



Examining AI adoption + ROI in healthcare payments

How healthcare leaders solve revenue cycle management challenges of today with innovations of tomorrow

**Modern
Healthcare**



Waystar's mission-critical software is purpose-built to simplify healthcare payments so providers can prioritize patient care and optimize their financial performance.

Modern Healthcare

Modern Healthcare empowers industry leaders to succeed by providing unbiased reporting of the news, insights, analysis, and data.

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INTRODUCTION

Automation + AI advancements in the healthcare payment industry

Keeping pace is crucial to turn revenue
cycle obstacles into opportunities



50%

of administrative
spending in
healthcare is wasteful¹

Today's healthcare leaders are confronting a complex maze of challenges. As government policies, reimbursement models, and patient expectations evolve, rising volumes and ongoing labor shortages contribute to delays in getting paid and delivering care.

With industry pressures on the rise, automation is the imperative baseline needed to overcome strong headwinds and streamline revenue cycle management (RCM).

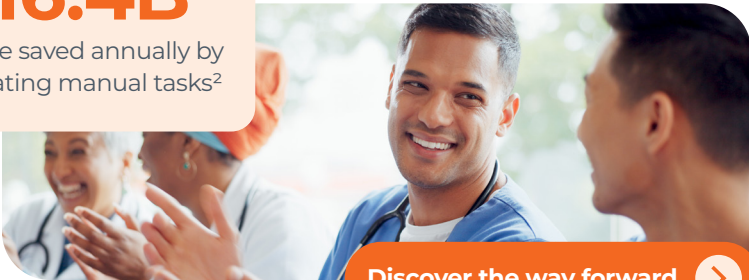
To address these challenges, providers have begun adopting artificial intelligence (AI) into their revenue cycle workflows to stay ahead and improve operational performance. Even more recently, the world has turned its eyes toward the emergence of generative AI and its promising capabilities in improving healthcare.

When implemented properly, these technologies eliminate manual processes, freeing up time so teams can focus on higher-value initiatives and maximize efficiency at scale. That means healthcare providers can put the human touch back where it's needed most: caring for their patients and communities.

In this research study, we'll go beyond the hype and explore where providers apply AI in their revenue cycles today and examine current barriers to greater adoption. Plus, we'll examine ways healthcare organizations can best leverage AI to financially thrive in this shifting, high-tech landscape.

\$16.4B

could be saved annually by
automating manual tasks²



Discover the way forward



1 Health Affairs. The Role of Administrative Waste in Excess US Health Spending. 2022.
2 CAQH. CAQH Index Report. 2023.

Tech terminology key

Throughout this research study, we reference several different types of innovative technology. Here's a simple breakdown of technical terms and their definitions.

- + **Automation** occurs when a machine performs specific, repetitive tasks without human intervention.
- + **Robotic process automation (RPA)** is a software technology that automates digital tasks using “bots” that act like remote human workers. RPA is often used in conjunction with artificial intelligence to drive efficiency.
- + **Artificial intelligence (AI)** is the broader concept of enabling a machine to sense, reason, act, or adapt like a human. Essentially, it's a machine's simulation of human intelligence.
- + **Machine learning (ML)** is a subset of AI that allows machines to extract knowledge and learn from patterns in data. ML aims to perform a specific task and provide accurate results.
- + **Predictive analytics** is a type of AI that searches vast amounts of data for patterns and uses a combination of statistical methods to predict future outcomes.
- + **Natural language processing (NLP)** is a subfield of AI and ML that enables machines to interpret, manipulate, and comprehend human language and communicate back.
- + **Generative AI (gen AI)** is a form of AI that is trained on massive, existing datasets and learns underlying patterns. Generative AI creates entirely new content in response to prompts.

AUTOMATION + AI GUIDE

There are various, nuanced differences between automation, robotic process automation, machine learning, predictive analytics, and generative AI. To help RCM teams better understand these technologies, Waystar created an easy-to-grasp guide that you can access below.



[Download guide](#)

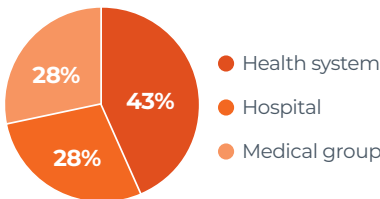
Profile of survey participants

In 2024, Waystar and Modern Healthcare embarked on a journey together to learn how healthcare providers are currently using AI in revenue cycle management, the impact AI has on performance and ROI, and the role the technology will play in the future of healthcare payments. Modern Healthcare reached out to subscribers asking them to participate in a survey.

