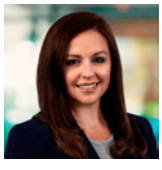
WHITE PAPER

2025 Payor Denial Impact Report

Insights Into the Latest Trends and Recommended Practices for Optimizing Clinical Lab, Hospital Outreach, Molecular, and Pathology Claim Denials and Appeals, and How AI Is Driving New Levels of Improvement



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Introduction

Diagnostic revenue cycle management (RCM) is becoming increasingly complex, and diagnostic organizations face mounting financial pressure. Payors continue to compress provider revenue through restrictive and inconsistent policies, shrinking fee schedules, and declining contracted reimbursement rates. Growing regulatory and compliance demands add to these challenges. These trends make reimbursement for services rendered increasingly difficult to secure and sustain.

Adapting to this environment requires more than operational resilience. It demands strategic evolution. From enhancing service delivery to physicians and patients to implementing modern technology like artificial intelligence (AI) and building smarter, more automated workflows, diagnostic organizations must reimagine their entire approach to the revenue cycle.

This report analyzes denial and appeal data and trends across XiFin customers in the following segments:

1. Hospital outpatient and outreach laboratories, and clinical laboratories, collectively referred to throughout this paper as "clinical"[1]
2. Molecular diagnostics
3. Anatomic pathology

[1] The segments are defined based on the primary volume billed by the customer, meaning that a small percentage of claims categorized as "clinical" may in fact be pathology claims billed by a hospital outreach laboratory, for example.

This report is based on a sample of 2024 data, representing over 20 million claims. This analysis is based on Current Procedural Terminology (CPT®)[2] codes, allowing for more granular insights, since a single claim may include multiple CPT codes.

Importantly, the findings demonstrate that strategically managing denials and appeals is not just an operational necessity but a financial opportunity. In many cases, the revenue recaptured through successful appeals is substantial enough to offset—and in some instances entirely cover—the cost of investing in an advanced RCM technology solution. This underscores why denial and appeal management must be viewed as a core driver of financial performance rather than a back-office function.

For each segment, we present several key metrics and insights, including:

- Propensity for denials
- Leading denial reasons by top payor groups
- Appeal success by top payor groups
- Top appeal types and associated success rates
- Revenue generated by successful appeals

Additionally, we examine payor behavior patterns, often revealing inconsistencies between published policies and actual adjudication practices. Finally, considering these metrics, behavior patterns, and trends, this report outlines XiFin's **recommended strategies** to streamline appeals, reduce administrative burden, and improve operational and financial outcomes using workflow automation and AI.

[2] CPT is a registered trademark of the American Medical Association

Denials Drive Reduced Revenue, Increased Costs, and Signal Payor Behavior Changes

Denials don't just delay payments—they increase bad debt and staff workload. Particularly challenging are hard denials, such as those tied to medical necessity, which represent 5–10% of all denials and are among the least likely to be recovered.

Denials reveal how payor behavior is changing and how payors administer their policies. Monitoring denial trends—especially those related to Patient Responsibility (PR) and Contractual Obligation (CO) codes—offers visibility into when previously collectible revenue may no longer be recoverable. At XiFin, we prioritize building clean claim submissions, optimizing exception handling, and configuring automated processes—including prior authorization and insurance discovery integrations—to prevent denials before they occur.

This report is a benchmarking tool and a call to action for providers to improve their RCM processes and advocate for greater transparency and consistency from payors. By understanding denial dynamics, providers can strengthen financial performance while influencing broader policy changes in the healthcare reimbursement landscape.

Payor Actions Impacting Diagnostics in 2025

- Effective April 1, 2025, UnitedHealthcare (UHC) began denying multiple services on the same DOS not billed on a single claim. Multiple original claims for the same date will result in rejections—only the first will be processed.
- One large Blues plan erroneously triggers OON on pathology practice, driving a spike in PR1, PR2, PR3, PR100, CO131, and PR45 reason codes.
- Payors adopting EDI 275 transactions (Patient Information Transaction Set) that allow for documentation/attachments at the time of claim submission reduce backend denials.
- Humana denies claims with Waiver of Liability (WOL) as stamped signature.
- Commercial adoption of primary diagnosis edits.
- Payor Transparency:
  - Blue Cross Blue Shield of Tennessee quietly purchases Avalon edits
  - Cigna purchases Evicore Prior Authorization edits
  - UHC shareholders withdraw effort to force transparency on coverage denials

