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Excellence in Healthcare Revenue Cycle Management

AI in Revenue Cycle Management: How It Improves RCM, Efficiency and Revenue

Artificial Intelligence has the potential to significantly impact the field of Revenue Cycle Management in the US healthcare industry. This article explores how to implement AI in RCM, overcome obstacles, and build a business case for it

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How Artificial Intelligence is Optimizing Healthcare Revenue Cycle Management

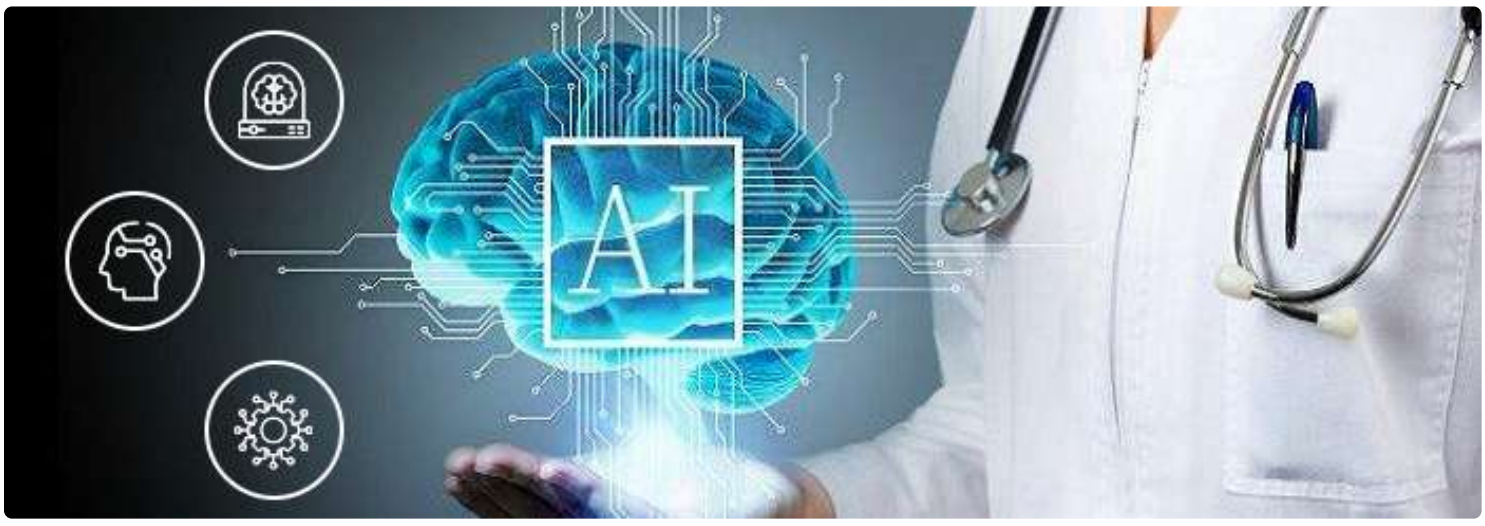
AI optimizes healthcare RCM in many ways: accuracy and efficiency. Artificial intelligence can perform tasks at lightning speed and with minimal or no errors. This leaves the staff more time for tasks requiring critical thinking and personal attention.

Why is AI Important in Healthcare Revenue Cycle Management?

AI has the potential to revolutionize RCM in the U.S. healthcare industry by streamlining processes, reducing costs, increasing accuracy, and improving both profitability and patient satisfaction. Overall, healthcare companies can compete better in the market.

Benefits of AI in Revenue Cycle Management

The benefits of AI in RCM include improved efficiency, accuracy, patient experience and team satisfaction. In addition, employees can rely on artificial intelligence to simplify time-consuming tasks and focus more on critical thinking and troubleshooting.



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Here's a detailed list of the benefits of RCM AI:

Improved accuracy: AI software can improve accuracy throughout the revenue cycle management process. AI greatly increases the accuracy of all patient and claims information. It also increases the accuracy of bills. This decreases the need for staff time to deal with follow-up questions and delays from the payer.

Increased efficiency: The implementation of AI improves the efficiency of the RCM workflow process. Its increased accuracy allows for less follow-up work to fix errors. And it helps streamline many RCM operations.