Throughout the survey, some questions allowed respondents to select more than one answer. Therefore, some percentage totals do not add up to 100%. The base used for each question is total answering. Survey findings may be considered accurate to a 95% confidence level, within a sampling tolerance of approximately +/- 11.9%.

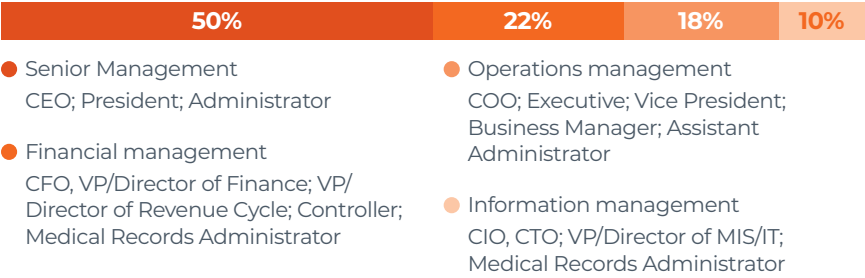
A total of 68 responses were gathered from the complete focus group representing the following categories:

Organization type*

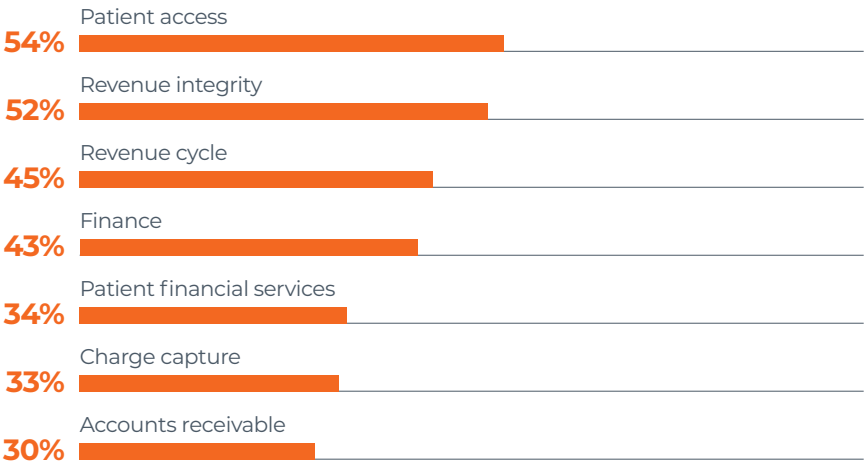


*One respondent represented an ambulatory/outpatient surgery center

Professional role



RCM functional area**



**Respondents were given the option to select more than one category, therefore percentages do not add up to 100%.

PART 1

How + where providers apply AI to the revenue cycle today

Using tech as a strategy to enhance the human touch in healthcare payments

For the U.S. healthcare payments industry, innovations in software technology are ripe with promise. Interest in adopting automation — particularly AI — has spiked in recent years³ due to AI's ability to boost productivity and streamline administrative processes.

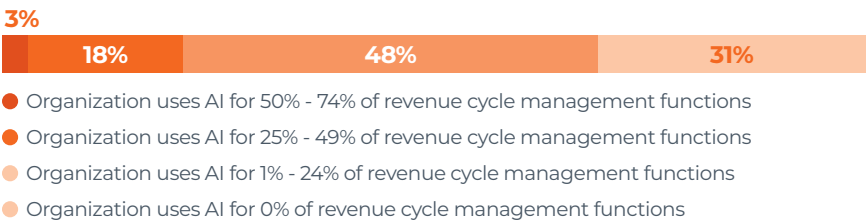
The appetite to increase efficiency extends beyond bolstering the bottom line. As labor costs rise, leaders are intent on retaining top talent — with providers citing reallocating staff resources and preventing burnout as key strategies for long-term sustainability and growth.

AI in RCM is gaining traction, but its full potential has yet to be tapped

By nature, revenue cycle management tasks are repetitive and transactional. From authorizations and eligibility verification to patient payments and managing claims and denials, applying automation and AI enables teams to work by exception and focus on high-value tasks. Research study results show AI implementation is steady if not widespread, with 69% of respondents reporting that they use AI throughout various revenue cycle touchpoints.

It appears those that do leverage AI are still in the earlier stages of adoption, with **48%** using AI for less than a quarter of RCM functions.

Only **18%** say their organization uses AI for **25% to 49%** of revenue cycle functions, with a mere **3%** reporting their organization uses it for **more than 50%**. At the same time, a substantial percentage (**31%**) say their organization isn't using AI for any revenue cycle functions at all.



