# Five Practical Ways Embedded AI Is Reshaping Revenue Cycle Management

## From Reducing Friction to Accelerating Reimbursement

XiFiN™
THE POWER TO DO GOOD

# Contents



# Artificial Intelligence: Key Terms

**Robotic Process Automation (RPA):** RPA is not AI, but it can be used in conjunction with AI. RPA is a rule-based software engine. It has no intelligence; it simply automates repetitive tasks by mimicking human actions with a scripted or rules-based approach.

**Machine Learning:** Machine learning is the ability to generate a prediction by training a model on relevant historical input data.

Example: Predicting the probability of reimbursement for a particular procedure. Analyzing the results of historic reimbursements helps determine how similar claims were paid or not paid in the past and generates a prediction (and confidence factor) for the reimbursement of future claims.

**Natural Language Processing (NLP):** NLP is used to understand unstructured data, such as natural language text, and converts it into structured data, which can be used in processing or as input into machine learning algorithms to create predictions.

Example: Extracting relevant activities and events from clinical notes for structured reporting or as input into training an AI model or executing an AI-powered workflow.

**Generative AI:** Generative AI enables an NLP application to consume natural language data and generate content surrounding it. It is a powerful tool, capable of absorbing a significant amount of content and information—and then reorganizing, structuring, and summarizing that content in various ways, in natural or computing languages. ChatGPT is an example of generative AI.

# Introduction to Embedded AI

Although healthcare providers are focused on effective care delivery, they face pressure to reduce the total cost of providing those services. Coding, claim processing, and the collective revenue cycle management (RCM) tasks required to ensure appropriate reimbursement for billable service are all critical to funding their mission. Those activities, however, carry an administrative burden and associated costs—challenges compounded by staffing shortages, payor policy and behavior changes, regulatory requirements, and ongoing fee schedule cuts that compress revenue. Providers also face mounting denials and additional documentation requests from payors. A key factor driving this increase is the payors' expanding use of artificial intelligence (AI) in prior authorization determination and claim adjudication.

By leveraging AI in their own revenue cycle, however, providers can keep pace and level the playing field. Applying AI practically will help:

- Intelligently translate payor responses to facilitate quick workflow pathways
- Streamline the key workflows—and the overall RCM process
- Reduce costs
- Enhance the patient experience

In this eBook, we'll provide clear, practical examples where embedded AI delivers real, tangible value in the revenue cycle, by removing friction from the patient and ordering physician experience, reducing administrative burden, and accelerating claims processing.

