

ADVANCING CDI WITH TECHNOLOGY

Most respondents say technology has increased CDI productivity, freed up time for more complex or expanded reviews, and increased remote work capabilities



The Participants



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Clinical documentation integrity (CDI) work has evolved significantly over the industry’s history, particularly when it comes to technology and software solutions. CDI professionals have transitioned from paper charts to electronic health records (EHR), and now they’re making the leap to more advanced technology and artificial intelligence (AI) solutions such as computer-assisted physician documentation (CAPD), natural language processing (NLP), chart prioritization, and more.

While these solutions can increase productivity, free up time for education and complex reviews, and streamline workflows, CDI department leaders have the difficult task of making the case to organizational leadership for adopting new technologies. Once they’ve secured that support, they then must verify the tool meets their department’s specific needs and ensure a smooth transition for both their staff and the physicians at their organization. That said, the survey data and expert comments often signal the long-term benefits of new CDI technology are well worth the effort.

In partnership with 3M, the Association of Clinical Documentation Integrity Specialists (ACDIS) CDI Leadership Council asked several of its members to evaluate the results of a nationwide survey on advancing CDI with technology and to discuss their organizational approach to this topic. Following is a review of the survey results and a summary of that discussion.

“ [CAPD] gives [the CDI specialist] the opportunity to look at the patient as a more holistic view, look at the entire patient story, and identify opportunities for severity of illness shifts for quality-related opportunities. It frees up their time to do some more in-depth reviews.

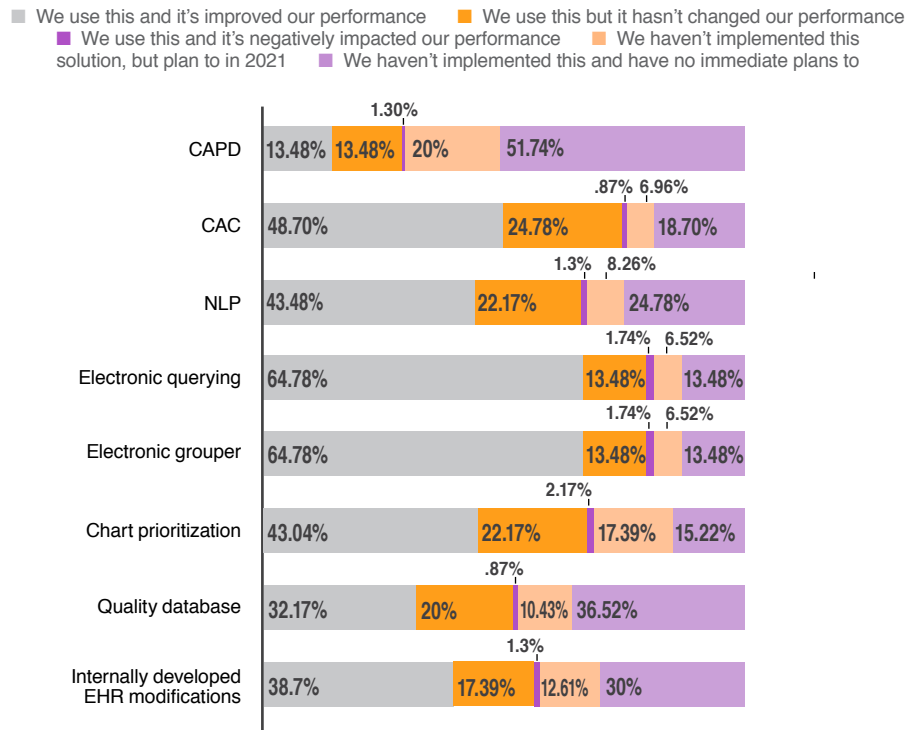
—Chana Feinberg, RHIA

Technology use, impact on performance

Roughly 80% of respondents reported using electronic querying and grouper tools, making them the most adopted tools. This widespread adoption could be because electronic querying and groupers are two of the most established technological solutions available to CDI programs. Newer technology such as CAPD is still emerging, with nearly 30% saying they have implemented the tool. (See Figure 1.)