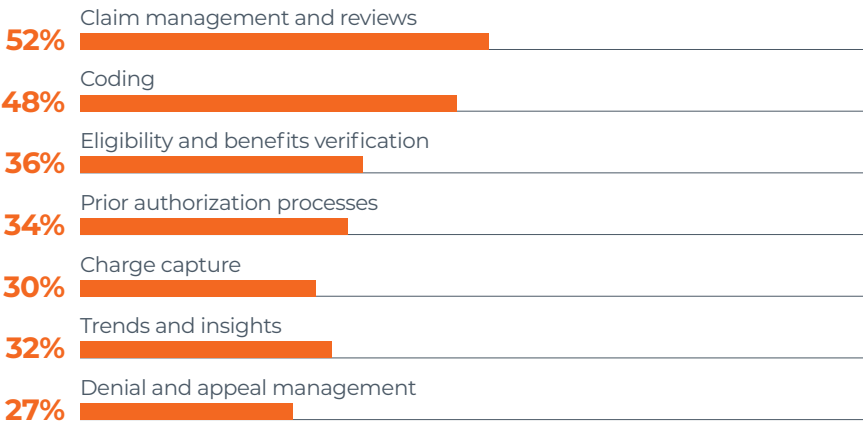
There’s opportunity to increase AI’s role across the revenue cycle

Whether RCM teams are using machine learning (a subfield of AI) to automate authorization requests or to triage denials based on probability of payment³, the benefits of AI applications throughout the revenue cycle are proven to speed up processes — for example, shaving 17 minutes off each claim status inquiry and saving 16 minutes per eligibility check.²

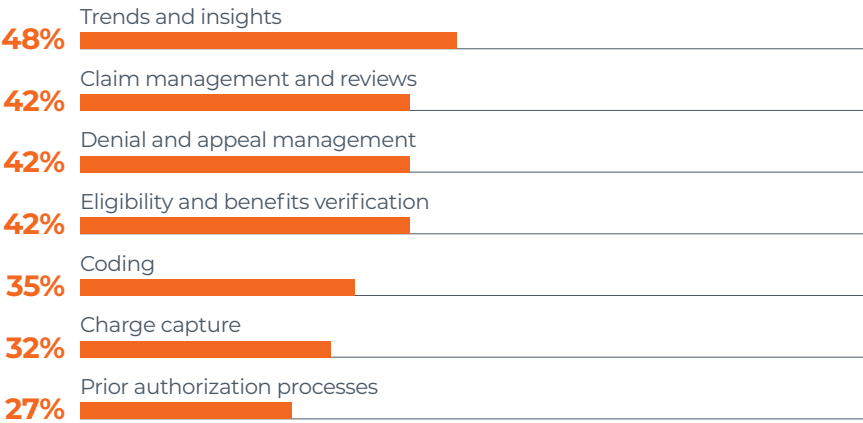


2 CAQH. CAQH Index Report. 2023.
3 Waystar. Outsmart the revenue cycle staffing crisis. 2023.

However, results show healthcare organizations have not yet consistently applied AI across the complete revenue cycle which presents a sizable opportunity for healthcare organizations. Respondents report leveraging AI in workflows for the following areas today*:



Furthermore, providers say their organizations plan to increase the use of AI in RCM in these leading areas within 12 to 18 months*:



By and large, research results denote the opportunity in front of providers to implement and adopt AI to remain resource competitive today and in the future.

*Respondents were given the option to select more than one category, therefore percentages do not add up to 100%.

“Harnessing robotic process automation, artificial intelligence, and machine learning can change the optics for healthcare organizations.

Implementing technology for the sake of automation won't bring the results you need. Leveraging technology to change the way you work — for the better — ushers in new possibilities.”

—

Elizabeth Woodcock, DrPH, MBA, FACMPE, CPC⁴



ARTICLE

Tackle 7 top healthcare reimbursement issues

[Read more](#)



⁴ Waystar. Tackle 7 top healthcare reimbursement issues. 2023.

END-TO-END ENHANCEMENTS

AI + automation applications amplify revenue cycle performance

AI and purpose-built automation dramatically decrease the time it takes to complete tasks while simultaneously amplifying accuracy, increasing workforce efficiency, and accelerating cash flow. These are just a few ways health systems, hospitals, and medical practices can see powerful results from AI throughout the revenue cycle.

Verify eligibility + benefits

Return accurate benefit information, determine the probability of payment, as well as find and verify coverage when it is missing or inaccurate.

Estimate patient responsibility

Identify payer adjudication rules to retrieve real-time updates on patient financial responsibility and deliver accurate estimates.

Initiate + status authorizations

Pinpoint services requiring prior authorization, follow up on authorization requests, and generate payer requirement reports quickly.

Provide patient financial care

Offer tailored payment plans, determine charity care cases, personalize communications, and increase self-service payments.