REMOVING FRICTION FROM THE PATIENT EXPERIENCE

REDUCING ADMINISTRATIVE BURDEN AND COST

ACCELERATING CASH COLLECTIONS AND MAXIMIZING REVENUE

# AI Performance: The Importance of Quality Data

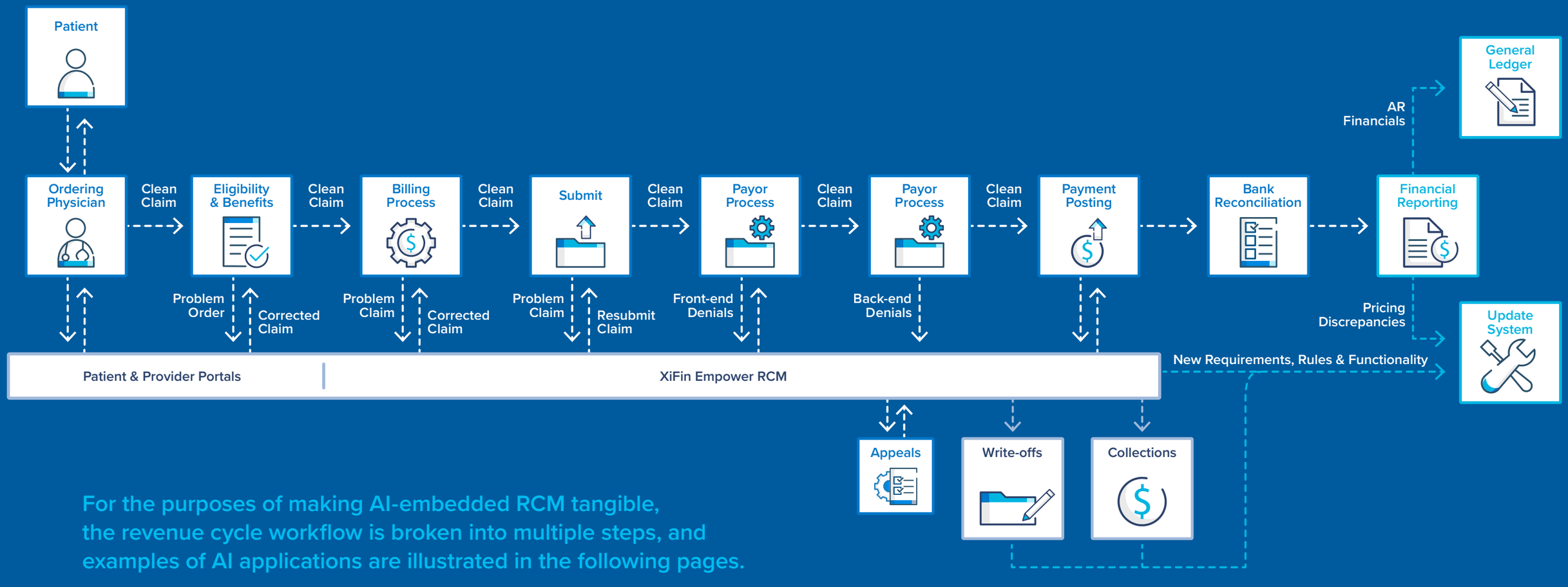
## UNDERSTANDING AND MODELING DATA

Without good-quality data, organizations can't generate the AI models that move a business forward. Building effective AI models requires an understanding of the data landscape—and the capability to monitor performance and adjust AI-driven actions and workflow. Preparing for AI demands purposeful data modeling and constant vigilance at every step of the process to ensure data integrity and valid results. Further, capturing accurate data early in the revenue cycle ensures more timely, more efficient workflow downstream. Dirty or unstructured data leads to unintelligent AI.

## FROM DATA COMPLEXITY TO AI CLARITY

RCM data is incredibly complex. The XiFin team has invested significant effort in structuring the complex RCM data required to develop effective AI models that are embedded in the XiFin Empower RCM solution. For example, building upon workflows, XiFin Empower AI can be applied to determine if a claim is likely to be rejected because of incorrect or incomplete payor information or patient ineligibility, and automatically resolve most issues. Plus, AI can quickly determine the probability of reimbursement and prioritizes the remaining claims that require intervention. These claims are then directed to the best available team member for resolution.