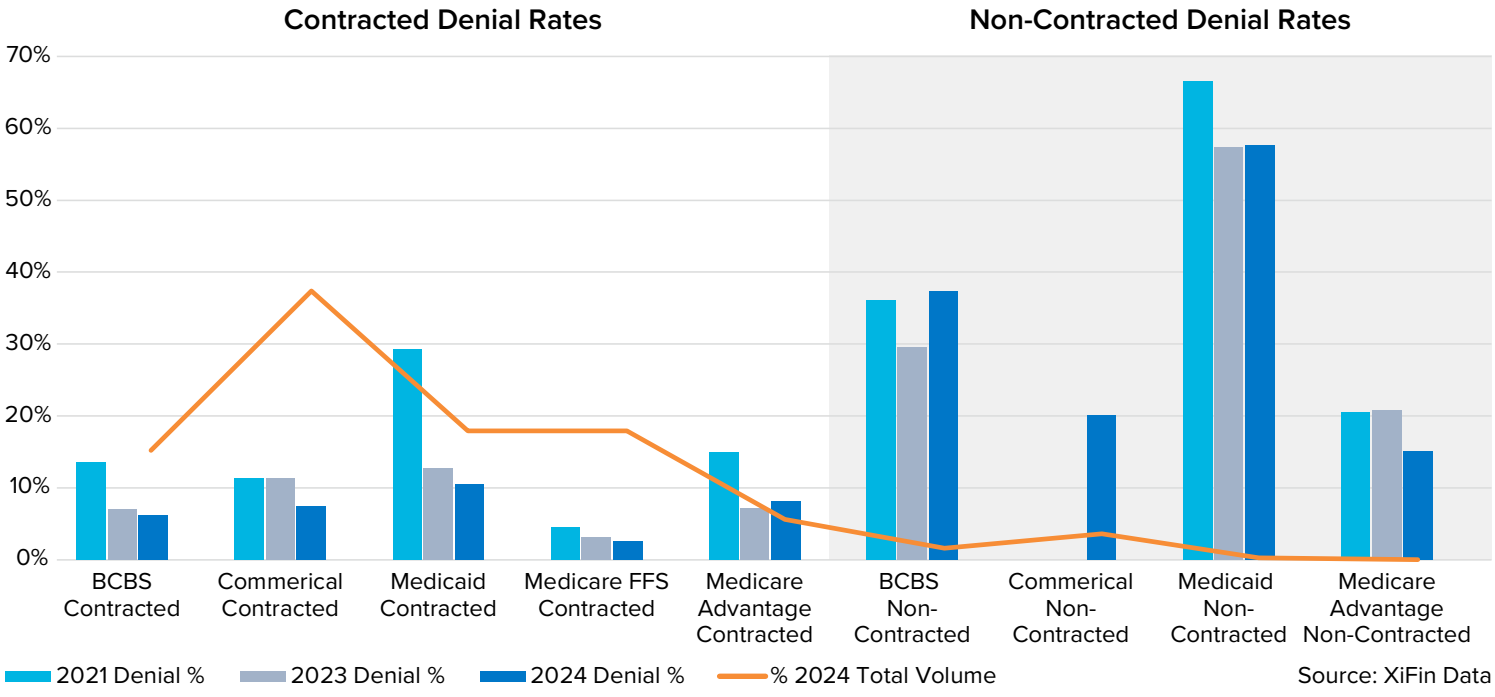
Denials and Appeals Trends Vary Widely by Payor and Testing Segment

Denial rates fluctuate over time and across payors due to factors such as policy updates, network status, and changes in test mix. These variations are also influenced by the type of services performed—some segments are more susceptible to denials due to clinical complexity or evolving coverage guidelines.

The data below reflects 2024 denial and appeal trends across XiFin's customer base. Actual outcomes may vary by organization and testing profile. Still, these figures highlight the impact of effective front-end edits that help identify and resolve potential issues before claims are submitted.

Across the 2024 dataset analyzed, approximately 8% were initially denied. This represents an overall improvement compared to an analogous 2023 dataset, where 9.9% of CPT codes were denied, and a 2021 dataset, where 15.3% were denied. Further details on these trends, including a segment-level view, follow and highlight differences by payor group.

Average CPT® Denial Rates by Payor Group, All Segments



Generally, Medicare and in-network commercial carriers have lower denial rates due to clearer, more established coverage policies and strong front-end claim validation. In contrast, non-contracted payors tend to show significantly higher denial rates. In 2024, contracted payors averaged a denial rate of 7.0%, while non-contracted payors averaged over three times higher, at 22.7%. Both groups demonstrated incremental improvements from 2023, with contracted payors down 29.3% from a 9.9% average, and non-contracted payors down 23.3% from a 29.6% average.

