why” behind CDI

Physician engagement also requires an understanding of why the program is there in the first place. According to Oliva, healthcare organizations must help providers understand that CDI is not about clinical care decisions but about producing accurate, codable diagnoses that accurately represent the patient’s acuity. “The biggest part is education. Nuance’s program heavily focuses on helping physicians understand why they have a CDI program.” He adds that physicians thrive on data and recommends that CDI programs use analytics to provide them with regular feedback. “They need to know how they perform against their peers and how they impact quality and overall organizational performance. That is the stuff that can get organizations over the edge,” says Oliva.

Compliance Considerations for AI

Safeguarding the quality and integrity of documentation queries is critical not only for provider engagement but also for compliance. “For years, queries ranged from simple yes or no questions to a laundry list of query options for physicians,” says Friday. “Now we recognize that every query should include the clinical evidence of a specific diagnosis and not just a list of every diagnosis for a particular diagnostic category,” she adds, noting that compliant queries should include the following three pillars:

- Clinical evidence
- Risk factors
- Treatment

Medical records containing ambiguous, undocumented, or conflicting diagnoses must include *all three pillars* to issue a compliant query, says Friday. This has important implications for AI tools, as the technology must be sophisticated enough to identify all three of these categories before suggesting it as a possible documentation opportunity to CDSs. Friday notes that this is a key component of Nuance’s AI strategy, as their “AI does not present evidence to the CDI team member unless it meets those three requirements.”

The ramifications of non-compliant queries

While healthcare organizations are tasked with making sure that written diagnoses tell the whole patient story, the external auditing industry is tasked with finding ‘holes’ where written diagnoses are not clinically supported. “When a physician is

asked to document something in the medical record that isn't clinically appropriate, there are repercussions that can follow them and the healthcare system for a long time," says Friday. "They can be charged with upcoding, and any reimbursement the facility received for that condition can be denied."

To make matters worse, it may take up to three years before a claim is denied, adding administrative costs (even if the appeal is won) and bottom-line blows for reimbursement already spent. Moreover, facilities can even lose their licensure to treat Medicare and Medicaid patients. "These are critical points to consider when evaluating AI-based CDI tools. It's now about the *integrity* of the documentation more than the *improvement* of the documentation," explains Friday.

Not All AI Is Created Equal

Technology vendors often have vastly different approaches to AI solutions. Mitigating alert fatigue, safeguarding compliance, and offering access to ongoing education are all important components to consider. Friday outlines a number of vital questions to ask when evaluating AI tools and vendors, including:

- Has the AI been developed with a multidisciplinary team that includes CDI professionals and physicians?
- Are there ongoing quality assurance processes to continually refine and update the AI as information and standards change?
- Is there appropriate support for CDI team members to ensure queries are clinically credible and substantiated?

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— Joeri Van der Vloet, director of NLU engine development



- Does the AI prioritize query quality over quantity to minimize alert fatigue and ensure compliance?
- Is the AI backed by decades of clinical data?

Joeri Van der Vloet, director of NLU engine development at Nuance, shares that these factors are integral to the efficacy of AI solutions. "What sets Nuance apart is our hybrid methodology, which builds AI using both machine learning and insights from our team of clinical documentation experts. Nuance's AI engine has a robust natural language understanding (NLU) technology platform; it is highly flexible, using healthcare-specific business logic on top of innovative language understanding technology to address the constantly changing nature of healthcare."

"Our approach differs from pure text-based systems," Van der Vloet continues. "We try to create a semantic representation of what a document is saying by looking at the details, including medical history, to develop opportunities based on complex AI layers." He adds that this technique helps optimize limited CDI resources to achieve desired outcomes. Industry experts concur; according to a [Fierce Healthcare report on CDI automation](#), "The key to leveraging AI in CDI is to utilize technology that can truly emulate the way clinicians think. It must read, digest, understand and make statistical predictions on the entirety of the clinical record, similarly to how physicians look at all the evidence."



Why expert-driven AI is a game changer

While the technical underpinnings of AI models and engines are indeed critical determinants of a solution's efficacy, they are not the only factor. Oversight by an in-house team of subject matter experts is also crucial, as these experts play a vital role in informing clinical content to account for evolving standards and information. "Our internal CDI and CDS experts have taught the engine when and why to ask for certain documentation opportunities," says Van der Vloet. "We make certain that our AI standards and logic are built by a multidisciplinary team, including CDSs, coding professionals, physicians, and compliance professionals," Friday adds.

Harnessing the power of real-world data to quickly build logic into the technology rather than waiting until certain data patterns develop over time to make changes is also key. This was especially critical in providing COVID-19-specific advice at the onset of the pandemic, says Van der Vloet. "Medical insights and guidelines of when to propose certain diagnoses constantly change, which is why we need real-world data to keep our finger on the pulse of all these shifts," he adds.

"Our main goal from the start has been to tap into our internal experts to explain theoretically and in practice why we come up with certain documentation improvement opportunities in the

engine. Customers know what the system is supposed to be doing, why and when," says Van der Vloet. This transparency has important implications for physician receptivity. As Becker's notes in a recent [report](#), clinicians are much less likely to trust "black box solutions," in which they can't assess the determinants and evidence behind AI findings.

Choosing Outcomes-focused AI

CDI's role within healthcare organizations continues to evolve beyond traditional responsibilities, and luckily, the same can be said about AI innovation. With CDI prioritization tools and CAPD solutions integrated into the physician workflow, AI-powered solutions can play a pivotal role in driving efficiencies across the documentation lifecycle.

However, developing a comprehensive clinical documentation integrity strategy requires a thoughtful approach to technology. When evaluating AI solutions, healthcare organizations must carefully assess the impact it will have—not just on outcomes but on physicians and CDI team members. To effectively optimize outcomes and achieve organizational goals, it is essential to pursue an integrated approach that can meet the needs of cross-functional stakeholders, from the end users to the C-suite. ■

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