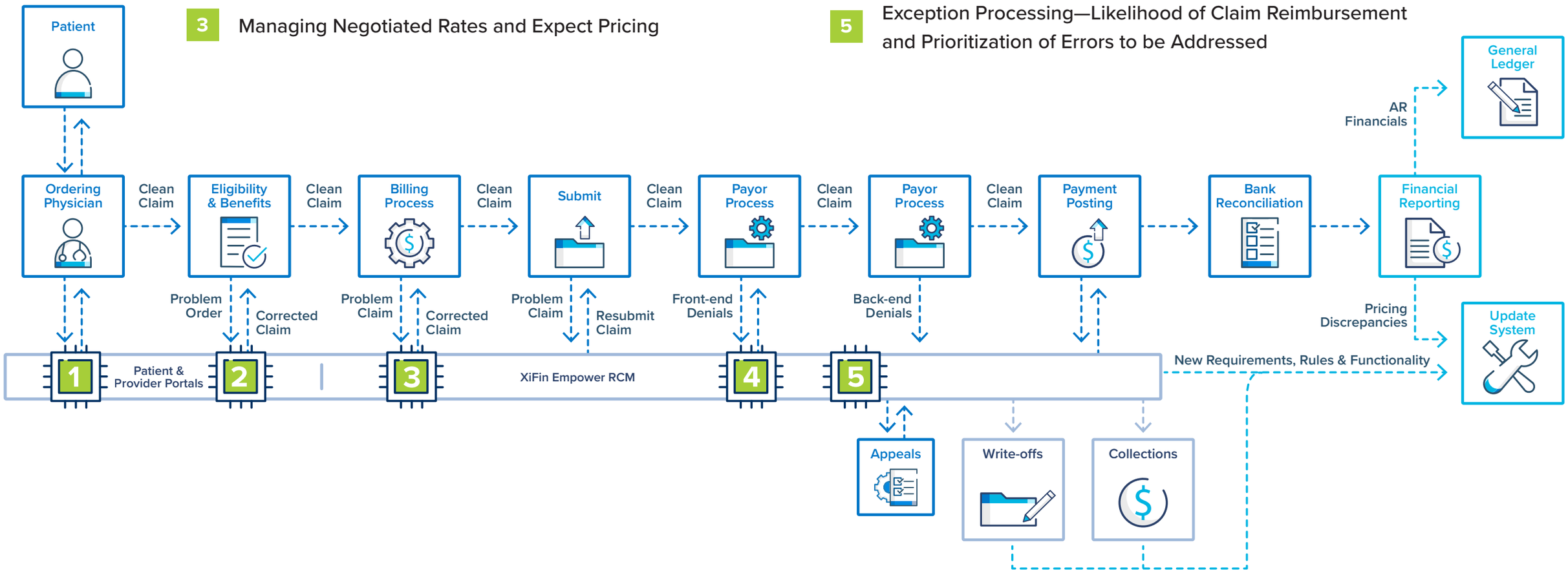
# Step-by-step View of the Lifecycle of a Claim




For the purposes of making AI-embedded RCM tangible, the revenue cycle workflow is broken into multiple steps, and examples of AI applications are illustrated in the following pages.

# Embedded AI: Applications Throughout the Billing Process

1. Capturing Third-Party Insurance
2. Accurately Calculating Patient Responsibility Estimates
3. Managing Negotiated Rates and Expect Pricing
4. Simplifying Interactions with Payors and Translating Payor Responses into Actionable Next Steps
5. Exception Processing—Likelihood of Claim Reimbursement and Prioritization of Errors to be Addressed



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# Capturing Third-Party Insurance

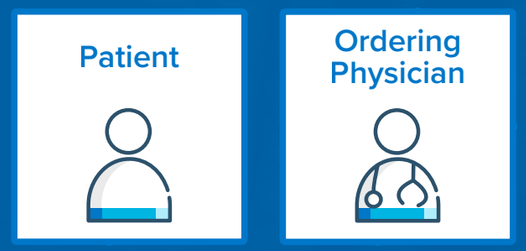
Capturing correct third-party insurance information for patients can be a challenge, but that information is essential to process claims and receive reimbursement—accurate information up front eliminates downstream bottlenecks. For some diagnostic providers, this can be especially difficult because they may not see the patient in person, which prevents the direct collection of payor and plan information. This creates friction.

AI applied to this challenge can remove the burden from the patient and the ordering clinician by uncovering the underlying payor details in an instant.

## THE CHALLENGE

Patient estimation, checking for eligibility and benefits coverage, and claim submission are all impacted by the inability to easily and accurately capture third-party insurance. Accurately capturing and translating patient-specific insurance information such as the payor name, insurance numbers into actionable data is complicated by:

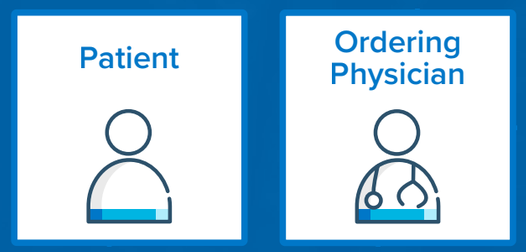
- The variety of payor name formats (text versus images/logos) and location of key information (such as like group number, subscriber ID,  member ID) on insurance cards
- Insurance card information not directly aligning with insurance contracts and payor rules




