

Poised to Transform: AI in the Revenue Cycle

A Change Healthcare Signature Research Study

ENGINE

CHANGE
HEALTHCARE

Insight. Innovation. Transformation.

Table of Contents

03.....Executive Summary

04.....Research Methodology

08.....Key Take-Aways

10.....Detailed Findings: On the Precipice of Change

15.....Detailed Findings: The Current Adoption Picture

24.....Detailed Findings: Barriers to Change

Executive Summary

Healthcare has traditionally lagged other industries in its use of **artificial intelligence (AI)**. Although there have been some inroads into using it in clinical settings, with organizations applying the technology to improve efficiency, accuracy, and consistency, the revenue cycle has remained relatively uncharted territory...until now.

Hospitals and health systems are standing on the precipice of change, actively seeking ways to leverage modern technologies to address complex business problems.

To get a full picture of current and expected AI use in revenue cycle management (RCM), Change Healthcare commissioned Engine to conduct a signature research study involving revenue cycle, IT, and executive and financial leaders. The following pages explore the results of this survey, offering key highlights and take-aways.

Some important themes that weave throughout the survey results include:

- ✔ AI is on the cusp of becoming pervasive in hospital RCM, with two-thirds of providers already using it in some way and nearly all expecting to use it within the next three years
- ✔ The level of implementation maturity is predicted to escalate sharply during this time as organizations expand and deepen their AI use across functions
- ✔ Familiarity with AI and its inherent value varies widely between executive, IT, and revenue cycle leadership
- ✔ There remain budgetary and trust obstacles to widespread AI adoption. Cost and security concerns are leading barriers to AI use, whether an organization is just starting adoption or seeking full AI integration

Research Methodology

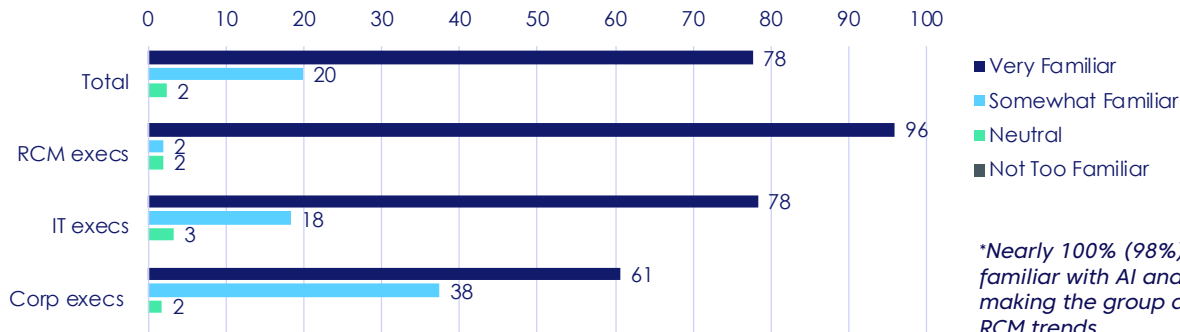
Research Objectives

- Understand current knowledge of and familiarity with AI
- Discover areas of improvement with healthcare RCM and how AI can assist now and in the future

Key Details

Includes 200 revenue cycle, IT, C-suite, and finance decision-makers in hospitals and health systems

Familiarity With Use of Artificial Intelligence*



**Nearly 100% (98%) of survey respondents are familiar with AI and how it's used in healthcare, making the group a valid source for AI in RCM trends*

Respondent Demographics

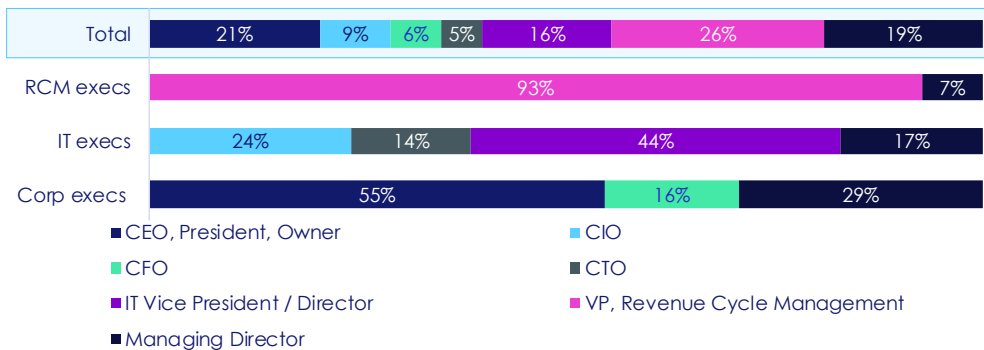
Respondents are split between hospitals and health systems with slightly more health systems taking part in the survey.

Job titles include revenue cycle management vice presidents; IT professionals, including CIOs, CTOs, and IT vice presidents; and corporate leaders, including CEOs, presidents, owners, and CFOs. Managing directors fall into all three categories depending on their department.

Type of Organization



Job Title



- Nearly half of respondents (41%) are C-suite executives
- More than seven out of ten (71%) corporate executives are CEOs, presidents, owners, and CFOs

Defining Artificial Intelligence

The term artificial intelligence can be defined in many ways. To provide clarity for survey respondents and level-set around the term's meaning, study designers shared the following broad definition with all participants.

AI is the ability of a machine to perform cognitive functions we associate with human minds, such as perceiving, reasoning, learning, interacting with the environment, problem solving, and exercising creativity. This includes AI subsets such as machine learning (ML), predictive analytics, robotic process automation (RPA), natural language processing (NLP), and optical character recognition (OCR).



Key Take-Aways



Nearly all U.S. hospitals plan to be using AI pervasively across the revenue cycle within three years.