One good example comes from **Celeste Daye**, **Vice Presiden**t of revenue management for New York-based Concerto Care, which offers in-home care programs for seniors. She points out how simple AI processes helped medical organizations during COVID-19 when the federal government required them to input information to allow federal reimbursement for COVID testing.

> **"There was a pretty arduous process of registering patients into that system. And it was just entering their demographic information," Daye says. "Most hospitals wanted to get that information in as quickly as possible – to get the revenue."**

So, Daye says, some medical organizations built a simple AI robotic process automation bot, or RPA bot, "that could repeatedly just copy and paste this information" from the organizations' electronic medical records system to the government's website. (Learn more about RPA in RCM.

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Increased staff productivity

AI-powered chatbots and virtual assistants can help patients with their billing inquiries, payment plans, and insurance coverage questions. These AI systems can provide personalized and real-time assistance, improving patient satisfaction and reducing the administrative burden on staff. AI allows RCM staff to be more productive with other tasks. It also enables the team to access accounts and cases they might not have had time to access without that AI help.

> *"You can deploy those (staff) resources to touching more of the accounts that require critical thinking – that require a conversation with a payer or a formal appeal that would yield the organization money," says Daye. "Otherwise, (that account) may not be touched, or you may be paying a higher dollar amount on that same payment. Because you've had to use someone else because you just don't have the internal resources to touch everything."*

Better claims management

AI improves and streamlines all aspects of claim management and submission. It helps an organization review many more upcoming claims to check for accuracy and significantly improves how it reviews them. That means organizations can submit accurate claims more quickly.

Fewer denied claims

AI allows organizations to assess and identify possible problem claims before they happen. Becker's Hospital CFO Report estimated in 2019 that hospitals lose more than $260 billion each year in insurance denials. AI "machine learning" a type of AI can significantly decrease the number of denials by analyzing data from past rejected claims. In addition, it can help organizations fix issues with certain claim types to ensure approval.

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Increased revenue:

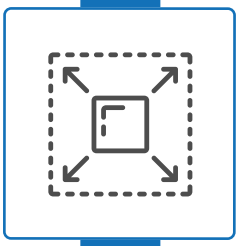
The efficiencies and improved accuracy that AI allows ultimately mean increased revenue.

> *Jereen Mathew, an RCM consultant with years of experience in the industry, says the increased revenue can be put into two categories: "faster revenue" and "better revenue."*

By implementing various forms of automation and AI, "you can get paid in 40 days, rather than 90," he says – which is the faster revenue."Better revenue" happens as AI helps your organization understand past denials and better follow a payer's rules and regulations. Mathew says that means a higher percentage of revenue from a large group of claims.

Improved patient experience and satisfaction

As AI improves many RCM processes, it can also improve the patient experience. It can automatically and immediately identify patients eligible for financial assistance. In addition, it can help the organization more easily provide price transparency for services.



Improved scalability

AI allows medical organizations to expand the number of accounts their RCM workflow processes can manage. Organizations wanting to increase the accounts they manage by tens of thousands or hundreds of thousands would otherwise need to hire significant staff. With AI assistance, it can require only more computer processing power.

Improved predictive analytics

AI algorithms can analyze large volumes of historical claims data and identify patterns that lead to claim denials. By using predictive analytics, AI can help healthcare organizations proactively address potential issues, optimize claim submissions, and improve reimbursement rates.

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Revenue forecasting and financial analytics

AI systems can analyze historical revenue data and other relevant factors to forecast future revenue trends accurately. This can help healthcare organizations make informed financial decisions and optimize their revenue streams.

Better assessment of RCM performance

AI can analyze huge amounts of data including on claims, payments and denials to give organizations insights into their RCM process. Those insights can help organizational staff and revenue cycle analysts improve their processes and RCM strategies to increase revenue.

Increased employee satisfaction

AI can improve employee satisfaction with their jobs and organization. It can allow employees to focus on more interesting and strategic work.