Optimize revenue integrity

Prevent revenue leaks by determining which accounts have a high probability of missing charges and DRG anomalies.

Enhance claim statusing

Retrieve accurate, automatic status updates, normalize payers' unique remark codes, and auto-assign disposition codes based on customizable configuration of response types.

Prioritize denial management

Identify which denials are most likely to be successfully appealed and prioritize them based on the expected paid amount.

Streamline the appeals process

Submit appeals with a 100% automated, paperless workflow and leverage upcoming advancements, such as using generative AI to draft appeal letters.

Enhance posting + reconciliation

Automatically match claims to remits and post payer and patient payments. Identify missing payments and reconcile all.



PART 2

AI yields positive ROI + healthcare finance leaders aim to further invest

Providers note AI's impacts on efficiency + financial gains

Both clinical and administrative healthcare professionals are all too familiar with the financial constraints the industry faces — a substantial portion of which is attributed to operational inefficiencies. Wasteful spending in healthcare ranged from \$760 billion to \$935 billion in recent years.⁵

But organizations that invest in AI — as well as other forms of automation technology — for RCM experience far more than pressure valve relief from a productivity perspective. Research suggests providers who apply AI throughout various revenue cycle touchpoints see a plethora of benefits that lead to powerful financial results, such as improved accuracy and faster payments.

75%

of respondents
who use AI see ROI*

90%

will invest in AI in
the near future

*Base is those who said their organization uses AI for RCM functions.
5 JAMA Network. Waste in the US Health Care System. 2019.

Although not yet ubiquitous, survey results indicate AI yields positive return on investment. Of those respondents whose organizations utilize AI for RCM functions, **75%** agree or strongly agree with the statement “I see a return on investment from our use of AI in RCM.” Only **5%** of respondents disagree with the statement.

The vast majority of respondents (**90%**) said their organization will either begin to invest in AI or increase the use of AI in the near future. Furthermore, **62%** said their organizations will further invest in or increase the use of AI in the next 12 months or sooner, and **25%** indicate they will within the next year or two.



“When you look at the labor cost — why am I paying a nurse or a care manager to do an authorization when that work needs to be done somewhere else?

They need to be caring for a patient.

And then, beyond the authorization automation, are we collecting the right coverage up front?

How can we ensure we’re getting even just the simplest thing right?”

—
Jodianne Broomall, VP of Revenue Cycle,
Cincinnati Children’s Hospital Medical Center⁶

Examining AI's benefits for RCM teams + organizations

To further support organizations' positive ROI results, respondents denoted the ways they see AI's positive impacts on both their organization and its operational performance. With the ability to check more than one option — respondents say AI*:



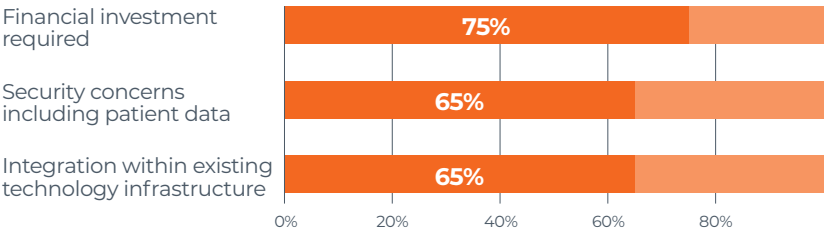
On a particularly positive note, 100% of respondents see the benefits of AI in RCM.



*Respondents were given the option to select more than one category, therefore percentages do not add up to 100%.

Cost + security are top concerns for AI adoption

Although survey results demonstrate the growing popularity of AI throughout the healthcare revenue cycle, providers note there are still concerns to overcome. With the option to select more than one choice, respondents identified the barriers to greater adoption of AI for their organizations*:



Although many said security concerns are a barrier, **89%** say the recent industry cybersecurity attacks have not changed their willingness to use AI.

“I’ll ask ‘Why are we not automating that? Why are we still working on a spreadsheet?’ It takes being tenacious and persistent. ‘This is why we need to automate it. The team’s going to have more bandwidth, we’ll be more efficient, we can streamline this, we can streamline that.’ It’s just so important.”

Linda Rosser, Senior Director of Revenue Cycle
BrightSpring Health Services⁷

*Respondents were given the option to select more than one category, therefore percentages do not add up to 100%.
⁷ Waystar. Thriving through crisis + embracing change in healthcare payments. 2024.



Real-world examples of AI applications in RCM

While a top challenge for survey participants is the financial investment required for AI adoption, healthcare organizations that have invested in AI — and have strategically implemented the solution in their revenue cycles — demonstrate how the downstream savings outweigh the cost of implementation.