The evolving adoption of CAPD tools may be because many CDI professionals are still learning how the tools can aid their work, according to **Chana Feinberg, RHIA**, CDI product specialist at 3M Health Information Systems in Silver Spring, Maryland. While these tools are by their nature

Figure 1. Technology use and impact



physician-facing, they can help CDI professionals automate resolution of some of the most common and persistent query opportunities, letting staff spend time on more complex issues.

“[CAPD] eliminates the need for the CDI specialist to review a lot of those repetitive kind of things that the technology can do for them. As they review the record concurrently, the documentation has already addressed some of those issues,” says Feinberg. “It gives [the CDI specialist] the opportunity to look at the patient as a more holistic view, look at the entire patient story, and identify opportunities for severity of illness shifts for quality-related opportunities. It frees up their time to do some more in-depth reviews.”

When it comes to improving performance, nearly 65% said their electronic grouper and querying tools had positive impacts, mirroring general adoption trends. A very small percentage of respondents said that a technology solution had negatively impacted their performance, though many said they hadn't seen a change.

“I think the easiest thing to see impact on are querying tools,” says **Allie McCullough, RN, CCDS, MBA, CDEO, CRCR, CRC**, supervisor, CDI and clinical denials, at Spectrum Health in Grand Rapids, Michigan. “It’s much easier for providers to answer an electronic query that comes to

their [EHR] in-basket. It's easier for us to also nudge them if it doesn't get answered because we can also respond to them in an electronic way."

While these technologies can have massive positive impacts on CDI work, CDI leaders need to spend time preparing their team and physicians to adopt the solutions in order to ensure a smooth implementation process. What's more, leaders should monitor their program metrics to ensure the new solution works well for all parties and make any necessary adjustments. This process will take time, according to **Lena Wilson, MHA, RHIA, CCDS, CCS**, CDI manager at Indiana University Health in Indianapolis.

"It is a very slow process in terms of working with the different groups, working out the kinks, and trying to get that physician buy-in," she says. "The buy-in is definitely important. They're your word-of-mouth, boots-on-the-ground promoters, but they can also deter people from being adopters of the technology, so making sure you get their feedback is extremely important."

Trust in solutions

Unsurprisingly, given the solutions' widespread adoption and overall positive performance impacts, 69.13% of respondents reported that they mostly or completely trust their electronic querying tool, and 78.26% said they mostly or completely trust their electronic grouper. (See Figure 2.)

Most respondents said they do trust all solutions at least some of the time, but with caveats. Generally, tools that were new to CDI elicited the most misgivings, according to respondents: 54.78% said they mostly or sometimes trust their chart prioritization tool with some caveats, 58.7% said the same about NLP tools, and 30% said the same about CAPD tools.

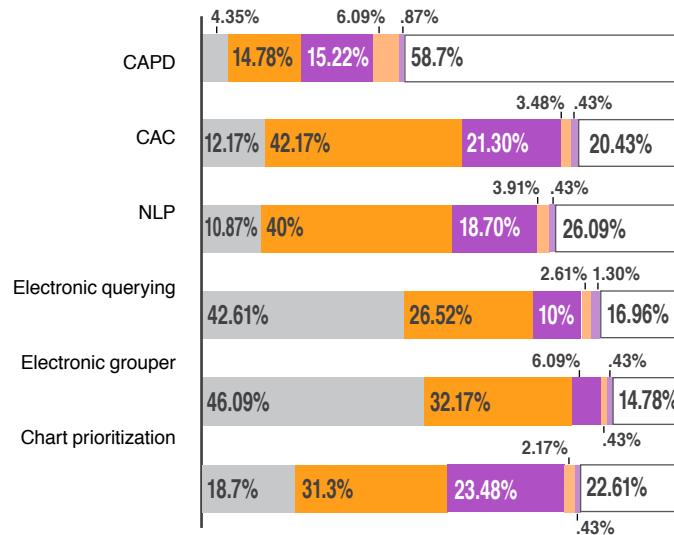
When it comes to prioritization, NLP, and CAPD tools that use AI technologies to scan documents and make suggestions (either on the CDI or physician side), understanding the why behind the auto-suggested content will make a huge difference in your level of trust, says Wilson. It will also illuminate potential areas of improvement to address with your software vendor. Organizations may need to work closely with their vendors to understand why content is suggested.