## HOW IT WORKS WITH EMBEDDED AI

- Analyzes data and inputs to uncover payor details
- AI learns card patterns to correctly identify fields and/or locations
- Machine learning uses card and eligibility information to map to the right payor or contract

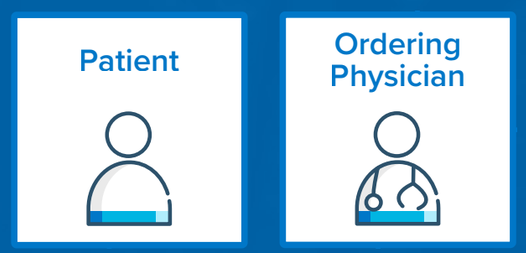
# Capturing Third-Party Insurance




## THE BENEFITS

- Eliminates the need to contact the patient or ordering physician for missing information
- Reduces delays reimbursement with accurate information captured at the beginning
- Accelerates downstream billing workflow

# Capturing Third-Party Insurance

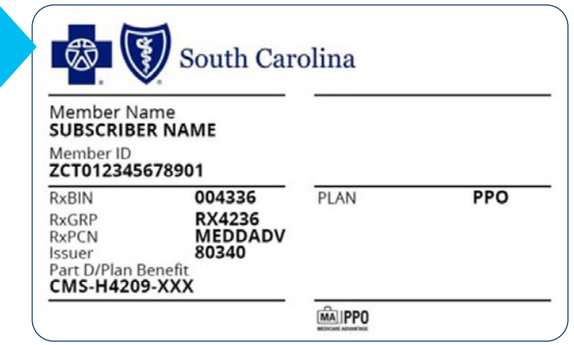



## DECIPHERING HEALTH INSURANCE CARDS IS CHALLENGING

Even just getting the payor's name right is not simple. The following illustrations highlight how a payor's name is different on every card.

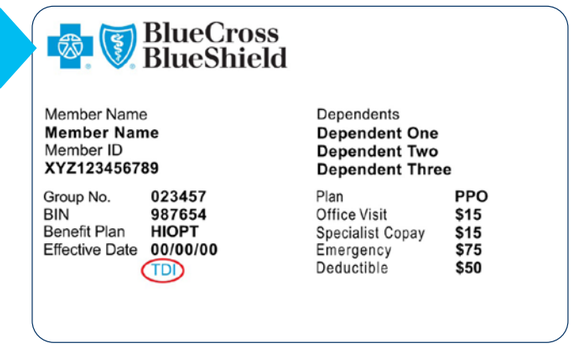
In the first example, there's only a logo of the payor, their name isn't indicated anywhere on the card.

**No Payor Name Text**



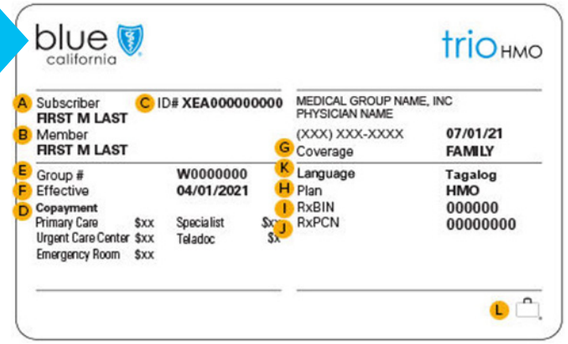

In the second example, the payor name is incomplete because it doesn't include a geographic region.

**Incomplete Name Text**




The third example only includes a partial payor name in the text format.

**Partial Payor Name Text**



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# Calculating Accurate Patient Responsibility Estimates


Calculating an accurate patient financial responsibility estimate is predicated on receiving complete and accurate information back from the payor and having the appropriate expect amount on record. The estimate must consider relevant provider-specific pricing information, test or procedure information, and real-time eligibility to determine patient responsibility amount.