> *"There are many people that would prefer to do work that they feel is more thought-provoking," Daye says. "And being able to ask your teams to help identify places where we can automate … and then we use that information, it's a success that you can share with them."*

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Applications of AI in Revenue Cycle Management

Healthcare organizations can use artificial intelligence in many RCM activities. For example, it can help verify a patient's insurance coverage. It can ensure proper medical coding for a bill. And it can perform a range of other tasks.

Here are details of how AI can help in a range of revenue cycle steps:

Eligibility and benefits verification

The most common use of AI in healthcare RCM is in eligibility and benefits verification. It can help organizations automatically verify a patient's eligibility long before any claims are submitted.

Companies working with the most advanced AI are exploring whether they can use chatbots and similar technologies to communicate with insurance companies directly. For example, chatbots might provide updated patient information that insurance companies may need to determine eligibility. By utilizing machine learning algorithms, AI systems can learn from historical datato improve accuracy and efficiency, reducing the need for manual intervention.

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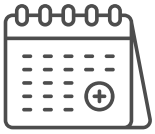

Patient scheduling

AI allows an organization to schedule patients optimally - using the right providers credentialed for the appropriate insurance companies. It helps organizations ensure their providers are serving the most allowable patients per day.

Pre-billing audits:

Healthcare organizations use pre-billing audits to sample claims and determine whether the RCM process is producing fully accurate claims that payers can immediately approve. AI can replace humans doing these audits. It can automatically check the accuracy of all needed information. Those audits help organizations improve any RCM processes to increase the percentage of approved claims.

Prior authorization

The most advanced AI and machine learning are helping healthcare organizations get required prior authorization from insurance companies to approve a needed healthcare service for a patient. The AI is aiding the RCM process in determining what added information insurance companies need, and then transferring that information to them.

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Patient payment/timing estimation

AI helps healthcare organizations estimate service costs and due dates for patients. That process requires, among other things, getting information from insurance companies. AI enables that process to be automatic and quick.

Denials management

AI can help organizations decrease payer denials through more accurate claims. It can also help organizations respond more quickly with information to appeal the denials. And it can help organizations look at historical data on denied claims to determine common reasons and make appropriate fixes before filing the claim.

Compliance monitoring

AI can ensure that all claims comply with Medicare, Medicaid, and other governmental rules and regulations.

Charge capture

AI can help medical organizations ensure that all appropriate charges are reflected in a patient's bill for services. AI can "learn" the common charges for a specific type of service, and ensure those charges are included before the organization submits the claim to the payer.

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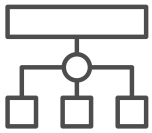
Medical coding

AI-powered coding systems can analyze clinical documentation and suggest appropriate codes based on the patient's diagnosis and treatment. This can help reduce coding errors and ensure accurate claims submission.

Payment posting

Organizations can use AI and RPA to record payments on an account as soon as they happen.



Claims life-cycle and analytics-driven workflows

AI can assess RCM data and help organizations understand where their RCM processes are inefficient or ineffective. That can pinpoint ways for organizations to improve their entire RCM system and process. “No human can go through millions of records and figure out a pattern,” Mathew says. But AI can analyze that data and related RCM metrics to determine patterns that can improve RCM process, decrease costs, and increase revenue, he says.

Accounts receivable analysis

AI can help organizations analyze their accounts receivable data to figure out ways to get more bills paid more quickly. It can help identify data patterns and filter by clinic location, provider and other variables.

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Patient access

Many people in the U.S. and throughout the world have limited access to physicians, other medical experts and specialized tests. AI can improve people's access to needed healthcare in many ways. For example, it can analyze X-rays and other imaging tests to screen for cancer and other diseases. That means people who live in rural areas without access to radiologists can still immediately get their X-rays reviewed.

Fraud detection

AI can help organizations assess data to look for patterns that mean fraud, leading to further investigation.

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Barriers to Adopting AI in Revenue Cycle Management

You may face a few obstacles to implementing RCM AI. Typical ones include data integration, security, expertise and cost. However, you can overcome these obstacles with the right software, training and setup.

Here's a detailed look at the possible obstacles to RCM AI and expert tips to overcome them:

Integrating AI with existing data systems

AI works best when it has access to large amounts of data. Healthcare organizations often use separate and non-integrated systems with different types of data. That can cause problems.