"It's a constant theme that we're meeting with our vendors to discuss and modify things," says Wilson. "Our tool doesn't have everything that our previous versions did, but we also had some additional wins that we didn't have before. We did lose some things, but we actually gained more because the team gained more efficiencies."

Computer-assisted coding (CAC) gave respondents more misgivings than some of the newer technologies; 63.47% said they mostly or sometimes

Figure 2. Level of trust in solutions currently in use

■ I trust this solution fully
 ■ I mostly trust this solution with a few exceptions
■ I sometimes trust this solution
 ■ I mostly distrust this solution with a few exceptions
■ I do not trust this solution
 □ N/A



Selected comments:

CAPD:

- Integration with existing solutions/workflow was an issue.
- The diagnoses were not always correct, particularly when it comes to recognizing PMH and problem list documentation.
- CDI needs more oversight.
- Physician buy-in has been an issue.
- In general, vendors are happy to work with the department to improve the solution.

CAC:

- CDI still has to manually review the documentation to ensure accuracy.
- The suggestions pull from past conditions.
- It misunderstands abbreviations/lab values and assigns the wrong code.
- PCS coding is often inaccurate.
- Integration with EHR templates is an issue

NLP:

- It doesn't understand "negative" language.

- It struggles with speech patterns and dialect.
- Studies to prove efficacy are warranted.
- Solutions don't work on scanned documents.
- It's too new to know for sure.

Electronic querying:

- Grouper doesn't integrate with CAPD tool.
- The edits suggested aren't always reliable.
- The EHR/grouper integration needs help.
- Regular software updates are crucial to keep the solution working well.

Chart prioritization:

- More transparency and flexibility on the prioritization filtering options is needed.
- Sometimes the system ignores/misses documentation so charts get missed.
- Some query suggestions are superfluous and lead to query fatigue.
- Prioritization doesn't account for SOI/ROM scores/trips up on APR-DRG methodology.

trust the solution, but with exceptions, and only 12.17% reported complete trust. This unease may be due to unrealistic expectations placed on the tool, according to Feinberg. While the tool is designed to improve coding accuracy and improve efficiency, it will never code *for* the coding team, nor was it designed to do so.

"It's computer-assisted coding, it's not a computer coder. I don't think its intent was ever to stand alone without human intervention," Feinberg says.

“ I think we use the word ‘change’ on a daily basis. It’s very beneficial to make sure that the front-end workers are seeing as many demos as they can possibly see. They had questions that I would have never thought of. It not only made implementation smoother, but it also made the staff feel like their voices were heard.

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“Coding’s not black and white. There is gray, and there’s room for interpretation. By design, CAC is forever evolving. The more people use it, the more it learns about your environment and the more it tunes in the background. [...] The initial system setup may take some time on the front end, but it’s very, very important, and it’s time well spent.”

The prospect of this often long and involved process may be daunting to busy department leaders, but remember that the process doesn’t—and shouldn’t—rest only on their shoulders. According to McCullough, involving your CDI staff not only eases the pressure on leaders, but also lets staff contribute their vital perspective to the process—which will additionally increase their trust in the solution.

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Clinical validation

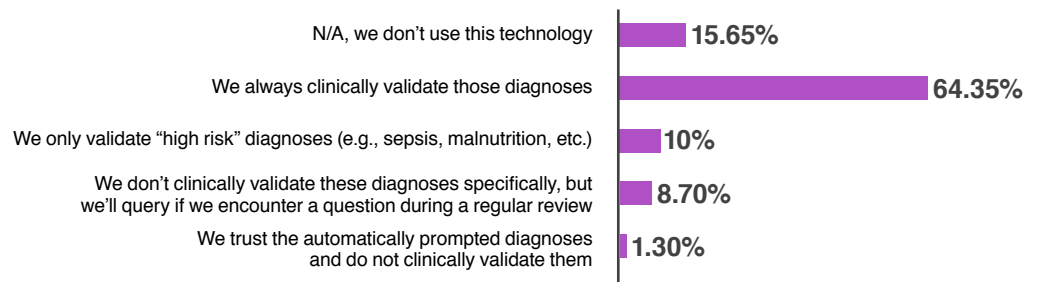
While the advent of new technologies has in some ways freed up CDI time by taking care of the easiest query opportunities, it doesn’t mean technology that auto-suggests diagnoses can be set up and forgotten. In fact, more than half of respondents (64.35%) said that they always clinically validate electronically prompted/auto-suggested diagnoses. Additionally, another 10% said they validate high-risk diagnoses, corroborating the caveats respondents reported in their trust of technological solutions. (See Figure 3.)