## THE CHALLENGE

Generating an accurate, real-time patient responsibility estimate requires aggregating and applying such data as:

- Detailed payor and plan information
- Test or procedure information
- Patient eligibility
- Patient copays, coinsurance, deductibles

## HOW IT WORKS WITH EMBEDDED AI

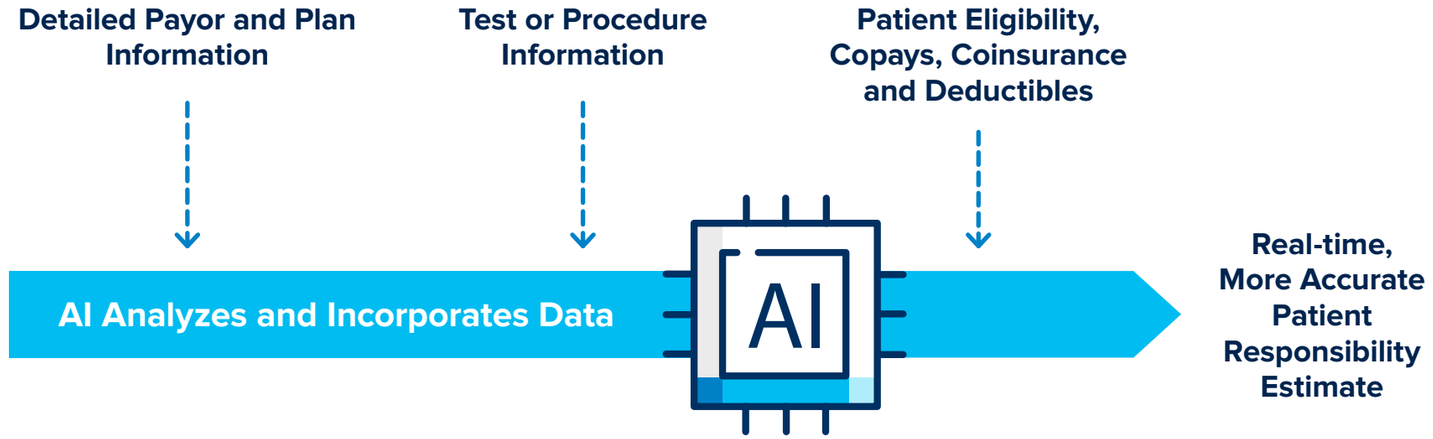
- Analyzes and incorporates data from multiple sources
- Provides real-time estimate of patient responsibility
- Determines likelihood of claim rejection based on patient ineligibility or incorrect/incomplete payor information—and applies automation to correct

# Calculating Accurate Patient Responsibility Estimates

Eligibility & Benefits

## THE BENEFITS

- Heightens patient satisfaction with more accurate estimate provided up front—while reducing potential for sticker shock
- Accelerates reimbursement with proactively applied workflow automation



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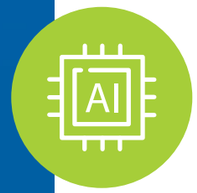
# Managing Negotiated Rates and Expect Pricing

AI can help healthcare providers understand and maintain expect prices in their RCM solution. Expect prices are what an organization can anticipate a payor to allow for specific procedures or encounters. It's important to track whether payors are paying those expected or contracted rates and whether the organization is receiving the level of reimbursement expected. For non-contracted payors, it's harder to know what the reimbursement rate will be. Historical data and AI can provide a good understanding of what can be expected.

## THE CHALLENGE

Gauging actual reimbursement rates vs. contracted rates requires inputs from multiple payors across thousands of tests, encounters, and procedures. Reimbursement rates for non-contracted payors are even more difficult to anticipate.




## HOW IT WORKS WITH EMBEDDED AI

- Expected or contracted rates can be automatically loaded into RCM system
- System measures actual reimbursement against expected or contracted rates
- For non-contracted rates, system uses AI to compare to historical reimbursement rates