Top Denial Reasons Remain Consistent

The top denial reasons across the clinical, anatomic pathology, and molecular segments remain constant from 2023:

CO151

Payment adjusted because the payor deems the information submitted does not support this many/frequency of services

CO55

Experimental/Investigational, when a procedure code is billed with an incompatible diagnosis for payment purposes, and the ICD-10 code(s) submitted is/are not covered under an LCD or NCD

CO252

Claim will be considered when additional claim information is received

CO96

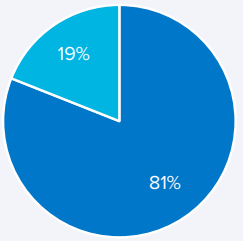
Non-covered charges

CO50

Non-covered services because this is not deemed a “medical necessity” by the payor

Claims Denials and Appeals in ACA Marketplace Plans in 2023

Denied In-Network Claims, 2023



- Claims Paid (319 million)
- Claims Denied (73 million)

Denial Rates for Parent Companies That Receive More Than 5 Million Claims, 2023

Parent Company	Number of HealthCare.gov States	Total In-network Claims Received	Total In- network Claims Denied	In-network Denial Rate
Blue Cross Blue Shield of Alabama	1	13,033,751	4,533,017	35%
UnitedHealth Group	20	14,022,287	4,670,649	33%
Health Care Service Corporation	4	25,094,529	7,328,909	29%
Molina Healthcare	9	5,339,437	1,407,854	26%
Elevance Health	7	10,574,417	2,457,359	23%
CVS	11	31,419,396	6,796,838	22%
BlueCross BlueShield of Tennessee	1	4,493,833	939,798	21%
Cigna Health	8	18,151,575	3,777,467	21%
CareSource	5	5,495,489	1,129,642	21%
Scott & White	1	5,211,245	993,379	19%
BlueCross BlueShield of South Carolina	1	11,459,827	2,183,048	19%
Blue Cross and Blue Shield of North Carolina	1	18,257,563	3,451,238	19%

Source: KFF: Claims Denials and Appeals in ACA Marketplace Plans in 2023 , a KFF analytical report based on CMS data

This study found that denial rates for 2023 were the highest since 2015, when KFF started tracking the data. The study also found that less than 1% of denied in-network claims were appealed. When appealed, insurers reversed 44% of denials.

Only 10% of insured adults who reported experiencing a problem with their insurance in the past year had filed a formal appeal, which indicates a lack of market education, though KFF found that 40% of consumers surveyed do believe they have a legal right to appeal to a government agency or independent medical expert.

It is important to note that the KFF analysis is based on a single marketplace and a broader set of services than the XiFin analysis.

Data disclaimer: *Federal implementation of this transparency in coverage reporting requirement has so far been limited to qualified health plans (QHP) offered on the federally facilitated Marketplace (HealthCare.gov) and does not include QHPs offered on state-based Marketplaces or group health plans. QHP rules include being licensed in the state where coverage is provided, covering pre-existing conditions, following cost-sharing limits, and covering the ACA's ten essential health benefits with no dollar limits on annual or lifetime benefits.*

Denial Data by Segment

Examining the denial data by segment, the average percentage of billed CPT codes that were denied in 2024, compared to 2023, declined in each segment. XiFin data has shown a steady decrease in denial rates over the past four years.