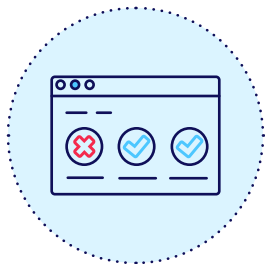
About two-thirds of all respondents (65%) report they already use AI in RCM, however its application is limited and doesn't typically span the revenue cycle from end to end. And yet, by 2023, 98% of healthcare leaders anticipate using AI in RCM in some form. Implementation sophistication will also increase during this time. While only 12% consider their AI implementations to be mature now, 35% expect them to be far more advanced by 2023.



AI is driving a wide range of improvements, but the approach is tactical and not end-to-end.

Hospitals currently using AI in RCM are aiming to improve patient and payer payments (83%) and cash flow (80%). Eligibility/benefits verification (72%) and patient payment estimation (64%) are the most common functions using AI today. By 2023, respondents expect prior authorization (68%), payment amount/timing estimation (62%), and denials management (61%) to emerge as leading AI-driven functions.

Key Take-Aways



Stark gaps in opinion may prevent healthcare organizations from fully capitalizing on AI's transformative power.

Revenue cycle decision-makers report much higher AI usage (90%) in RCM than IT (63%) and corporate executives (48%). Moreover, those in RCM roles are satisfied (78%) with their department's current AI use, compared to just 46% of IT leaders and 25% of administrative and financial executives. RCM roles are also more likely to see value in using AI in RCM (86%) versus 52% of IT and 44% of executive/financial leaders. This disparity points to the need for RCM leaders to better communicate AI's effectiveness at improving financial outcomes and the ROI of their AI investments.



Financial, security, and privacy concerns block AI adoption and dampen success factors.

Budgetary worries are the leading barriers to AI initiation and full integration, cited by 76% of corporate executives and 57% of total respondents.* Liability and security concerns are also commonly mentioned obstacles, with revenue cycle and IT leaders noting them as top concerns. A majority of providers report liability, risk, privacy (56%); staffing (50%); lack of trust in the information provided (45%); and infrastructure challenges (43%) as barriers to fully integrating AI, demonstrating some key pain points organizations will have to work through as they mature their AI strategy.



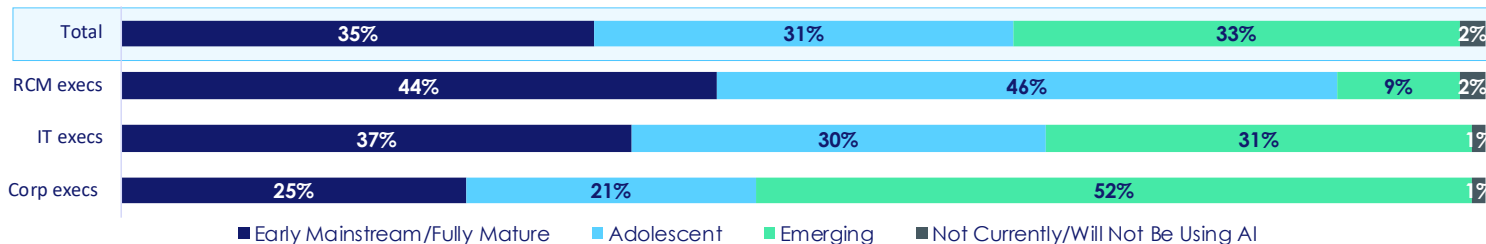
Detailed Findings: On the Precipice of Change

Almost All Hospitals and Health Systems Expect to Use AI for RCM by 2023

98%

of respondents have plans to use AI in RCM within the next three years, with nearly equal parts anticipating mature, adolescent, and emerging levels of maturity.

AI Usage/Maturity (Self-Reported): Expected in 3 Years



Almost All Hospitals and Health Systems Expect to Use AI for RCM by 2023



“The whole world is embracing AI, and it’s changing the way people live. To stay competitive and best serve patients, healthcare organizations must expand their use of AI. By pursuing a strategic AI approach—establishing your AI platform then using AI holistically versus tactically—organizations can unleash its power across previously untapped areas like the revenue cycle and achieve what was impossible before.”

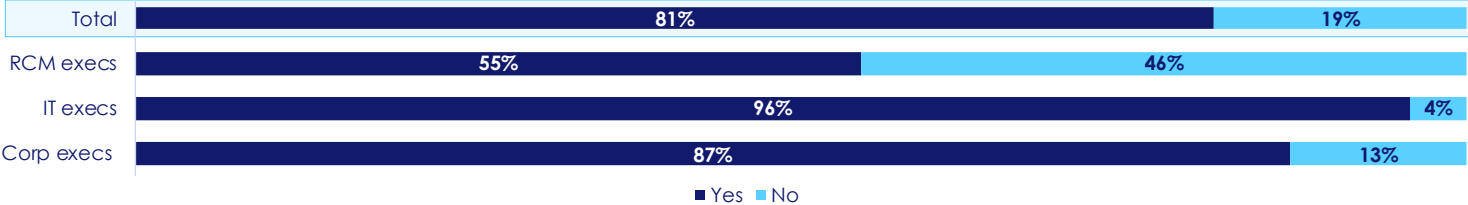
– Luyuan Fang, PhD, chief AI officer at Change Healthcare

8 out of 10 are Actively Looking for Ways to Incorporate Technology into RCM

81%

The fact that 81% of respondents performed a tech evaluation in the last two years suggests that healthcare leaders are committed to using technology to improve RCM performance. This assessment involved evaluating a technology provider, solution, or software system, and it was specifically aimed at improving RCM processes.