Overcoming the barrier: Experts suggest organizations can still roll out AI integration piece by piece. Organizations can integrate it with parts of their data systems that make the most sense at first. The organization can then build on those early successes.

Data privacy and security concerns

Healthcare organizations work with sensitive patient information, and a range of other important and sensitive data. They of course need to ensure that data stays private and safe. Data privacy and security is the most common concern of healthcare leaders about using AI with their systems. The survey of 200 healthcare executives found that 61 percent cited concern about data security risks and liability.

Overcoming the barrier: Organizations should keep a formal inventory of all AI models they use. Experts also suggest writing a formal AI ethics policy.

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Costs

AI can be costly to implement. And organizational leaders can be skeptical that the costs will bring sufficient returns. They might resist making the investment. The survey of healthcare executives found that 76% of non-technical organizational leaders said a primary reason they didn't fully integrate AI was the cost.

Overcoming the barrier: Experts say AI advocates must show how much the organization can benefit financially by good AI assistance in RCM – both in lowered costs and increased revenue. "It's just a matter of demonstrating the ROI," says Daye. "So, you must have a real commitment to knowing what the work will cost and knowing what you'll yield in terms of the revenue."

Staffing concerns

Using AI and integrating it with other data systems takes experts with significant expertise. Many organizations fear they don't have those people, or enough of those people on staff. And they fear the challenges and costs of finding and hiring those people.

Overcoming the barrier: As with cost concerns, experts recommend underlining the financial benefits that good AI work can bring the organization. The costs and challenges of finding the right people may be considered worthwhile, compared to the benefits.

Inability to trust the information provided

AI analyzes huge amounts of data and sometimes offers recommendations and analysis. But humans working with it can be uncertain of those recommendations, because they are uncertain about how it analyzed the data, or which data it analyzed. That can lead to some distrust of info AI provides.

Overcoming the barrier: Experts recommend that AI data scientists and developers work more closely with others within the healthcare organization and increase transparency as much as possible about how AI is working

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The developers also need to work with RCM leaders within the organization to ensure the organization uses AI on the most important problems that RCM leaders identify.

Resistance to change

Healthcare organizations have performed revenue cycle management in the same way for years. Healthcare organizations also tend to be careful with new and unproven processes. All of that makes people within the organization resistant to significant changes in RCM processes.

Overcoming the barrier: Experts recommend that organizations start implementing AI in small ways. For example, find a part of an RCM process that might serve as a case study in how AI can improve the system. When employees acknowledge that use is successful, the organization can expand AI to other uses.

How to Build the Business Case for AI in RCM

Your team can build a business case for AI in RCM by demonstrating to organizational leaders how it can improve RCM, decrease costs and increase revenue. Your team can also show the likely return on investment of AI in RCM.

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Here are important steps to build the business case:

Show the problems it can solve: Define specific problems that AI can address in your organization's RCM processes. Then show likely results and how your team can measure those results. Your team can use this AI Strategy Template to help outline problems AI can solve.

RCM AI Strategy: Specific Areas Where Artificial Intelligence Can Improve RCM

Area of RCM	What AI Can Do	Measurable Results	Strategy Implementation
Automating administrative tasks			
AI can automate repetitive administrative tasks, such as data entry, claims scrubbing, and eligibility verification. By utilizing machine learning algorithms, AI systems can learn from historical data to improve accuracy and efficiency, reducing the need for manual intervention			
Eligibility and Benefits verification	Has the capability to review and verify all patient information, including insurance benefits, and establish automatic connections with payer systems to confirm eligibility.	Eligibility verification for numerous patients can be accomplished with minimal or no human intervention	
Claim submission	AI is capable of checking the accuracy of claims, specifically focusing on identifying common errors and making necessary corrections prior to submission.	More accurate claims, with fewer follow-up questions from payers and fewer denials	
Enhancing Medical coding accuracy			
Accurate medical coding is crucial for proper billing and reimbursement. AI-powered coding systems can analyze clinical documentation and suggest appropriate codes based on the patient's diagnosis and treatment. This can help reduce coding errors and ensure accurate claims submission.			
Medical coding	Analyze transcribed provider notes on patient visits and treatment. Transform those notes into medical codes for claim submission	More accurate medical coding with less help and time needed from providers or other staff	
Predictive analytics for denial management			
AI algorithms can analyze large volumes of historical claims data and identify patterns that lead to claim denials. By using predictive analytics, AI can help healthcare organizations proactively address potential issues, optimize claim submissions, and improve reimbursement rates.			
Denial management	AI has the ability to analyze claim denials and assist the organization in identifying specific cases where	Quicker resolution of denials, resulting in increased revenue	

