How to Use AI and Automation to Eliminate Coding Errors

On an annual basis, medical coding and billing errors cost hospitals and health systems upwards of $20B.

Considering this, ensuring the accuracy and quality of medical coding and billing is essential for robust revenue cycle management and positive cash flow.

However, the current state of the healthcare industry and its effects on medical coding and billing make it challenging to maintain high levels of accuracy and quality. Amid staffing shortages, employee burnout, constantly changing payer and CMS guidelines, and the massive amounts of coding updates stemming from the COVID-19 pandemic, coding and billing departments are struggling to keep up, let alone thrive.

Lack of time, transparency, and employees leads to large backlogs of work and burned-out staff members, leading to more errors and, ultimately, denied claims. As any coder or biller knows, denied claims are a detriment to a healthy revenue cycle, not to mention that they are highly complex and time-consuming to resolve.

So, what is a coding and billing department to do? The outlook can seem dull with less staffing prospects, higher costs due to inflation, and little time to train and educate team members. That is why more health systems and practices are embracing artificial intelligence (AI) to automate significant portions of their coding operations.

Implementing an AI solution creates a domino effect that spans the entire revenue cycle, helping medical coding and billing teams eliminate errors and combat the current challenges.

In fact, some AI medical coding companies can guarantee organizations a minimum of 96% accuracy while simultaneously finding long-tail procedure or diagnosis codes that humans often miss, virtually eliminating losses caused by coding and billing errors.

AI vs. RPA: What Is the Difference?

Before understanding what AI with deep learning is and

how medical coding and billing teams can use it to their advantage, it's vital to differentiate it from its less dynamic predecessors like robotic process automation (RPA).

Those in the medical coding and billing world may already be familiar with RPA and mistakenly believe AI with deep learning is the same. Traditionally, teams use RPA to automate exceedingly straightforward tasks like payment posting, insurance verification, and data entry because there is only a slight variance in formatting of what comes through.

So, what is the difference between the two? At the most basic level, the difference is that RPA is a static solution, and AI with deep learning is a dynamic solution capable of emulating humans while improving over time.

The word "robot" originates from the Czech word for "forced labor." It reflects that as it relates to medical coding and billing. Despite technological advances, most things described as "robotic" do not have much or any independent thinking involved. For this reason, RPA is an excellent solution for strictly-defined workflows and repetitive operations where a finite number of specific rules can be written. However, it cannot adapt at a moment's notice to meet new circumstances like AI with deep learning can.

RPA will perform tasks exactly as instructed and nothing more than that; it cannot read between the lines. If you would like to automate a process that requires a more profound thought process or judgment to complete, RPA will not work. These types of tasks benefit from using AI technology. That is why it has the potential to make a huge difference and truly transform coding and billing operations.

What Is AI with Deep Learning, And How Is It Used for Medical Coding?

In its most basic form, AI utilizes computers to simulate human intelligence. It can learn and adapt to situations based on the information and feedback it receives over time. The process of acquiring this information and feedback is called machine learning (ML). Taking it a step further, deep learning is the combination of ML and AI working together to imitate how humans act and gain knowledge about a specific subject.

When applied to medical coding and billing, AI with deep learning aims to solve more complex problems quickly and at scale, something RPA cannot accomplish. It works to combine data and make decisions based on computer-generated algorithms that learn and adapt based on input and output. Because it learns, it does not need programming to tell it what to do for every eventuality; it can simply adapt on its own.

As it relates to medical coding, AI with deep learning enables health systems to integrate data from any existing billing system and improve accuracy and efficiency while also saving costs. Deep learning eliminates most manual interventions required to integrate sizable unstructured data sets.

Once implemented, AI technology solutions can learn from an organization's past coding charts and information pulled in from new charts. Then, it combines coding best practices and existing data with further information from clinical notes and codes according to the latest payer and coding guidelines and regulations. This technology even can distinguish differences among a team of clinicians and learn physician-specific patterns.