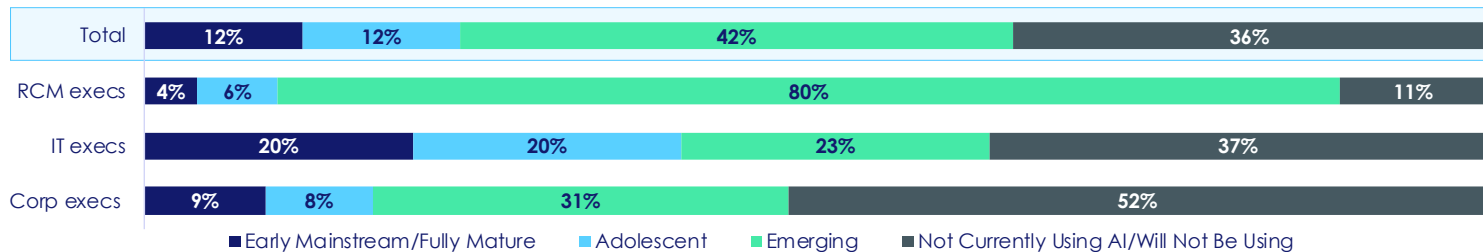
Performed Tech Evaluation In Past 24 Months To Help Improve RCM Process

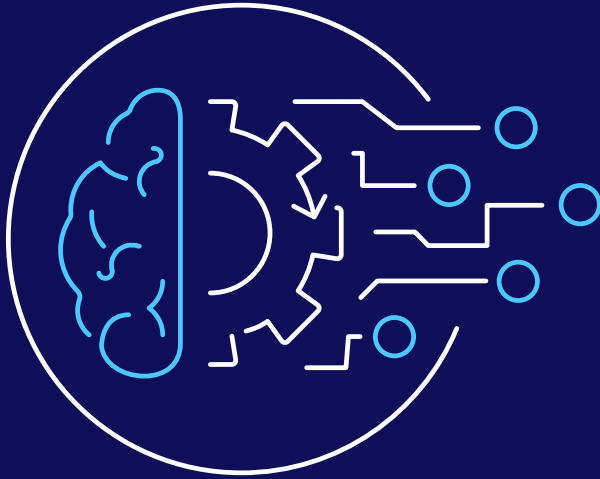


Widespread Adoption Will Require a Significant Evolution

The almost ubiquitous adoption of AI in three years will require a marked change from the current state. As of now, 36% of organizations are not using AI at all, and the maturity level of those who are using it is mostly (42%) at the emerging stage. Only 12% of healthcare leaders indicate they have a fully mature program. Comparatively, by 2023, 98% plan to be using AI and 35% anticipate they will be fully mature in the process.

AI Usage/Maturity (Self-Reported): Current





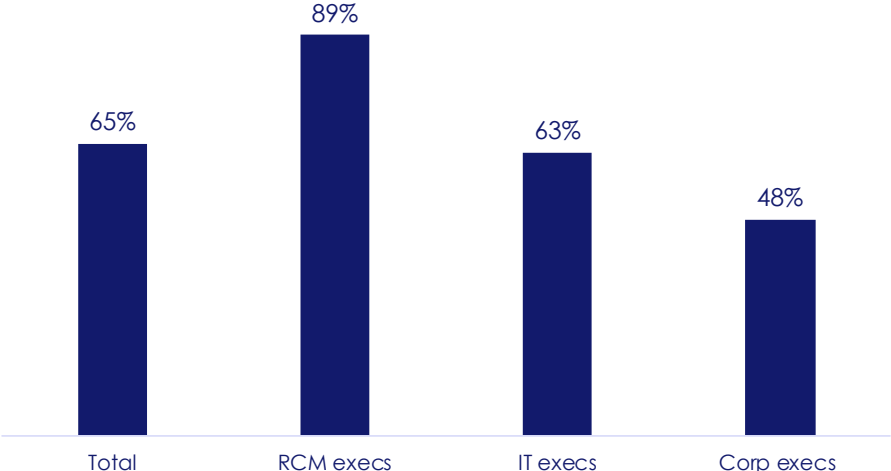
The Current Adoption Picture

Two-Thirds of Hospitals and Health Systems Report Using AI in RCM

Nearly 9 out of 10 RCM leaders indicate they are currently using AI.

Note that RCM professionals are reporting higher usage than IT professionals and the C-suite. This could be due to the broad definition of AI in the survey or RCM leaders' hands-on awareness of what types of technology their departments are using.

% Currently Using AI For RCM Functions



Two-Thirds of Hospitals and Health Systems Report Using AI in RCM

“We’re investing in AI so we can capture payments accurately and be more efficient about processes to bring in revenue. These solutions can also help us avoid missing meaningful data we currently cannot access or see.”

–managing director, hospital operations*

“AI details statistically significant departures from the norm so revenue cycle staff can focus on improvement opportunities. The technology helps us focus our efforts, work by exception, and accelerate change.”

–vice president, revenue cycle management*

“Sophisticated AI technologies can handle vast amounts of data and uncover patterns and trends that can make tasks such as claims and denials management substantially more efficient and effective.”