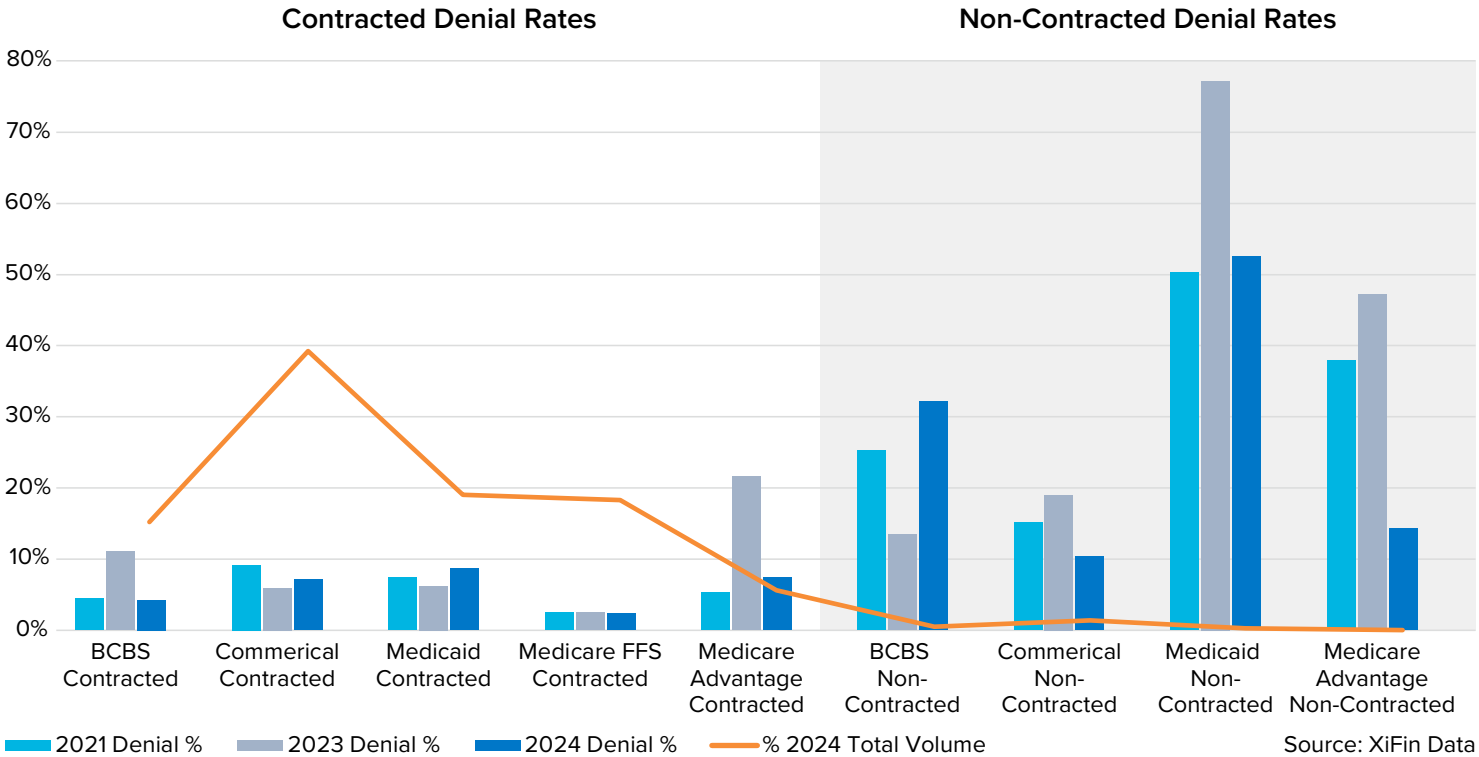
Segment	% of Billed CPT Codes Denied 2023	% of Billed CPT Codes Denied 2024	% Change 2023-2024
Hospital and Clinical Laboratory Claims	19.3%	6.5%	▼ 66.3%
Molecular Diagnostic Claims	35.3%	32.9%	▼ 6.8%
Pathology Claims	10.8%	5.5%	▼ 49.1%

▼ indicates denial rate went down ▲ indicates denial rate went up

Hospital Outreach and Clinical Laboratory Denial Trends

The chart below shows denials by major payor group for the hospital outreach and outpatient laboratory and clinical laboratory segment. As with the view across all segments, the highest denial rates are driven by Medicaid and Medicare Advantage non-contracted payors.

Average CPT® Denial Rates by Payor Group, Hospital Outreach and Clinical Segment



Source: XiFin Data

As shown in the table below, CPT codes submitted by XiFin hospital outreach and clinical laboratory customers saw a strong improvement in the percentage of Experimental/Investigational denials in 2024. By contrast, Procedure Not Paid Separately (CO97) denials continued to increase steadily and constituted the largest percentage of denials for this segment for the fourth consecutive reporting period (2018, 2021, 2023, and 2024).

Duplicate denials (OA18), while decreasing as a percentage of this segment's total denials, remain among the biggest challenges for hospital and clinical laboratories, and represent just under 20% of denials in 2024. These denial types can indicate one of several issues. The CPT code on a claim may conflict with the National Correct Coding Initiative (NCCI) edits and needs additional review; the patient may have a different claim on the same date of service with the same procedure codes billed; or the updated claim was erroneously refiled instead of submitted as a corrected claim.

Denials coded as Non-Covered, Coordination of Benefits, or Experimental/Investigational all decreased in 2024 compared to prior reporting periods. While a relatively small sliver of the pie, Prior Authorization denials increased in 2024, up 18% from 2018.