Understanding the differences between various physicians is extremely valuable as it is a common source of human error and coding inaccuracies. Leveraging a technology solution that picks up on patterns more effectively than a human can help boost coding accuracy. It also illuminates any repetitive mistakes clinicians may make while charting their encounters with patients. Once identified, the coding and billing division can bring these mistakes to the clinician's attention and guide them toward more accurate and effective charting practices.

However, like any technology, AI and deep learning has limits. While they are advanced enough to deal with the vast majority of coding situations, they also can identify when a chart is too complex to handle. Once the AI system deems a chart is too intricate, it passes the chart to a coding team member for further action. Essentially, it classifies entire charts that it can do independently and what should be looked over by expert human eyes.

This process lifts a massive burden off existing staff members' shoulders as the technology accomplishes routine tasks with zero oversight and only alerts them when a

more difficult chart needs their expertise.

When using this technology, the coding staff is not responsible for sorting through dozens or even hundreds of encounters throughout their day, meaning they can devote more time and energy to more complex tasks and complete them faster and more accurately.

Use AI and Automation to Free Up Time

Time and resources are necessary to keep operations efficient and to ensure accurate coding and billing. If employees simply lack the time to devote themselves to tasks fully, quality and accuracy will suffer.

A department that is understaffed or regularly churning through new employees is likely overwhelmed. It takes a lot of time to continually retrain new and existing employees on coding updates and payer guidelines that are constantly changing.

When there's no time to spare because overworked employees are too busy completing tasks, their knowledge of industry updates can fall to the wayside. If even one employee is unaware of a coding, payer, or CMS update, they could make the same coding mistake repeatedly without even knowing it. Now, imagine if that was the entire staff; quality and accuracy would decrease drastically. Once more inaccuracies occur, the chances of denied claims increase. If there are more denied claims, staff have even less time to spend on education as they're now dealing with routine tasks and complex denials management. It becomes a never-ending cycle.

Organizations that utilize AI to automate portions of their coding benefit from large amounts of freed-up time. They can leverage AI to automate routine tasks like payment posting, insurance verification, and coding. Taking those tasks off coding professionals' plates frees their time for regular education and retraining on the latest updates and helps eliminate any instances of inaccuracies.

More free time also means coding and billing teams can focus on more in-depth tasks like denials management. As previously mentioned, while AI can easily automate routine tasks, due to the complex nature of denied claims, managing and resolving them is best handled by experienced team members.

Ultimately, implementing an automation solution results in a more focused and educated team, which helps eliminate inaccuracies and decreases denied claims.

Combat Inaccuracies with Auditing

Performing regular coding audits is a best practice that often gets neglected due to simply not having enough time or resources. The longer audits get pushed off, the more errors can go unnoticed. Instances such as unnecessary downcoding, potential denials, and, even more concerning, fraud can go undetected.

AI and automation can help with audits in two ways. First, you can use the freed-up time we previously discussed to complete manual audits. Second, AI can check your coding team or coding vendor's work to ensure it meets your preferred accuracy and quality levels. Either way, teams should closely examine every coding chart and flag potential problem areas.

While many coding and billing teams may see an audit as a negative experience that is used to bring their mistakes to light, it's not. Auditing is a necessary tool that healthcare organizations should use to boost their accuracy and quality levels. Audits bring errors to the forefront, create staff awareness, and foster a culture of continuous improvement. As a result, organizations benefit from a more educated, well-versed team. For directors and department heads, auditing is the management pulse needed to identify recurring issues, recommend clinical documentation improvements, and make better informed decisions.

Audits are also a useful tool to identify physician-specific patterns. For example, you can discover if one physician is applying modifier 25 consistently or if they always have high-level E/M visits.

If you're using AI for coding, you should not find a high level of coding discrepancies. Still, you can use audits to see if there are any gaps or areas where physicians can improve their documentation to better represent visits. Audits also help you see if there are any changes in the types of codes that physicians are billing or if there are patterns in code levels to ensure nothing is missed. This information can provide physicians with better, more accurate, and personalized training.

However, if you choose to utilize AI and automation to complete regular audits, it is to your benefit. Taking a deeper dive into the details of your coding and billing department will reveal areas for improvement and help eliminate future errors.