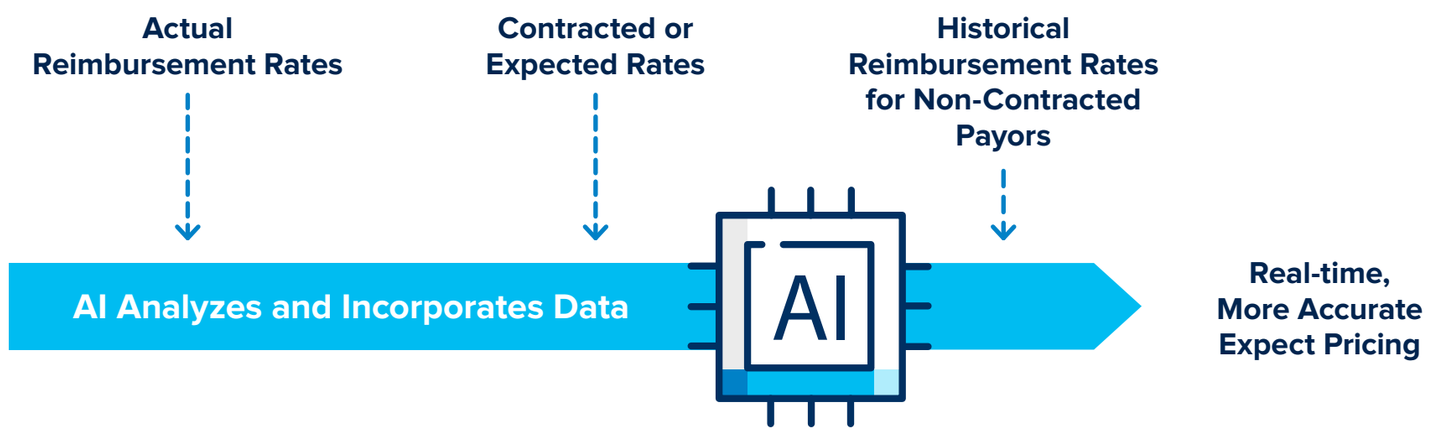
# Managing Negotiated Rates and Expect Pricing

Billing Process

## THE BENEFITS

More timely, accurate pricing helps healthcare providers

- Forecast organizational financial performance
- Use data to negotiate rates with payors
- Analyze test,encounter, and procedure mix through a financial lens



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# Simplifying Interactions with Payors and Translating Responses into Actionable Next Steps


Payor responses are varied and often change over time including a myriad of acknowledgments, denials, and reason codes. For many payor responses, there is a need for manual intervention such as requests for additional information. It can be very challenging for RCM teams to correctly interpret and know how to best respond to these various responses. There is also pressure to resolve responses quickly, both to expedite reimbursement as well as to avoid running up against timely filing deadlines. The impact on labor cost can be offset with AI.

## THE CHALLENGE

Payor responses are dynamic—changing over time, driven by a multitude of factors. Resolution requires manual, claim-specific intervention. Plus they use AI more and more, compounding the challenge.

## HOW IT WORKS WITH EMBEDDED AI

- Uncovers underlying payor details, including eligibility, coverage, and patient responsibility for a particular claim
- Discovers claim-specific payor plan details that enable processing without manual intervention
- Translates payor responses into appropriate reason codes and initiates the corresponding workflow for efficient follow-up
- Using machine learning trained on recently adjudicated claims, AI provide accurate information on non-contracted rates, including expected allowed amount, estimated copay, estimated coinsurance, and risk of coverage limitations
- Proactively flags—and even solves—problems with a specific claim

# Simplifying Interactions with Payors and Translating Responses into Actionable Next Steps


## THE BENEFITS

- AI translates thousands of unstructured text responses from payors to minimize human intervention
- Automates the workflow for a specific error on a claim, even if the error code provided by the payor is generic
- Reduces manual labor, the associated costs and helps avoid clerical decision errors
- Accelerates claim processing and cash collections

# Simplifying Interactions with Payors and Translating Responses into Actionable Next Steps


## UNSTRUCTURED PAYOR RESPONSES ARE RIPE FOR AI-DRIVEN AUTOMATION

Front-end payor acknowledgments are often returned with a generic status code (A3:21) and details are added in the STC-12 field (or elsewhere) with unstructured text. Depending on the size and volume of healthcare providers, these number in the tens of thousands of varied text responses. Complicating the matter further are the multiple text explanations for one status code. Many RCM teams have these set to “manual hold” in their process and require human intervention, translation, and action.