Though a software solution that can autonomously take care of those simple opportunities without oversight might sound attractive, having the capability to validate suggestions is essential to accurate coding, reimbursement, quality scores, and decreased denial potential, according to Wilson.

“I think the expectation would be that you would *want* to be able to clinically validate those diagnoses,” says Wilson. “Something like CAC is helping identify potential codes, for example, but you want to be able to go back in and clinically validate those and use the analysis and critical thought process that come with a human intervention.”

This also means that CDI professionals can rest easy knowing they have job security thanks to their critical thinking skills, Feinberg adds. Bringing realistic expectations for the capabilities of a tool and understanding the need for continued CDI oversight of the tool’s functionality will smooth implementation and avoid future hiccups.

Figure 3. Validating electronically prompted/auto-suggested diagnoses



“I think there is no expectation [that the tool will] reach 100% accuracy at any point in time. It's a comforting thought in some ways because you know CDI specialists are never going to be replaceable. It's the critical thinking that makes the human brain irreplaceable by a machine,” says Feinberg. “It's very important that when doing that initial setup of the tools, that the CDI leaders are brought to the table and they're part of those discussions.”

Even if your CDI team doesn't have a set policy for validating all or certain high-risk diagnoses that were auto-suggested, implementing a robust educational plan so that the CDI team members understand the functionality of the solutions is vital. Part of this plan should address *when* the CDI specialist will be introduced to the tool and allowed to rely on it, according to McCullough. Other departments can also help triage any suggestions that may need a clinical validation review.

“When people start out in the department, they aren't taught to use the auto-suggested queries at all. They don't use it for the entirety of their orientation—the first six months or so,” she says. “The greatest benefit to our denials and CDI departments being so integrated is that if we see clinical

validation denials, those are the diagnoses we can bring back to the front-end CDI staff to say these really need to be clinically validated.”

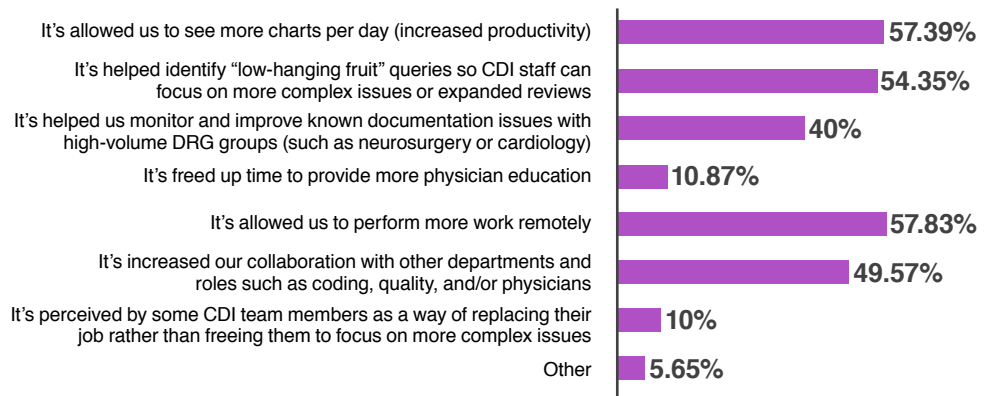
Technology’s impact on daily CDI work

Regardless of CDI professionals’ *trust* in technological solutions, the impact of those solutions on CDI work is undeniable. According to respondents, the most notable impacts have been:

- Increased remote work capabilities (57.83%)
- Increased productivity (57.39%)
- Freed-up CDI time for more complex issues by identifying “low-hanging fruit” queries (54.35%)
- Increased collaboration with other departments (49.57%)
(See Figure 4.)