Mount Sinai Health System

An 8-hospital health system in New York, Mount Sinai Health System faced claim management challenges and sought updated technology to improve their healthcare payment processes. Previously using three separate billing platforms, several clearinghouses, and outsourced support for 20% of claims led to fragmented visibility and revenue cycle inefficiencies.

Additionally, Mount Sinai Health System's RCM staff spent too much time on manual touches before closing claims, which strained productivity, affected the patient financial experience, and slowed cash flow. But since applying AI to their claim management processes, the health system has seen game-changing positive impacts.⁸



Get the full story

300%

increase in back-office automation

3 FTEs

reallocated to higher-value tasks

14 days

average decrease to payment/rejection

8 Waystar. Mount Sinai Health System case study, 2023.

in2itive Business Solutions

As a billing services provider, in2itive Business Solutions was bogged down by labor-intensive processes when it came to claim management — including submitting claims, adding attachments, and working remits. Duplicative efforts wasted valuable time when getting things done, such as re-typing the same appeal language over and over.

But since implementing AI enhancements throughout their workflows, in2itive Business Solutions can accomplish much more with less manual effort, including reallocating staff resources that save precious revenue.⁹

540 hrs

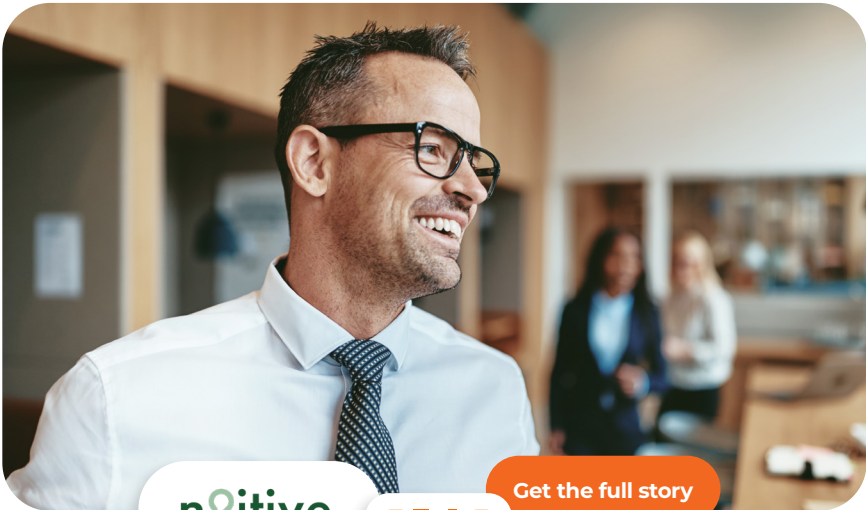
of FTE savings
per week

\$382K

estimated FTE
savings per year

80%

decrease in
manual work



n2itive
business solutions



Get the full story

⁹ Waystar. in2itive Business Solutions case study. 2024.

Cincinnati Children's Hospital Medical Center

At Cincinnati Children's Hospital Medical Center, lowering costs to provide better value to patients and families is a high priority. To achieve this goal, Cincinnati Children's administrators continually look for ways to cut costs and manage cash flow, which are challenges for every healthcare provider in the evolving reimbursement environment.

With innovative AI solutions, the pediatric health system has been able to streamline workflows, accelerate payments, and take heavy administrative burdens off their teams.¹²



“One of our initiatives is investing in technology. So, it’s been very easy for me to say, ‘I want to invest in this tool that is going to allow me to do automated authorizations or automatic claim attachments...’ It helps us to augment our staff’s work and allows them to work smarter.”

—
Jodianne Broomall, VP of Revenue Cycle
Cincinnati Children's Hospital Medical Center

¹² Waystar. Cincinnati Children's visual case study. 2024.

Prisma Health

Getting insurance verification right the first time is crucial for healthcare providers. Incorrect or incomplete eligibility has a ripple effect across the revenue cycle, from missed authorizations to reworking denied claims.

For Prisma Health, a health system based in South Carolina, AI combined with RPA technology combs through vast amounts of their payer data to curate the most accurate and comprehensive benefit information — with rich coverage detail.¹¹

“We’re up to 95% of good insurance. You just don’t understand, on our volume, how that enhances the patient experience and minimizes rework. Because we’re getting better insurance upfront, that is going to have a monumental impact on the entire revenue cycle.”

—

Patrick Griffin, Executive Director of Revenue Cycle
Prisma Health



¹¹ Waystar. Prisma Health visual case study. 2024.

Great River Health

For Great River Health based in West Burlington, IA, their previous payments portal was difficult to navigate and lacked critical functionality, including the ability to create self-service, affordable payment plans. This resulted in a two-fold problem: overwhelmed staff had to field approximately 6K patient calls per month, while patients were dissatisfied with their financial experience.