–Hospital CEO*

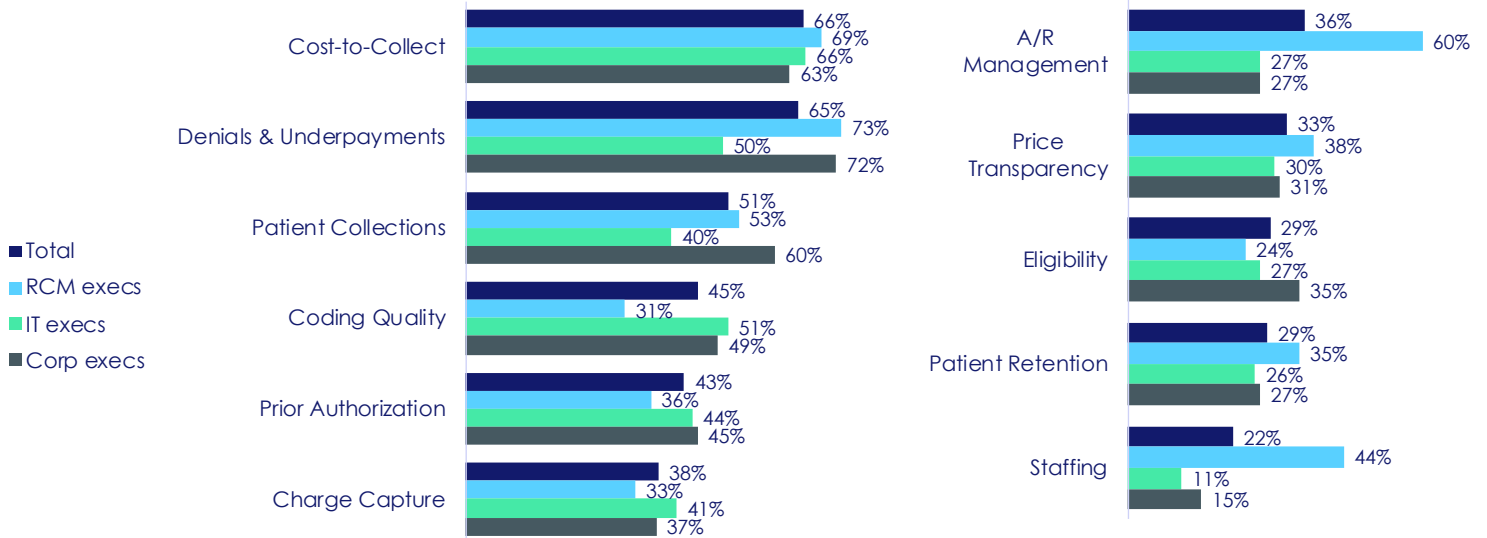
“Computers can handle routine workflows more quickly and efficiently than humans. The ability to sift through large amounts of data and parse nuances makes certain tasks easier while reducing error.”

–vice president, revenue cycle*

**Quotations expressed are attributed to a market research panel.*

Existing RCM Pain Points Provide Opportunities for AI Use

Addressing cost-to-collect, denials, and underpayments top the list of RCM pain points. Revenue cycle leaders also view A/R management and staffing as difficult while corporate leaders have higher-than-average concerns around patient collections. AI solutions can drive improvements in all these areas.



Existing RCM Pain Points Provide Opportunities for AI Use



“From a healthcare business perspective, AI can help remove administrative waste due to inefficient revenue cycle practices, enhance decision support, and improve patient engagement. For example, an AI platform can streamline patient access, optimize the claims lifecycle, guide capacity planning, and more. The opportunities are countless.”

– Luyuan Fang, PhD, chief AI officer at Change Healthcare

Improving RCM Processes and Workflow are the Primary Drivers for AI Investment

We asked respondents to tell us in their own words why their organization invested in AI for revenue cycle management.

Eight out of 10 hospitals and health systems are turning to AI to improve work processes.

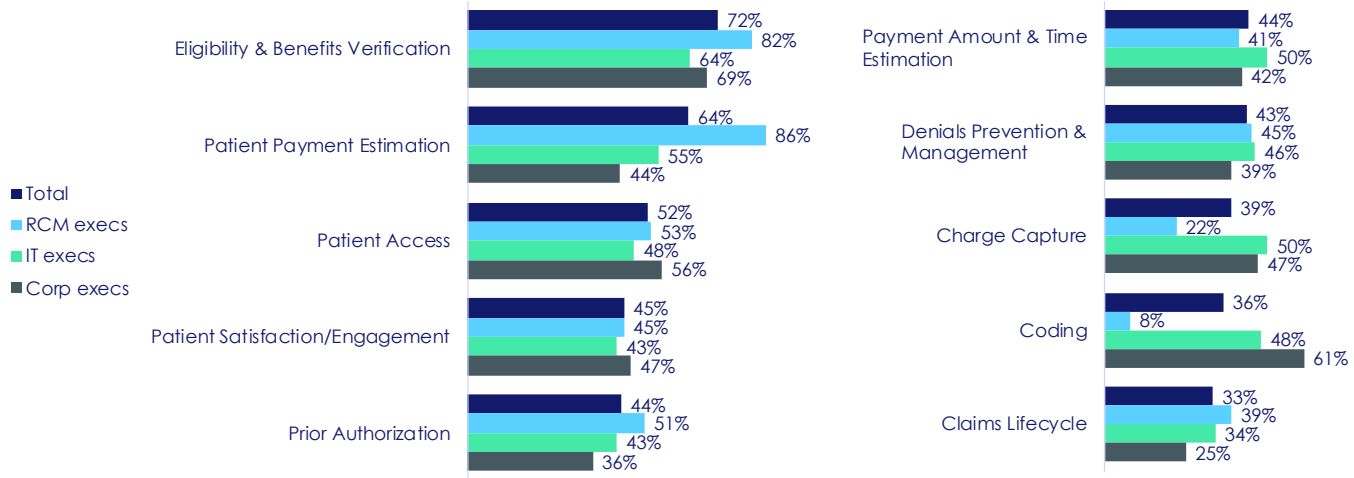
This may include streamlining workflow, increasing quality, or optimizing resource use. Less urgent investment drivers include reducing costs (23%) and the need to better prepare for the future (6%).