Given that the pandemic sent most CDI specialists home to work remotely last year, it’s not surprising that recent times have made technology’s impact keener than ever. According to Wilson, her organization’s existing technology allowed them to transition to remote work seamlessly when the time came. With the addition of non-CDI-specific technology such as video conferencing and instant messaging, they’ve seen increases in staff engagement over the course of the last year.

Figure 4. Technology’s impact on CDI work



Selected other responses:

- The workflow for our previous process did not allow the CDI specialists to save their codes. This is a huge satisfier for the staff that their codes are saved now. We also require the staff to reconcile their "final" DRG against the coder's final DRG. By doing this, the team has been able to identify errors in coding.
- CAC can help with coding diagnoses. Auto-suggested queries can be useful for those diagnoses that are not often queried because they are not impactful but greater specificity is needed.
- In some instances, it's added additional steps to our workflow
- It's helped us triage to find the charts where we can make the most impact
- The language is often cited in denials as vague or not clinically valid when we rely on software.
- It helps us gather data more easily

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As terrible as the pandemic's been, it has forced our leadership to change the way we do business as a whole. I know that our staff are more engaged being remote. We meet with them more frequently. We interact with them quite a bit. We were able to actually increase our employee engagement score over the last year, even with all of us 100% remote. We're never going to get to that normal that we had before all of this, so we're going to have to learn how to adapt to the new normal.

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In addition to increased remote work capabilities, technology in many cases has expanded the possibilities for a CDI department and may lead to CDI becoming even more valuable to the overall organization. Thanks to freed-up time and improved efficiency, CDI teams have been able to expand to new review areas, work in different settings, and increase collaboration, according to Feinberg.

“It's inarguable that the CDI role is going to change,” Feinberg says. “There are so many areas that over time the CDI role has expanded out to be because of the technology and tools that have been implemented. The tools that provide those integrated solutions really allow departments to work together. The CDI and coding departments can work together. The CDI and quality departments can work together. They can collaborate on these multiple initiatives, which really expands the value that CDI specialists can bring to organizations overall.”

Survey respondents largely reported positive impacts from their technology solutions, but still 10% said that their staff members perceive technology as replacing their jobs rather than freeing up time to focus on more complex issues. Perhaps some of the other impacts (increased productivity, more time for education, collaboration, etc.) could assuage the concern that technology will eliminate CDI roles.

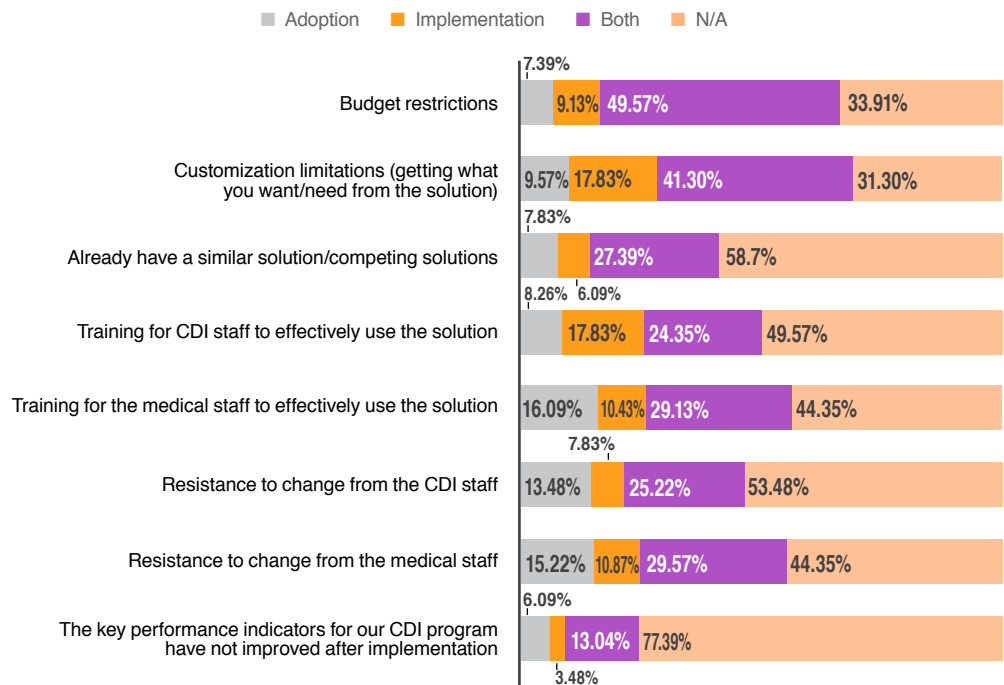
Adoption and implementation challenges

When considering challenges to adoption, the biggest hurdle for survey respondents was training for the medical staff to effectively use the solution