Using solutions powered by AI and other types of purpose-built automation, Great River Health experienced a boost in staff productivity. Their patient financial experience results saw monumental impacts.¹⁰

30%

increase in online,
self-service payments

95%

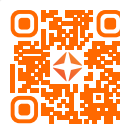
patients surveyed
report better
experience

60%

decrease in monthly
patient call volume



 Great River
HEALTH



Get the full story

¹⁰ Waystar. Great River Health case study. 2024.

PART 3

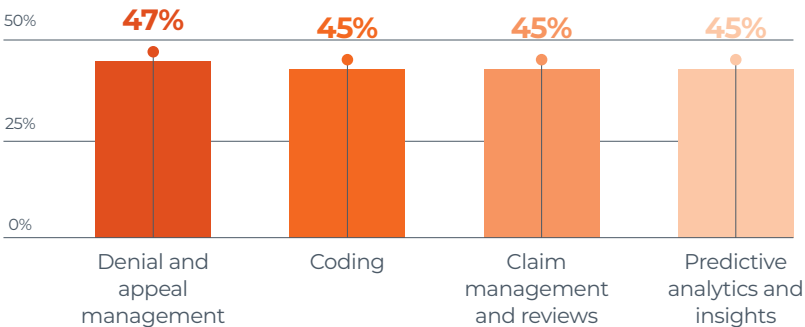
Healthcare leaders are keen to explore generative AI's capabilities

Pilot program yields unprecedented, powerful results in efficiency + accuracy

When it comes to advancements in AI, the world is only beginning to scratch the surface of what's possible.

Lately, the emergence of generative AI has unleashed a flurry of opportunity. Ideas that were once considered audacious are now within reach, prompting healthcare leaders to hypothesize over how this new technology can — and will — transform the industry in profound ways.

For generative AI specifically, 66% of survey respondents say their organization will likely deploy the technology within the next 12 to 18 months, and identified opportunities to improve processes in the following areas*:



*Respondents were given the option to select more than one category, therefore percentages do not add up to 100%.



VIDEO

What's the difference between AI and generative AI? Tech experts explain.

Watch now



“Waystar has the powerful opportunity to bring the best of technological innovation in the pursuit of transformational healthcare solutions.

“Our focus is to implement generative AI innovations on the Waystar software platform that will help providers get paid accurately, timely, and with newfound efficiencies for the health services they deliver to patients.”

—

Matt Hawkins, Chief Executive Officer, Waystar



IN THE NEWS

Waystar deploys generative AI to simplify healthcare payments in collaboration with Google Cloud¹³

[Read press release](#)



Waystar's generative AI pilot program shows promising results

Waystar is at the forefront of piloting generative AI enhancements to solve revenue cycle challenges and shape the future of healthcare payments.

In 2024, Waystar launched a collaboration with Google Cloud, harnessing the global tech giant's generative AI framework and refining its capabilities within its own software platform. To identify which specific RCM opportunities to tackle first, experts consulted extensively with members of the Waystar Advisory Board — a group of nearly 30 visionary healthcare organizations spanning the U.S. — and developed a roadmap to test generative AI for process improvement.

Through a pilot program with select advisory board organizations, Waystar automated the extraction of prior authorization requirements from complex payer data sets. The results were significant, including one client reporting a **99.93%** reduction in the time to generate an authoritative report of procedural preauthorization while increasing accuracy by **13%**.¹³

Waystar continues to discover and identify ways to achieve powerful results with generative AI applications, with several active co-pilots in the pipeline aimed at driving efficiencies impacting workflows throughout the complete revenue cycle.



99.93%

decrease in time
to generate
preauthorization report

90%

increase in authorization
requirement report
accuracy

¹³ Waystar. Waystar deploys generative AI to simplify healthcare payments in collaboration with Google Cloud. 2024.

“Generative AI is one of the most influential advancements that we’ve had perhaps since the invention of the internet itself. This technology will fundamentally change the way that we think about solving problems and how we drive efficiencies into otherwise inefficient processes.”

—

Chris Schremser, Chief Technology Officer, Waystar



VIDEO

Harnessing the power of generative AI to simplify healthcare payments¹⁴

Watch now





EXPERT PANEL

Generative AI + data security in healthcare payments¹⁵

Watch on demand



Tech experts + providers embrace a bold new era of innovation

Generative AI has garnered its fair share of buzz. However, healthcare finance and IT leaders are moving beyond the hype to achieve practical, meaningful results. Saving time, preventing human error, and optimizing scarce resources remain top-of-mind in the quest to increase and accelerate payments.