Hospital Outreach and Clinical Laboratory Denials by Denial Type

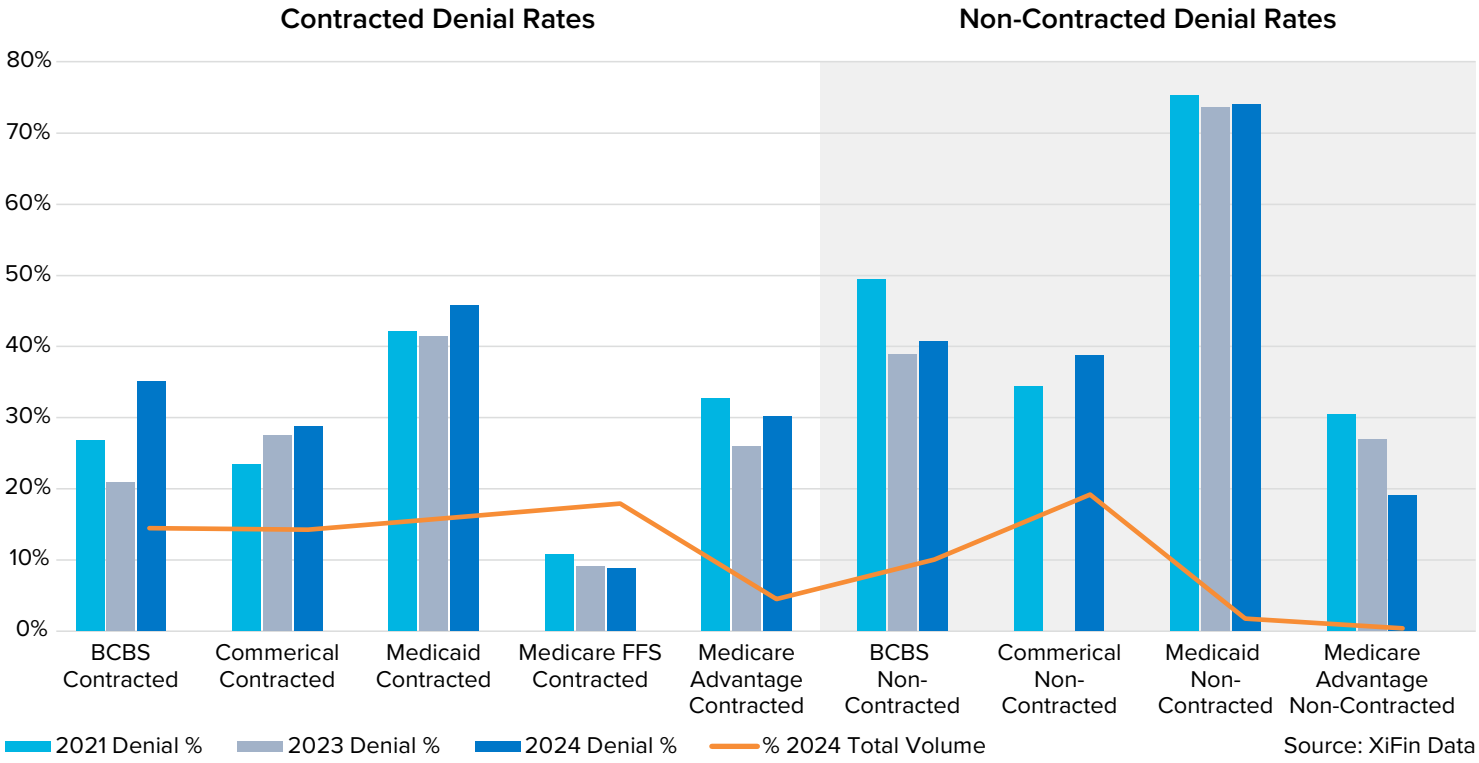
Denial Type (Representing >1% of Total Clinical Denials in 2024)	% of Total Denied 2018	% of Total Denied 2021	% of Total Denied 2023	% of Total Denied 2024	% Change 2018-2024
Procedure Not Paid Separately	32.97%	37.48%	49.79%	53.08%	▲ 61%
Duplicate Denial	26.96%	25.55%	24.32%	19.73%	▼ 27%
Non-Covered	13.53%	8.28%	10.15%	7.76%	▼ 43%
Coordination of Benefits	3.71%	3.65%	4.00%	2.68%	▼ 28%
Experimental/Investigational	7.57%	5.15%	3.76%	2.60%	▼ 66%
Prior Authorization	3.60%	4.15%	2.82%	4.26%	▲ 18%

▼ indicates denial rate went down ▲ indicates denial rate went up

Molecular Denial Trends

Molecular CPT codes continue to experience the highest denial rates of any segment, which results in a heavy revenue recovery workflow at the back end and drives up the total cost of billing for the segment. As seen in the denials by payor group chart below, this segment's higher propensity for denial (32.9% of CPT codes billed) is largely driven by Medicaid and BCBS Contracted denials, when considering payors with the largest volumes. So, while Medicaid Non-Contracted saw denial rates over 70%, their relatively small percentage of total volume makes these denial rates less impactful.