(16.09%). The largest implementation challenge, meanwhile, was tied between customization limitations and training for CDI staff to effectively use the solution (17.83% each). (See Figure 5.)

Looking at both implementation and adoption, the biggest challenges named by respondents were budget restrictions (49.57%) and customization limitations (41.3%). Fortunately, key performance indicator impacts

Figure 5. Adoption and implementation challenges



Selected comments:

- We are currently rebuilding our CDI team, so the challenges are mostly growing & getting acclimated. Providers seem to resist adopting/implementing workflows they deem outside of their core scope.
- Budget during pandemic has cut into any purchases and the impact on IT support time is considered.
- Our senior administration is on board now with the importance of CDI. Our CDI software vendor is great at listening to our feedback & developing solutions for our issues.
- There were several "wins" in terms of functionality so that did help in moving to a new application. There's still room for growth, but it's internal retraining on the tool itself & not something that is done by the vendor or a lack of complete training on their part.
- We are currently switching to a new EHR. We are inheriting a process & still need to understand all the nuances behind it. The customization has been built in-house and little room for input.
- Now that the program has been in use, the CDI rely too heavily on the program.
- Need better data reporting.
- Electronic query process has improved the response time. Providers find the process easier than the prior process. Auto-suggested queries have been problematic are often withdrawn so clinical indicators can be added in a manual query.
- We moved to new software a couple of years ago, we were disappointed with the training. The CDI team was open to the change, just less than an ideal response from the vendor.
- We are on the same platform that our program started on 12 years ago with no upgrades.
- Inpatient solutions have not impacted our physicians, but outpatient solutions have been met with resistance.
- Biggest challenge is having the hospital system understand the value of new technology. Everyone is resistant at first including providers, until the system is in place and running. Then the return on investment is quickly noticeable.
- Size of organization and differing needs for each site proves challenging to implementation for systemwide changes.

related to implementation/adoption did not seem to be an issue for respondents, with only 22.61% reporting any concern on this front.

It's not surprising, according to Feinberg, that customization limitations rank so highly on respondents' lists of challenges. Both customizable and out-of-the-box solutions exist on the market. Since tool customization takes time and collaboration with your vendor partner to succeed, a ready-made tool can be very attractive, though that may lead to issues down the line.

"A one-size-fits-all, out-of-the-box solution is definitely very enticing for leaders because any implementation that's not out-of-the-box requires time. However, as we all know, there are no two facilities that are exactly the same. In order to really, truly maximize the potential, optimize the value of any tool, you want to be able to have those customization abilities built-in within the tool," says Feinberg. "Really, the effort that you put in on that front end is invaluable."

Regardless of whether you ultimately land on an out-of-the-box solution or work to customize a solution to your needs, you'll need physician buy-in for the tool to be effective. This becomes even more important if the tool is physician-facing (e.g., CAPD) or impacts their workflow. Unsurprisingly, several respondents used their write-in comments to mention challenges with physician engagement and buy-in related to new technology implementation/adoption.

As with most physician engagement concerns, communication and relationship are the building blocks of success, according to McCullough. Showing the physicians that you understand their struggles, meeting them where they are, and addressing their unique concerns will go a long way in ensuring their long-term buy-in to any new CDI software or process.

"Getting physicians on board is dependent on who's talking to the providers," McCullough says. "Don't have just an IT person be the first person to approach your providers; they need someone who speaks their language. I happened to be a PICU nurse before I came to CDI, so when I approached our providers about our new CAPD technology, they knew that I knew what I was talking about. You need to understand how it's going to affect them."