Download AI Strategy Template

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Define the implementation costs: Outline the initial and yearly costs to implement AI in your RCM processes. Your team can use this AI Implementation Costs Template to help.

AI in RCM: Implementation Cost Template/Example

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AI in RCM: Cost Categories	Estimated Upfront Costs	Estimated Yearly Costs
Technology	$10,000.00	$180,000.00
IT Infrastructure Changes	$5,000.00	$12,000.00
New Staff	$0.00	$72,000.00
Staff Training	$5,000.00	$3,000.00
Outsourcing – Vendors	NA	NA
Maintenance	$0.00	$55,000.00
Other		
Total	**$20,000.00**	**$322,000.00**

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Download AI Implementation Costs Template

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Do a risk assessment: Have your team assess the potential risks of implementing AI. You should outline the plan for mitigating and managing those risks. Your team can use this AI Risk Template to begin its assessment.

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Artificial Intelligence in RCM: Potential Risks and Challenges

Risks	Plans to Address Risk
Overall data security	
Specific data security risk: protected patient health information	
Specific data security risk: patient credit card and financial information	
Specific data security risk: patient information that could enable identity theft	
Offending business partners or patients by using AI in areas where they expect human communications	
Challenges	**Plans To Address Challenge**
Convincing organization leaders that AI in RCM is worth the investment	
Building team trust in the information AI provides	
Hiring IT and other staff needed to implement AI	
Training the staff	
Integrating AI software with existing systems to allow AI to work best	
Redeploying staff who performed tasks now done with AI	

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Download AI Risk Template

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Do an ROI evaluation: Build on the previous steps and assess your likely return on vestment. Use this AI ROI Template.

Artificial Intelligence in RCM: ROI Template/Example

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AI in RCM: Cost Categories	Estimated Upfront Costs	Estimated Yearly Costs	Total Cost After 1 Year	Total Cost After 2 Years	Total Cost After 3 Years
Technology	$10,000.00	$180,000.00	$190,000.00	$370,000.00	$550,000.00
IT Infrastructure Changes	$5,000.00	$12,000.00	$17,000.00	$29,000.00	$41,000.00
New Staff		$72,000.00	$72,000.00	$144,000.00	$216,000.00
Staff Training	$5,000.00	$3,000.00	$8,000.00	$11,000.00	$14,000.00
Outsourcing – Vendors					
Maintenance		$55,000.00	$55,000.00	$110,000.00	$165,000.00
Other					
Total Cost	**$20,000.00**	**$322,000.00**	**$342,000.00**	**$664,000.00**	**$986,000.00**

AI in RCM: Projected Benefits		Yearly Savings/Increased Revenue	Total Savings/Increased Revenue After 1 Year	Total Savings/Increased Revenue After 2 Years	Total Savings/Increased Revenue After 3 Years
Eligibility and Benefits Verification		$120,000.00	$120,000.00	$240,000.00	$360,000.00
Medical Coding		$90,000.00	$90,000.00	$180,000.00	$270,000.00
Reduced Denials		$225,000.00	$225,000.00	$450,000.00	$675,000.00
Other		$55,000.00	$55,000.00	$110,000.00	$165,000.00
Total Savings/Increased Revenue		**$490,000.00**	**$490,000.00**	**$980,000.00**	**$1,470,000.00**
Net Return on Investment			**$148,000.00**	**$316,000.00**	**$484,000.00**
Net ROI%			**43%**	**48%**	**49%**

Discover how AI-powered revenue cycle management services can elevate your organization's revenue potential.