Average CPT® Denial Rates by Payor Group, Molecular Segment



Source: XiFin Data

Molecular Denial Trends

Prior Authorization (CO197) denials remain one of molecular laboratories' most impactful denial types. These denials are especially challenging in the molecular segment, as obtaining clinical notes, medical records, and other documentation from the ordering physician can prove difficult. Those physician notes are crucial in obtaining prior authorization. Even with those notes, claims must satisfy the payor's policy guidelines and medical necessity requirements, which are typically more complex for this type of testing. Further complicating matters is the fact that successful prior authorization requests do not guarantee payment. Out-of-Network (OON) molecular laboratories often still receive a final denial, even after obtaining prior authorization.

After a substantial increase in Experimental/Investigational denials between 2021 and 2023, 2024 saw a substantive decrease from 13.16% in 2023 to 8.77% in 2024. There was a significant jump in Non-Covered denials from 2021 to 2023, but this denial type saw a reduction in 2024. Procedure Not Paid Separately saw a substantial positive change in 2024, down from a peak of 32.68% in 2021 to a new low point of 3.07% in 2024.

Within the molecular diagnostics arena, Exome/Genome testing can be particularly tricky to get reimbursed. It must be administered by specialized technicians with specific credentials. These tests are highly complex and time-consuming. Depending on testing methodologies, they can take eight, 12, or even 16 weeks to complete, which presents a considerable risk of timely filing denials for the many payors that have adopted 90-day limits.

XiFin-Recommended Practice: Explore amending payor contracts to extend timely filing limits on these tests.

Unlike routine testing, commercial payors drive reimbursement policies in the molecular segment. Commercial policies around molecular testing have become more robust than CMS's; however, they are no less cumbersome to manage. Guidance can vary dramatically across payors. Most state Medicaid plans, for example, do not include genomic testing (81415, 81416, 81460) on their fee schedules.

In addition, many molecular and genomic laboratories are out-of-network (OON) with most major payors, and patients may not have OON benefits for genetic and molecular testing.

XiFin-Recommended Practice: An effective payor relations team is highly instrumental in reimbursement success in the molecular diagnostics segment. Staff with deep relationships within the payor marketplace often yield higher ROI when negotiating an in-network status.

In 2024, Prior Authorization denials continue to be one of the most impactful denial types, representing over a quarter (26.55%) of all molecular denials. While down slightly as a percentage of total denials from 2023 (27.56%), it is up 20% from 2018. On the other hand, Duplicate Denials, while still impactful, fell to a low point of 17.09% of total molecular denials in the past four reporting periods, likely due to these denials now being adjusted under Procedure Not Paid Separately (CO97).

Procedure Not Paid Separately (CO97) and Experimental/ Investigational denial types also increased in 2024 compared to 2018. Non-Covered, Coordination of Benefits, and Out-of-Network denials decreased compared to 2023 and 2018.