Adjust for Downcoding

As previously noted, one critical item that audits can uncover is a high incidence of downcoding. Downcoding, also known as undercoding, is the gap between the services performed versus

charged for— it can result in a significant hit to your organization's bottom line. With healthcare revenue margins tight, identifying and correcting downcoding is a must.

In one American Academy of Professional Coders (AAPC) analysis, 37% of records were undercoded or under documented, resulting in $64,000 of foregone or at-risk revenue per physician.2

Undercoding in emergency department (ED) billing is one area that organizations should look at more closely. With lives on the line, physicians are strapped for time, so it can be easier to code for the outcome rather than the complex services and resources that went into the diagnosis. For example, if a patient presents with chest pains and the diagnosis is heartburn, documenting the work to rule out a heart attack or stroke can easily be overlooked.

While undercoding can be a defensive strategy that organizations use to reduce potential denied claims, the loss to your revenue cycle is not worth it. Enter the power of AI. This technology can uncover repetitive downcoding and, with deep learning, adjust the algorithm to correct for it in the future. Thus, organizations can see a boost in their revenue. Some providers leveraging a proper deep learning AI solution have seen a 10% increase in RVU capture.

Further, with more time to spend on complex tasks, coding teams can implement more robust clinical documentation programs to help physicians and other clinicians more accurately capture charges for services at the point of care—creating a healthier revenue cycle all around.

Keep Up with Constantly Changing Guidelines and Regulations

It's no secret to coding and billing professionals that coding guidelines, payer policies, and regulations are constantly changing, especially within the past few years.

Essentially every new update requires training or education sessions to ensure all staff members know how this affects their day-to-day responsibilities. As mentioned previously, this is not always realistic, especially when dealing with massive staffing

shortages. Team members unaware of changes or not educated thoroughly on new or altered codes may make the same coding error repeatedly without even realizing it.

The beauty of using AI for automation is that once an update occurs, it rolls out across the entire system. The technology handles it all for you, and teams can rest assured that the portion of work automated through this system is always accurate and reflects the latest updates.

AI Will Supplement, Not Replace Coding Professionals
Coding professionals may be wary of AI and automation out of a misplaced fear that technology has the potential to replace them. The evidence points to the opposite effect.

The Bureau of Labor Statistics places medical coding on its list of the 20 fastest-growing occupations. The Department of Labor's Occupational Outlook Handbook projects that employment in the field will grow 18.2% by 2028, well above average for all professions.

Further, according to the 3rd annual Optum survey on AI in healthcare, 56% of executives believe AI will create more jobs than it replaces.

Add in an aging baby boomer population that will require more complex healthcare services, all of which must be captured and billed accurately, and there will be even greater demand for skilled billing and coding professionals to maximize reimbursement and revenue potential.

While the adoption of technology and the explosion of big data in the field will drastically change the day-to-day responsibilities of medical coding and billing jobs, it will not replace them. Instead, it will spur the need for new skills and training to review more complicated cases as easier and routine tasks are automated.

Like any technology, implementation and adoption fall flat without the people and process to support it; AI will be no different.

The Future of Medical Coding and Billing with AI and Automation

AI technology for the medical coding and billing industry is an exciting development that can reinvigorate the profession—and it could not come at a better time.

Essential functions, such as audits, are taking a backseat as qualified staff is increasingly hard to find. With the emergence of lengthy documentation requirements for quality measures, new codes for telehealth, and a rapidly changing healthcare ecosystem spurred by the COVID-19 pandemic, the field is ripe for disruption.

As the adoption of AI and automation increases across the industry, coding and billing job functions will shift to more of an oversight or supervisory role. Coding professionals will no longer need to spend their time in the weeds looking at individual claims. Rather, they will have more time to review higher complexity cases and any coding patterns that require the knowledge and expertise of trained professionals.

While many see AI and automation as part of the future of medical coding, there's no need to wait. At present, medical organizations of all shapes and sizes have the opportunity to dramatically increase coding accuracy and quality levels, and work to eliminate coding errors with AI and automation. The future is here and AI with deep learning is ready to help your organization overcome many of its most pressing medical coding challenges.

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