Download AI ROI Template

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Potential Risks and Challenges Implementing AI in RCM

Data quality and accuracy

AI models heavily rely on data for training and decision-making. If the data used is incomplete, biased, or inaccurate, it can lead to faulty predictions, incorrect billing, and potential financial losses. It's crucial to ensure data integrity, proper data preprocessing, and ongoing monitoring to maintain accuracy.

Privacy and security

RCM involves handling sensitive patient data, including medical records, insurance information, and financial details. Implementing AI systems introduces additional points of vulnerability and increases the risk of data breaches or unauthorized access. It's essential to implement robust security measures, including encryption, access controls, and regular audits, to protect patient privacy and comply with data protection regulations.

Regulatory compliance

The healthcare industry is heavily regulated, with various laws and regulations governing billing practices, patient data privacy (such as HIPAA in the U.S.), and insurance reimbursement. AI systems must adhere to these regulations, which can be complex and subject to changes. Ensuring that AI models and processes comply with all applicable laws and regulations is crucial to avoid legal and financial consequences.

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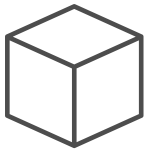

Lack of explainability

AI models, such as deep learning neural networks, are often considered "black boxes" because their decision-making process is not easily explainable. This lack of transparency can raise concerns about how AI algorithms arrive at specific decisions or predictions. In the context of RCM, it's important to strike a balance between accuracy and the ability to provide clear explanations for decisions made by AI systems.

Resistance to adoption

Implementing AI in RCM may encounter resistance from staff members who fear that AI technologies could replace their roles or disrupt established workflows. Overcoming resistance and ensuring proper training and change management efforts are essential to gain acceptance and maximize the benefits of AI in RCM.

Ethical considerations

AI systems need to be designed and deployed ethically to ensure fairness, avoid bias, and prevent discrimination. The algorithms used should be regularly monitored and audited to detect and mitigate any potential biases or unintended consequences that may arise during AI decision-making processes.

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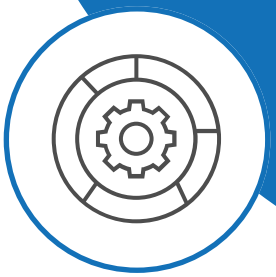
To mitigate these risks, organizations should establish proper governance frameworks for AI implementation. This includes:



Robust data management practices

Ongoing monitoring and auditing of AI systems

Transparent communication with stakeholders, and involving domain experts in the development and validation of AI models

Additionally, engaging legal and compliance teams to ensure adherence to regulations and ethical guidelines is crucial in mitigating risks associated with AI in RCM

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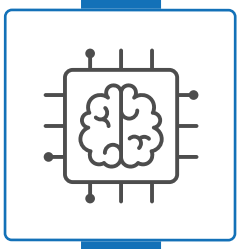
The Future of AI in Revenue Cycle Management

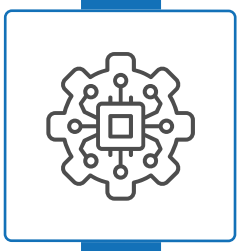
In coming years, AI will have an increasingly large role in healthcare RCM. Experts believe that healthcare organizations will increasingly use AI in all parts of RCM – from the beginning to the end.

Experts also foresee these other developments:



AI as a service

More organizations will gain expertise and provide AI as a specific service to healthcare organizations. That will mean healthcare organizations will not have to make huge upfront investments – in hiring new experts and in overall costs to improve their RCM with AI.



AI integration into other vendor services

Vendors that provide other services to healthcare organizations will integrate AI into their work for organizations. For example, vendors that offer electronic medical records, or EMR, software and assistance will integrate AI. RCM vendors will also incorporate AI into their work and processes.

> *"Our EMR vendors will be spending more time in how they can help improve workflows and potentially be using that AI as part of the AI solution," Daye says.*

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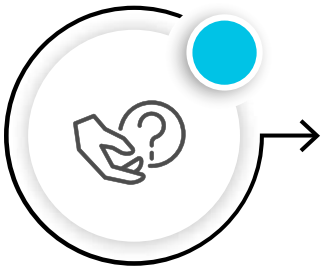
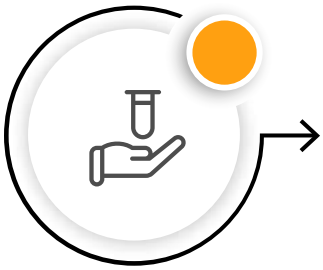
How AI is Transforming RCM

AI is already transforming how healthcare organizations perform effective RCM. For example, it is helping organizations collect on medical bills much more quickly. It is reducing insurance claim denials. And it is improving medical coding.