In this example, the multiple unstructured notes indicate that there are diagnosis codes that shouldn’t be reported together, among other issues.

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# AI-Driven Exception Processing (EP) Workflow

Another valuable way that AI is reshaping RCM relates to quickly determining the probability of reimbursement and assigning how claims are prioritized if a claim requires intervention that cannot be automated. The goal with EP is to ensure that the claims are prioritized to optimize reimbursement.

Next comes understanding the probability of the claim being reimbursed. An AI model can be designed to assess the likelihood of the claim being reimbursed and the likely amount of reimbursement for those expected to be paid. This helps prioritize activities and optimize labor resources. The AI model can also take important factors such as timely filing dates into account. If a claim is less likely to be collected than another procedure but is close to its timely filing deadline, it can be escalated.


## THE CHALLENGE

Timely prioritizing claims processing and intervention for a high volume of tests, encounters, and procedures is virtually impossible.

Staffing constraints and variable skillsets among the billing team add further complexity.

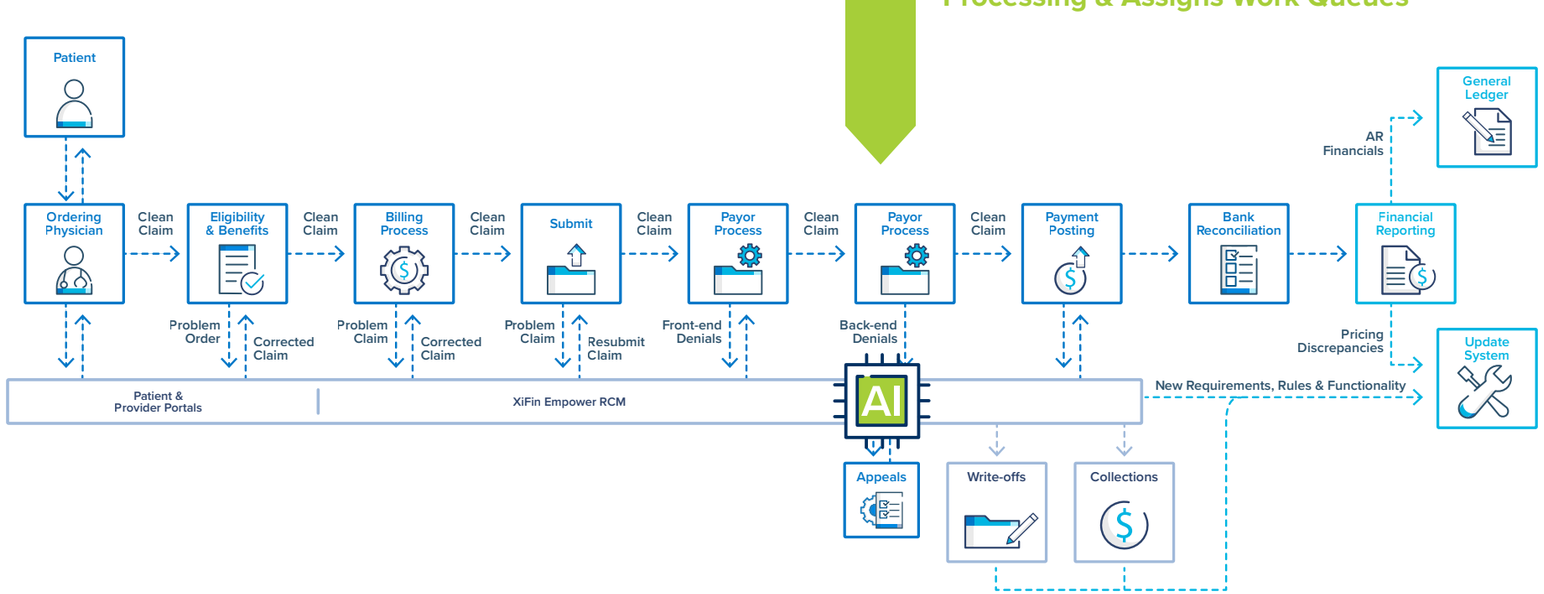
## HOW IT WORKS WITH EMBEDDED AI

- Claim errors are prioritized by payment risk based on the likelihood of payment collection using an AI model applied to historical data
- Claim errors routed to the best team member to correct based on past results, expertise, and/or efficacy
- Errors grouped and prioritized to ensure focus on the most collectible items
- AI model considers claim value and timely filing deadlines when assigning priority