Reasons for Investing In AI For RCM	
Effect On Work/Processes (Net)	82%
Ease/Speed Of Work (Sub-Net)	37%
Improve efficiency/speed/turnaround time of (specific work)	33%
Easier to use/handle work/specific tasks more easily	5%
Improve efficacy/workflow/productivity of (specific) work	16%
Improve quality/accuracy/reduce errors for (specific) tasks	15%
Improve/help with many/specific tasks/decisions	13%
Decrease/replace (specific) workforce/need for more employees	8%
Handle/manage large amounts of specific tasks/data	8%
Automate tasks/reduce repetitive/tedious staff tasks	5%
Do/accomplish/reduce specific work tasks	5%
Financial Effects/Benefits (Net)	23%
Reduce costs/long term/labor costs	11%
Increase/improve revenue	5%
Use New/Modern Technology/Wave Of The Future	6%
Effect On Patients	5%

Healthcare Organizations Use AI Throughout RCM Functional Areas

Today, AI is used most for eligibility/benefits verification (72%) and patient payment estimation (64%). Note that RCM leaders indicate use is much higher in these two areas (82% and 86% respectively). The diversity of applications shows that the field is pursuing AI across functions and may be starting to embrace an end-to-end mindset.

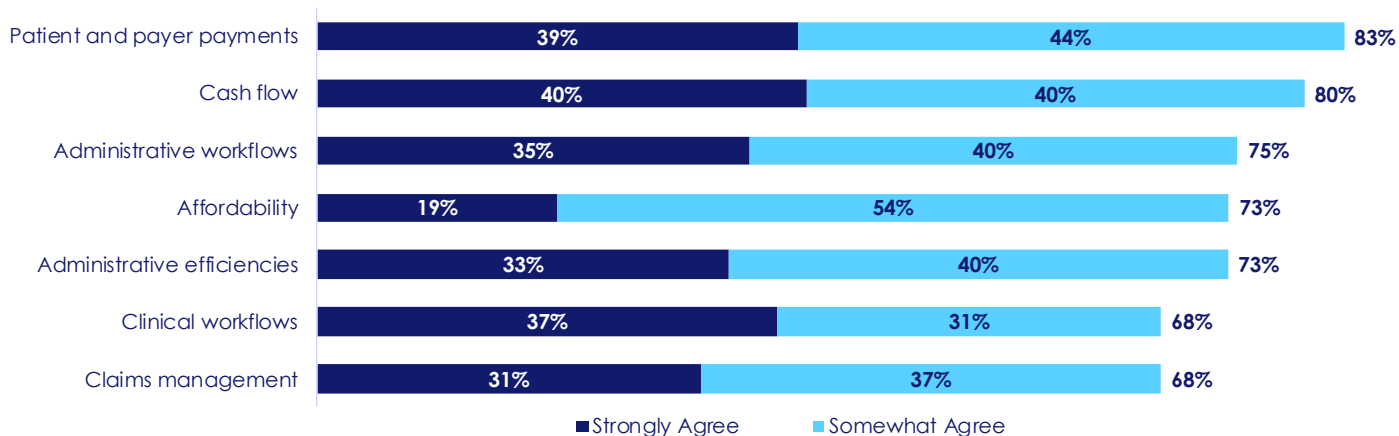
Areas Using AI for RCM: Current



Health Systems Use AI to Realize a Variety of Improvements

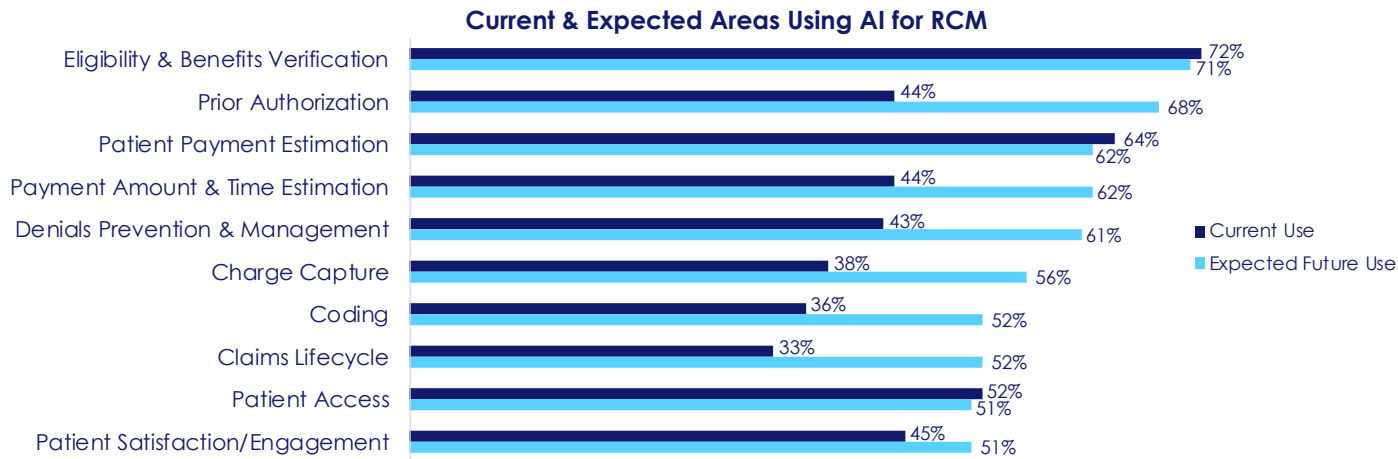
While there are many areas in which AI is driving improvement, patient and payer payment (83%) along with cash flow (80%) top the list. AI is also streamlining administrative workflows (75%) and efficiencies (73%) and helping to make care more affordable (73%).

Agreement that AI is Improving...



Leaders Expect Increased AI Use Across the Board with New Functionalities Emerging

While eligibility and benefits verification (71%) and patient payment estimation (62%) will continue to be popular areas for AI in the future, there are some key functions that will also see a meaningful increase in AI use. For example, prior authorization is expected to see a 24 percentage-point increase, and payment amount/time estimation and denials prevention are expected to see an 18 percentage-point increase.