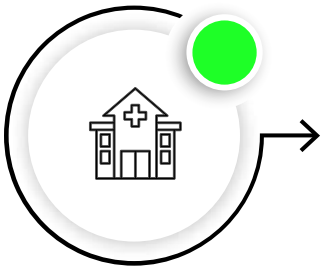
Here are some examples:



With help from Plutus Health, an obstetrics and gynecology provider, used AI to better understand reasons for a range of denials. The provider then generated more than $245,000 from overdue accounts and claim denials in three months.



A medical lab was experiencing coding errors and was not processing payor denials and rejections. Plutus Health helped the lab to implement coding standards and use AI to perform eligibility checks. As a result, the lab's collections per claim rose from $808 to $1,282.



A small urgent care clinic couldn't keep up with all tasks needed to perform their RCM processes. Plutus Health created a plan that included a range of help, including AI automation for the fast and accurate posting of charges. The clinic's collections percentage increased from 80% to 95% in six months.

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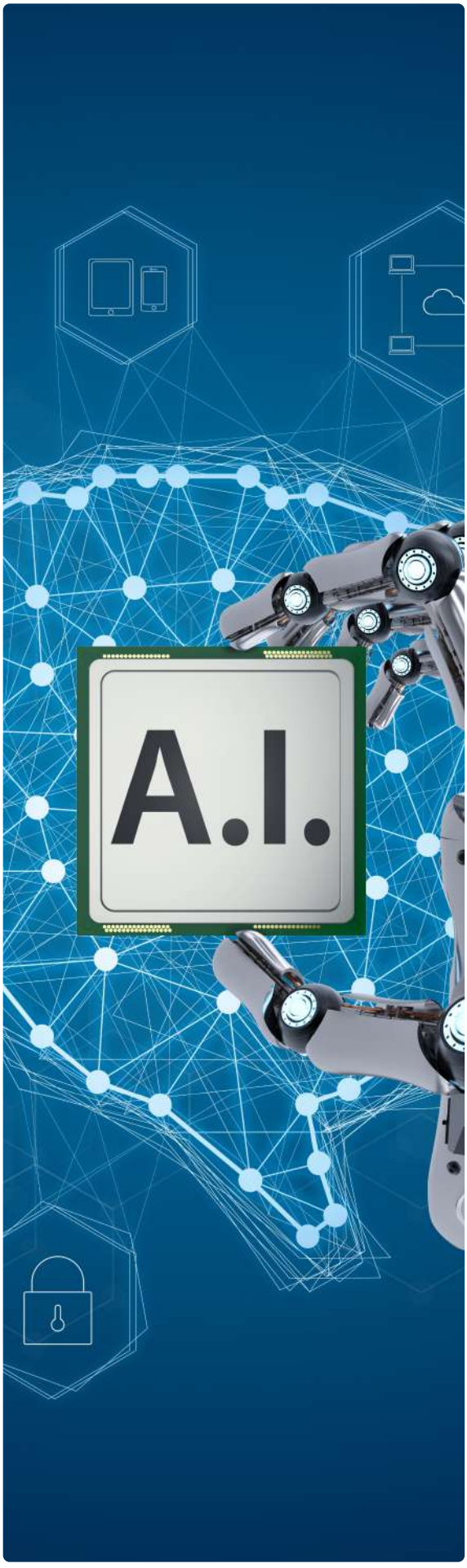

Get a Free AI RCM Readiness Assessment

Plutus Health can conduct an assessment of your organization's current state of readiness for implementing AI in RCM. Our evaluation will identify any potential gaps or areas of improvement to address before proceeding with the implementation.

We can then help you develop a strategic plan for implanting AI in your RCM system. We can help define the scope of the work and identify key stakeholders. We can also develop a road map for implementation and provide project costs and benefits.

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