In the spring of 2024, technology expert and Bain & Company partner Eric Berger joined healthcare leaders from ATI Physical Therapy and Mount Sinai Health System to discuss security and compliance initiatives, and generative AI's capabilities in solving complex RCM challenges.¹⁵

"What [generative AI] models do well is communicate, research, and help create content," Berger explained. "Companies of every shape and size in every industry are thinking about creative ways to improve efficiency and effectiveness."

At an enterprise scale, generative AI applications could fundamentally change healthcare for the better in many ways, from accelerating clinical advancements to strengthening administrative processes with unprecedented efficiency. However, Berger notes that generative AI's ability to get "smarter" all depends on how accurate and valuable the data it "learns" from in the first place.

¹⁴ Waystar. Harnessing the power of generative AI to simplify healthcare payments. 2024.

¹⁵ Waystar. Generative AI + data security in healthcare payments. 2024.

CONCLUSION

Reach peak financial performance with AI-enabled healthcare payments platform

Research suggests a platform strategy approach achieves powerful revenue cycle results

It's clear that AI is here to stay, not only in healthcare, but in every industry worldwide. What's more, the technology will only continue to evolve, improve, and yield powerful results — which is good news for healthcare revenue cycle, finance, and operations teams.

However, because AI is entirely dependent on a data source to continuously become “smarter” and constantly drive more efficiencies, peak performance is best achieved when AI is applied across the complete revenue cycle. That means organizations gain the most value from selecting AI-enhanced software that streamlines end-to-end revenue cycle functions.

“Our old processes were painful and much more expensive. We now have complete visibility into where our statements are and if there are any errors to correct.”

—

Jessica Weathers, Senior Director of Revenue Cycle,
Proliance Surgeons



33%

increase in staff productivity

2X

increase in patient payments

4X

faster average claim processing time

[Read the case study](#)



In Section 1 of this report, survey findings indicated that despite AI's return on investment, most health organizations apply the technology to less than half of their revenue cycles. To recap:

75%

of respondents report ROI from their organization's use of AI in RCM

BUT ONLY

3%

use AI for more than half of revenue cycle management functions

Therefore, it's up to healthcare leaders to not only further invest in AI, but to also apply it across more revenue cycle touchpoints to optimize resources while accelerating and increasing payments.



Historically, the healthcare revenue cycle industry standard leverages multiple, individualized products to manage different parts of the revenue cycle. This creates more problems than it solves: each product works from siloed data sets and they seldom integrate with one another, forcing teams to work in and out of multiple systems, leading to human error, wasted time, and revenue loss at scale.

Provider organizations that harness a software platform approach for end-to-end revenue cycle management not only optimize their AI investment with increased efficiency across the board, but they also improve the patient financial experience and achieve peak financial results.

Research: End-to-end platform strategy yields financial ROI

Recent research conducted by The Health Management Academy shows that healthcare executives feel a sense of urgency to expand AI across the revenue cycle. The 2024 report, released in collaboration with Waystar, adds that leaders seek a healthcare payments partner with automation and AI expertise.

According to the report, Accelerate financial performance with an RCM platform strategy:

“Leading health systems understand that the question is less about if AI is a priority now but rather how much and when they could implement AI-enabled solutions.



Across the C-suite, executives see automation and AI strategy as a higher priority in 2024 compared to past years — and revenue cycle is one of the top three areas where they expect to put out RFPs/RFIs.”

Additionally, the report finds that leaders consider strong end-to-end revenue cycle expertise to be a top factor for considering a revenue cycle partner, and that organizations with a platform approach to managing payments either report ROI or expect to in the near future.¹⁶

70%

increase year-over-year in leading health systems adopting an end-to-end platform for RCM

100%

of healthcare providers with an end-to-end platform experience ROI or expect to within 1-2 years

93%

of executives say strong revenue cycle domain expertise is a top factor in choosing an RCM partner

16 THMA+Waystar. Accelerate financial performance with an RCM platform strategy. 2024.

“Because we’re reducing the time it takes to collect, we’re able to focus our teams on the more difficult accounts so patients have better outcomes in what we call ‘patient financial care.’

We ended up going all in with Waystar.
They’re committed to Piedmont —
and to improving healthcare.”

—
Leah McTague, VP of Revenue Cycle
Piedmont



[Read the case study](#)



\$10M+

generated in
payment lift

90%

of status inquiries
automated

77%

of manual work
eliminated for their
AR follow-up team



RESEARCH STUDY

To gain more insights from platform strategy research, the full report is available for download:

Access report



As further evidence supporting an end-to-end platform strategy, provider results speak for themselves.