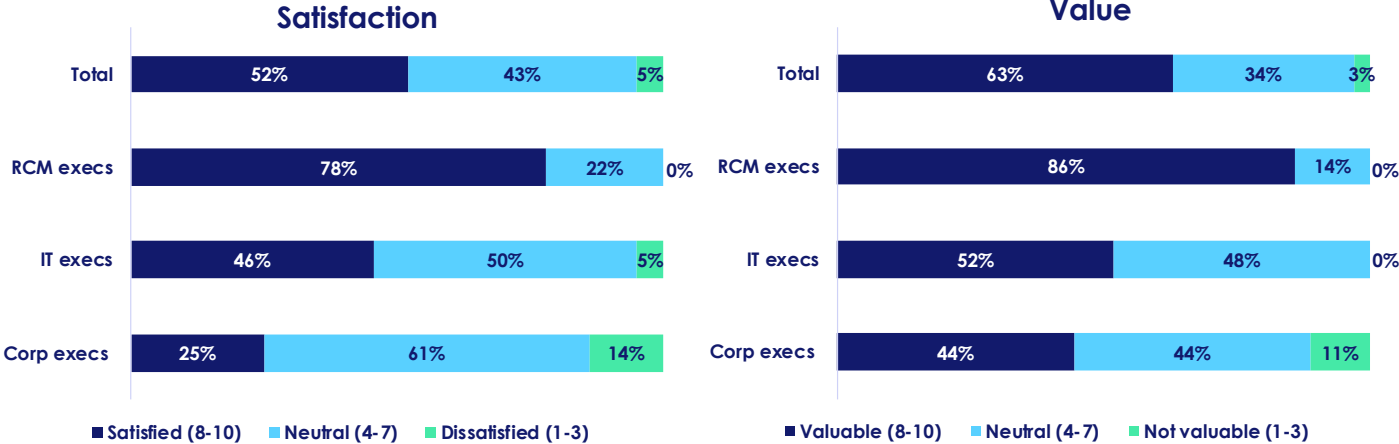




Barriers to Change:
Conflicting Viewpoints
Could Stall Progress

RCM Leaders are More Likely to be Satisfied with Current AI Use and See the Technology's Value

There are some significant variations in healthcare leaders' perceptions of AI in RCM. While nearly 8 out of 10 RCM decision-makers (78%) are satisfied with their current AI use, only 25% of corporate leaders and 46% of IT leaders are satisfied. Perceptions on value also differ. 86% of revenue cycle leaders see value in AI and only about half of IT (52%) and corporate (44%) leaders do. RCM leaders should share insights and demonstrate the value of AI with operational and financial leadership to build the case for funding and resources for AI in RCM efforts.



RCM Leaders are More Likely to be Satisfied with Current AI Use and See the Technology's Value

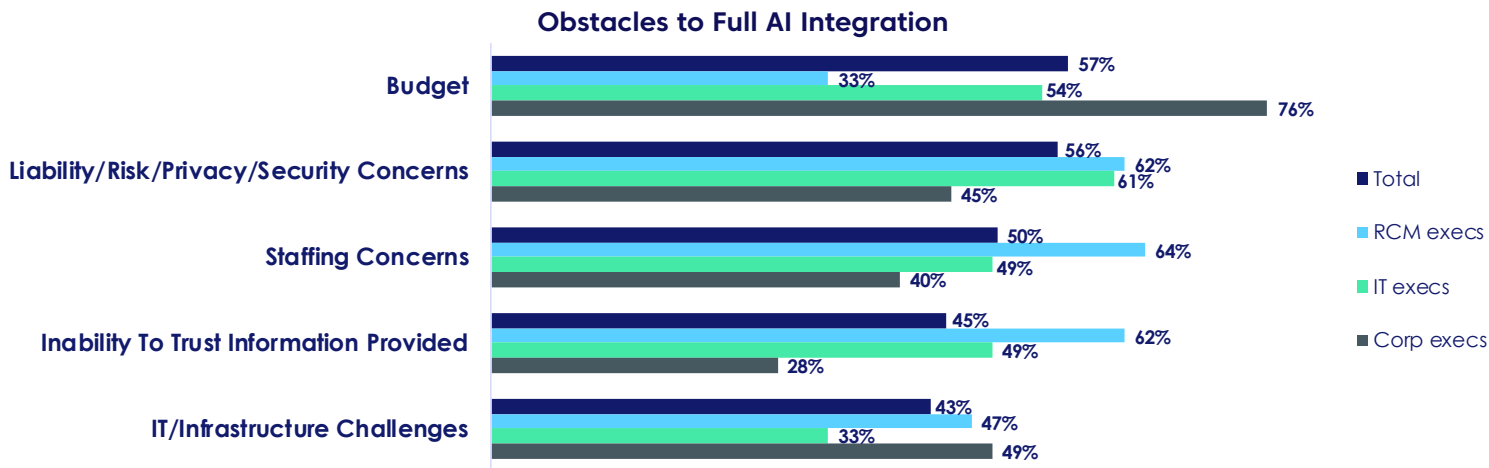


“There remain stark gaps in the perceived value of AI between stakeholders. The opportunities for providers are enormous and invaluable—from improving the entire revenue cycle to better patient level-of-care prediction, clinical insights, and claims accuracy. But this potential can only be realized if key stakeholders become aligned on AI’s capabilities, embrace a strategic AI vision, and prioritize the most impactful use cases.”