# AI-Driven Exception Processing (EP) Workflow

## THE BENEFITS

- Filtered, prioritized error processing helps elevate overall financial performance
- Eliminate the need for manual task assignment
- Staff are aligned with the tasks that best match their skills, boosting efficiency and team satisfaction




# Measuring AI Performance

**How do we know if an investment in AI is paying off?**

It comes down to how performance, productivity, quality, and profitability are enhanced. Reporting and analytics will tell the story if you:

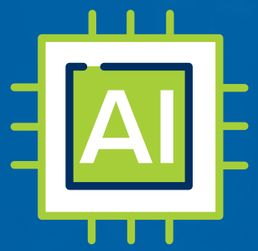
- Establish baseline performance metrics
- Measure key performance indicators (KPIs) regularly
- Make adjustments and refine

To maximize the value of AI investments, AI modules must be easily integrated into the RCM workflow architecture. Also, models must be trained on RCM historic data directly, without interfaces or “bolt-on” frameworks.

Empower RCM offers AI-driven process automation that provides user-configurable workflow automation by design. It also incorporates analytics-informed workflow recommendations. Advanced Analytics identifies coverage and denial trends that enable workflow configuration adjustments.


Financial Reporting

# AI Program Transparency




As you start or adjust your approach to AI with respect to your RCM, it is suggested that AI guardrails are explored and discussed in your organization and with technology partners to ensure ethical, efficient and accurate use of the technology. Below are ten AI guardrails that may help shape your RCM approach.

- Data Privacy and Security
- Regulatory and Payor Compliance
- Algorithm Transparency
- Interoperability and Integration
- Bias Mitigation
- Patient-Centric Approach
- Accuracy and Reliability
- Ethical Considerations
- Human Oversight and Intervention
- Continuous Learning and Improvement


## CONCLUSION

Healthcare executives looking to maximize reimbursement and keep the cost of collection low will want to explore how to better leverage data, AI, automation, and analytics across their RCM process. When looking to implement AI with a current or potential revenue cycle partner, look for:

- Deep understanding of healthcare data models and metrics specific to financial and operational workflow
- Technology that embeds and leverages AI throughout the revenue cycle
- Ability to scope and deliver business-critical metrics and indicators
- Experience developing customized and reusable AI models and can integrate data from multiple sources
- A proven track record of working with combined clinical and financial analytics
- Capability to align various AI approaches to specific need (e.g., statistical, machine learning, natural language processing, and/or generative AI)
- Availability of consultative services to identify the most appropriate/useful analytics AI to achieve a particular goal or address a particular challenge
- Flexibility to supplement existing analytics/AI resources on a short-term basis or longer-term engagement

Embedded AI saves time and money and delivers better insights by removing friction for the patient and ordering physician, reducing administrative burden, and ultimately accelerating claims processing.

Contact us to learn more about AI-embedded RCM or to request a consultation on your RCM needs:

866.934.6364

## ABOUT XiFin

XiFin is a healthcare information technology company that empowers organizations to navigate an increasingly complex and evolving healthcare landscape. Leveraging AI-enabled technologies and services, the XiFin Empower platform delivers enhanced operational efficiency, increased productivity and workflow automation. Our comprehensive set of solutions—spanning revenue cycle management, clinical workflow enablement, laboratory information systems, and patient engagement—provides healthcare organizations with the tools they need to achieve financial strength, optimize operations, and implement industry-leading strategies. XiFin Empower solutions deliver THE POWER TO DO GOOD® so that healthcare organizations can do more good for more patients. Visit www.XiFin.com, follow XiFin on LinkedIn, or subscribe to the XiFin blog to learn more.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