For example, Proliance Surgeons, a surgery group, utilizes Waystar's solutions for claim management, denial and appeal management, patient payments, and analytics. The organization has brought in twice the amount of patient payments, while improving staff efficiency since implementing Waystar.

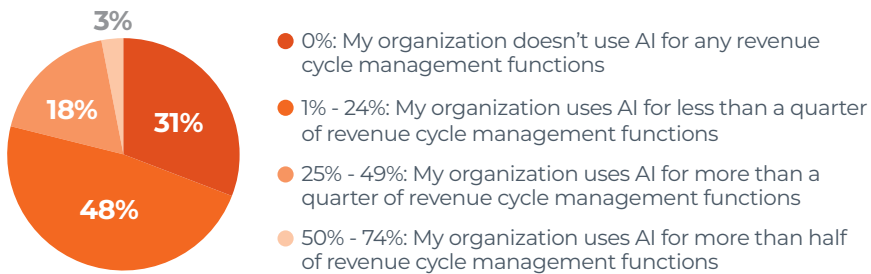
Piedmont, a health system based in Atlanta, utilizes Waystar's software platform throughout their complete revenue cycle with positive impacts ranging from financial clearance and revenue integrity to claim management and denial prevention, as well as an increase in both patient payments and satisfaction.

"I need to do everything I'm doing better, cheaper, and faster — and with automation."

—
Chief Revenue Officer, Leading Health System¹⁶

Data appendix

The percentage of AI being used for revenue cycle management functions at healthcare organizations:



75%

of respondents see a return on investment from their organization's use of AI in revenue cycle management*

90%

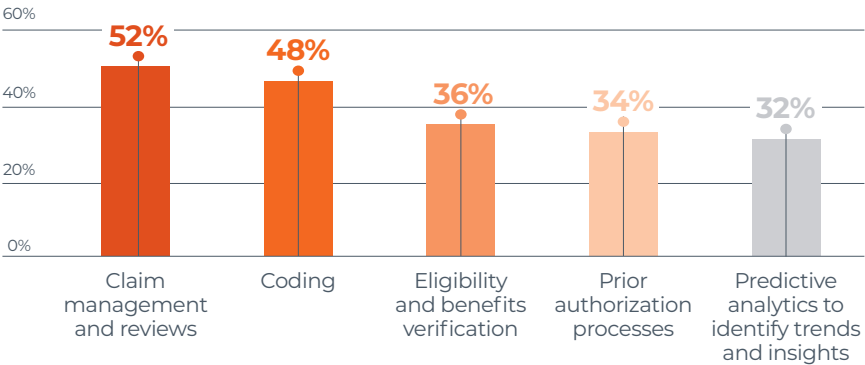
of respondents say their organization will further invest in or increase the use of AI

66%

of survey respondents say their organization is likely to deploy generative AI in the next 12 to 18 months

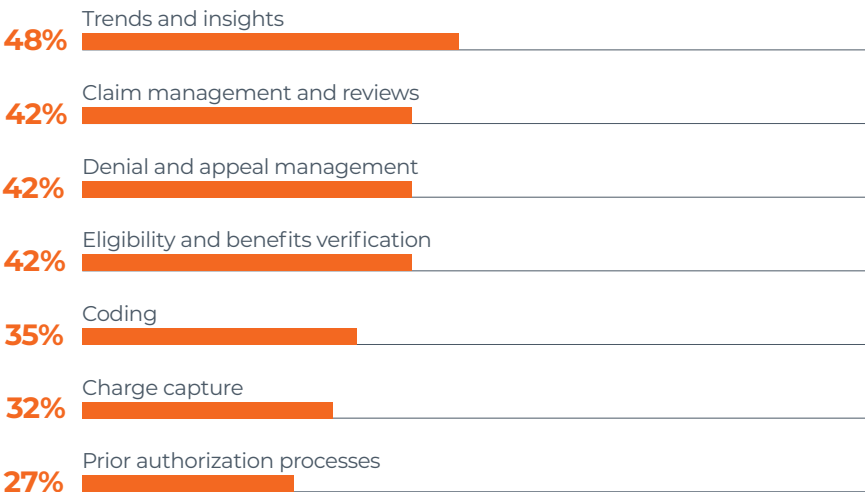
*Base is those who said their organization uses AI for at least 1% of RCM functions

Five most common RCM functions AI is being used for:**



**Percent total doesn't equal 100% because respondents were able to select more than one option

Providers say their organizations plan to increase the use of AI in RCM in these leading areas within 12 to 18 months:



Simplify healthcare payments

Discover how Waystar's advanced AI and automation capabilities can help you reach peak financial performance.



Request demo



RESEARCH PARTNER

**Modern
Healthcare**