– Luyuan Fang, PhD, chief AI officer at Change Healthcare

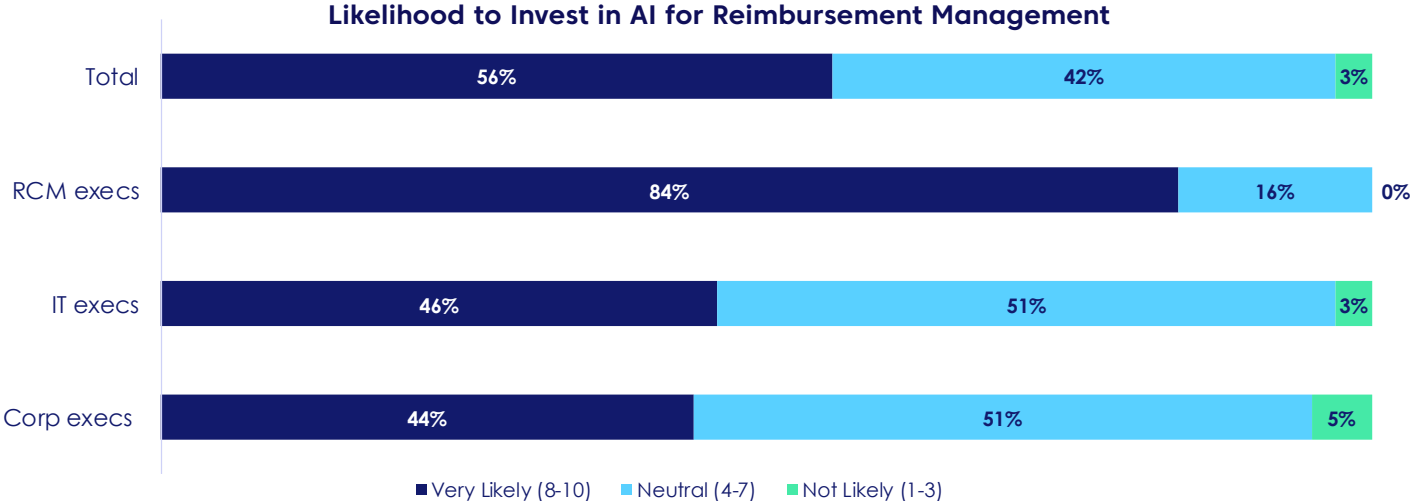
Respondents Disagree about Obstacles to Full AI Integration

C-suite and financial leaders are especially concerned about budget constraints (76%) while RCM leaders are focused on staffing (64%), security risks (62%), and lack of trust in the information an AI solution provides (62%). From a tech perspective, liability and security risks are the most concerning element (61%).



Leaders Differ in Their Interest in Investing in Technology to Improve Reimbursement Across the Claims Lifecycle

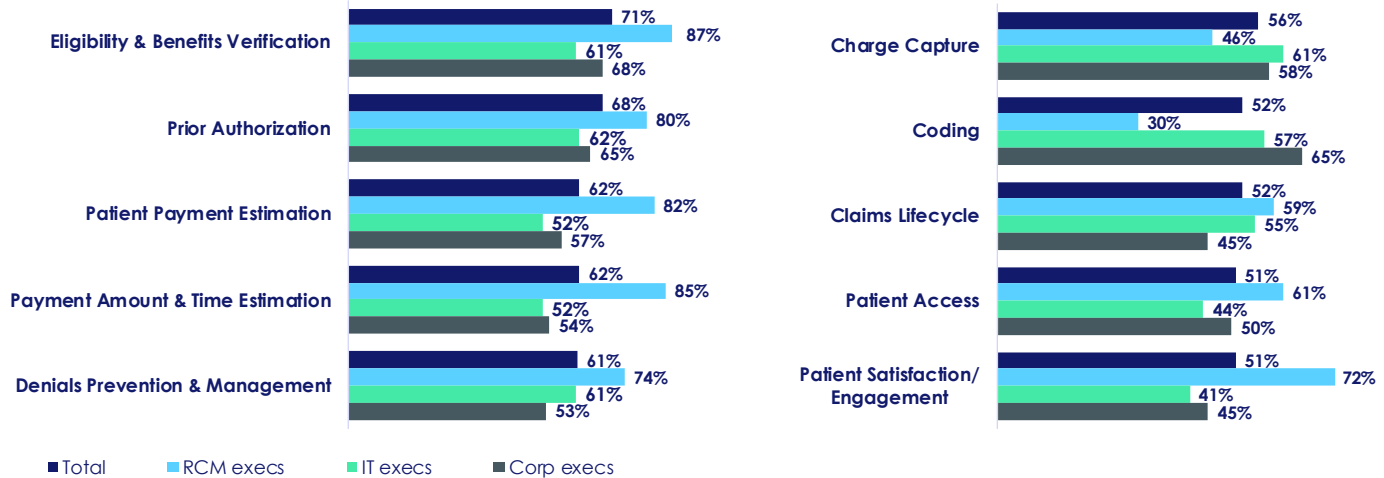
More than 8 out of 10 RCM leaders are likely to invest in AI for reimbursement management, while interest is much lower among those outside the revenue cycle. Less than half of IT (46%) and corporate (44%) leaders are interested in making this type of investment.



Those Who Work in RCM are More Likely to Use AI Going Forward

RCM leaders expect AI use across the board by 2023, but they are more optimistic than their IT and corporate counterparts. Where more than 80% of RCM leaders foresee using AI in eligibility verification (87%), prior authorization (80%), patient payment estimation (82%) and payment amount and time estimation (85%), only 52%-68% of IT and corporate leaders feel this way.