Molecular Denials by Denial Type

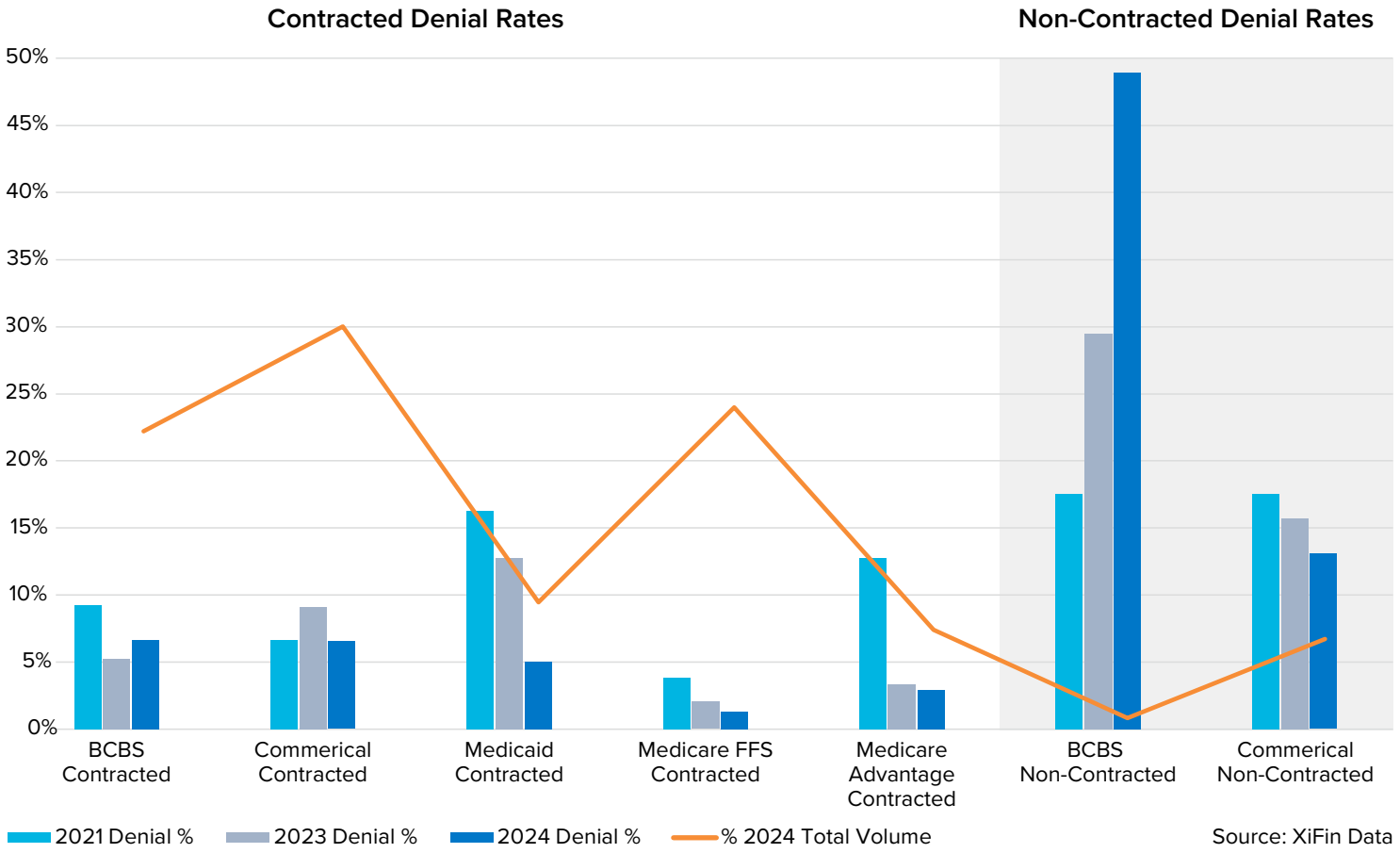
Denial Type (Representing >1% of Total Molecular Denials in 2024)	% of Total Denied 2018	% of Total Denied 2021	% of Total Denied 2023	% of Total Denied 2024	% Change 2018-2024
Prior Authorization	22.22%	13.13%	27.56%	26.55%	▲ 20%
Duplicate Denial	24.73%	29.35%	22.77%	17.09%	▼ 31%
Procedure Not Paid Separately	9.30%	32.68%	15.46%	16.19%	▲ 74%
Experimental/Investigational	10.79%	4.39%	13.16%	11.01%	▲ 2%
Non-Covered	13.52%	2.89%	8.50%	6.15%	▼ 54%
Coordination of Benefits	4.02%	2.45%	4.00%	3.09%	▼ 23%
Services Not Provided by Network/Primary Care Provider (Out-of-Network)	4.42%	8.44%	3.30%	1.72%	▼ 61%
Coverage Terminated	1.05%	0.58%	1.28%	1.21%	▲ 15%

▼ indicates denial rate went down ▲ indicates denial rate went up

Anatomic Pathology (AP) Denial Trends

Consistent with the trend across all segments, denials for pathology practices have steadily decreased over the last several years, with 2021 averaging 9.0%, 2023 averaging 7.1%, and 2024 averaging 5.5%.

Average CPT® Denial Rates by Payor Group, Anatomic Pathology Segment



Source: XiFin Data

In 2024, the pathology segment experienced a slight improvement in Duplicate Denials (CO/OA18), down from a high of 48.06% in 2021 to 40.00% in 2024. However, it continues to be the top denial reason in this segment. Procedure Not Paid Separately (CO97) came down from a high point of 23.17% in 2023 but is double what it was in 2018 (16.49% compared to 8.26%).

Like the other two segments, pathology noted small improvements year-over-year in Experimental/Investigational denials and slightly larger improvements over the same period in Non-Covered denials. However, where Coordination of Benefits decreased in the other segments, this category of denials increased for pathology in 2024. Likewise, while the percentage of Prior Authorization denials was up for the other two segments, it was down for pathology.

Services Not Provided by Network/Primary Care Provider (Out-of-Network) saw a substantial increase in 2024 from 2.28% of pathology denials in 2023 to 6.63% in 2024.