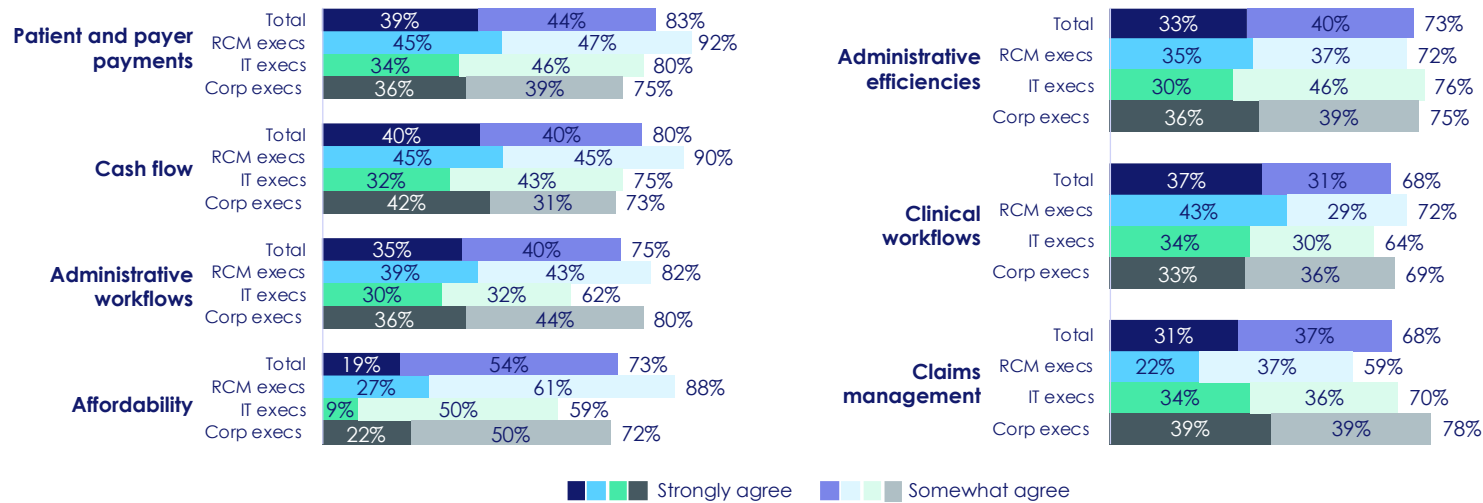
Areas Will Use AI for RCM: Expected in 3 Years

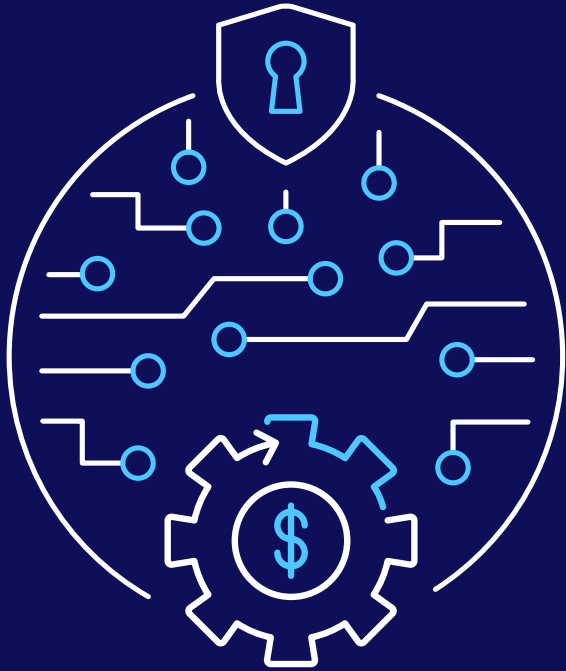


RCM Leaders Are Focused on Payments and Cash Flow

Improvement priorities also differ between groups. While RCM leaders are focused on patient and payer payments (92%) and cash flow (90%), executive and financial leaders are interested in claims management (78%) and administrative workflows (80%). Tech leaders are focused on payments (80%) and administrative efficiencies (76%).

Reasons for Using AI





Barriers to Change:
Budget and Security
Concerns Remain High

Financial Considerations are the Leading Reasons Not to Invest in AI for RCM

We asked respondents to tell us in their own words why their organization has not invested in AI for revenue cycle management. Nearly 60% of respondents are concerned about the costs of AI and whether it will deliver timely ROI. Only 6% say they don't need the technology, which shows a significant gap between the need for the solutions and organizations' perceived ability to afford them.

Reasons for Not Investing In AI For RCM	
Financial Concerns (Net)	58%
High Cost/Expensive/Too Costly Upfront	32%
Limited/Unsure Of/Low Priority In Budget/Can't Afford Right Now	18%
Concern About Cost Benefit/Effectiveness/ROI/Economy Of Scale	10%
Product Concerns (Net)	52%
Quality/Input Data Quality Concerns/Unsure Of Accuracy Of Results	7%
Privacy/Security Concerns/Liability/Risk Issues	6%
Novelty Of AI/Technology Too New/Not Yet Proven In Marketplace	6%
Personnel Concerns (Net)	11%
Staffing/Limited Staff/Technical Resources	7%
Require Training/Limited Staff Skill/Experience With It	6%
Lack Of Need/Demand For This Currently/Have Other Prioritized Needs	6%

According to one senior leader, "AI is too new to the scene and not yet fully proven itself in the marketplace." If the marketplace is going to realize greater adoption, a clear ROI will be necessary to overcome doubts.

Organizations Cite Privacy and Security Concerns as Barriers

Privacy and security fears, along with prohibitive costs, top non-users concerns about AI, with almost half (49%) worried about privacy and security and just over 40% stating that costs are prohibitive.

Reasons for Not Using AI for RCM



Organizations Cite Privacy and Security Concerns as Barriers



“ Like every large-scale change, there will be challenges involved in transforming the existing culture and processes, coordinating the work of multiple teams, and navigating a multifaceted implementation effort. But all these hurdles are manageable as long as an organization keeps the ultimate goals of efficient, more cost-effective, patient-centered care top of mind. When an organization is committed to an AI strategy, it can move forward and achieve never-before-seen outcomes.”

– Luyuan Fang, PhD, chief AI officer at Change Healthcare

CHANGE

HEALTHCARE

Insight. Innovation. Transformation.

<https://www.changehealthcare.com/about/innovation/artificial-intelligence>

Change Healthcare (Nasdaq: CHNG) is a leading independent healthcare technology company, focused on insights, innovation and accelerating the transformation of the U.S. healthcare system through the power of the Change Healthcare Platform. We provide data and analytics-driven solutions to improve clinical, financial, administrative, and patient engagement outcomes in the U.S. healthcare system.