Anatomic Pathology Denials by Denial Type

Denial Type (Representing >1% of Total AP Denials in 2024)	% of Total Denied 2018	% of Total Denied 2021	% of Total Denied 2023	% of Total Denied 2024	% Change 2018-2024
Duplicate Denial	45.22%	48.06%	41.68%	40.00%	▼ 12%
Procedure Not Paid Separately	8.26%	16.86%	23.17%	16.49%	▲ 100%
Coordination of Benefits	4.82%	7.90%	6.58%	7.51%	▲ 56%
Experimental/Investigational	6.75%	8.56%	5.81%	5.67%	▼ 16%
Prior Authorization	8.10%	15.69%	7.87%	4.54%	▼ 44%
Non-Covered	13.82%	6.14%	4.26%	3.85%	▼ 72%
Services Not Provided by Network/Primary Care Provider (Out-of-Network)	3.54%	4.65%	2.28%	2.28%	▼ 36%
Procedure Code Inconsistent with the Modifier Used or a Required Modifier Is Missing	1.02%	3.00%	3.25%	1.97%	▲ 94%
Coverage Terminated	1.86%	2.25%	1.57%	1.72%	▼ 7%

▼ indicates denial rate went down ▲ indicates denial rate went up

Understanding Payor Edits and Guidelines

Payor edits and guidelines can be difficult to follow, particularly if physicians, coders, or billing staff are expected to memorize those requirements. Edits vary widely across payors and are constantly changing, making the situation even more challenging. The most common Centers for Medicare and Medicaid Services (CMS) payor edits are listed below.

National Correct Coding Initiative (NCCI) Edits

- Prevents improper payment of claims for services that should not be reported together
- Defined by CPT code combinations that are not separately payable for the same beneficiary on the same date of service
- Reimbursement requires each separately identifiable service to be submitted with the NCCI modifier and clinically appropriate report documentation

Local Carrier Determinations (LCD) and National Carrier Determinations (NCD)

- Defines the medical necessity conditions or diagnoses that qualify the payment of a specific service and limit conditions and frequency of testing that qualify for reimbursement
- Issued by CMS, NCDs apply to Medicare providers nationwide
- Issued by local CMS Medicare Administrative Contractor (MAC), LCDs only apply to Medicare providers located in the MAC's specific region

Medically Unlikely Edits (MUEs)

MUEs outline the code maximum units of service payable for the same beneficiary on the same date of service (DOS). Three categories define these:

1. **Claim Line Edits** – require reporting the CPT codes on separate lines of a claim with an appropriate modifier for reimbursement
2. **Absolute Date of Service Edits** – based on regulatory policies, CPT limitations, or payment policies, and cannot be overturned
3. **Date of Service Edits** – per-day edits based on clinical benchmarks

Front-end edits and configurations help mitigate back-end denials. Proactively addressing potential denial-related issues is the most effective way to maintain a manageable AR and improve the propensity to pay. For example, payors that observe NCCI and MUEs will consider all CPTs billed for that patient for the same DOS, even when not billed on the same claim form. Denials are inevitable if your current billing solution does not have edits to perform a historical review of charges for the same patient on the same DOS.

RCM solutions should be updated routinely (for example, XiFin® Empower RCM is updated monthly) with payor edit updates while remaining configurable so that custom edits can be easily built to accommodate specific payor requirements.

XiFin-Recommended Practices

1. Implement robust front-end logic and leverage intelligent automation to correct potential issues, and dramatically streamline the process from submission to payment.
2. Clearly document in pathology reports and/or clinical notes the services provided and the medical necessity of those services, whether responding to a payor audit or packaging an appeal.
3. Understand the various programs that drive payor edits and guidelines, as these increase the need for discipline and documentation. Follow payor-specific requirements; for example, Cigna, Aetna, and UnitedHealthcare, among others, require proprietary forms to be completed when appealing claims.

Importance of a Strategic, Efficient, and Effective Appeals Process

While front-end edits and configurations help mitigate back-end denials, some level of denials is unavoidable. Even when the issue is known in advance, it cannot always be addressed at the front end of the RCM process, prior to submission. A strategic appeals process ensures these inevitable denials are resolved quickly, with minimal impact on cash flow and resource utilization.

For example, an Additional Information denial (denial code CO252) occurs when a payor requires an attachment or other documentation to support the claim. These denials are not limited to complex molecular tests; they can apply to a wide range of tests and procedures, including routine pathology and clinical claims. Every CO252 denial must be appealed with the requested additional information, such as a pathology report, before the payor will consider reimbursement.

Though it may be understood up front that this additional information will be required, in most cases, the provider must wait for the denial before taking action. However, some payors now accept 275 files, allowing attachments at the initial claims submission stage. XiFin has been working with several payors to leverage this capability, enabling providers to supply required documentation and potentially avoid a denial.

Just as adopting technology tools, AI, front-end edits, and RCM strategies are imperative to minimize denials, it is equally vital to have an automated appeals process that can immediately take action when unavoidable denials are received. A proactive approach to appeals streamlines the process, accelerates reimbursement, and reduces the provider's cost to collect—delivering the efficiency and effectiveness that a modern appeals process demands.

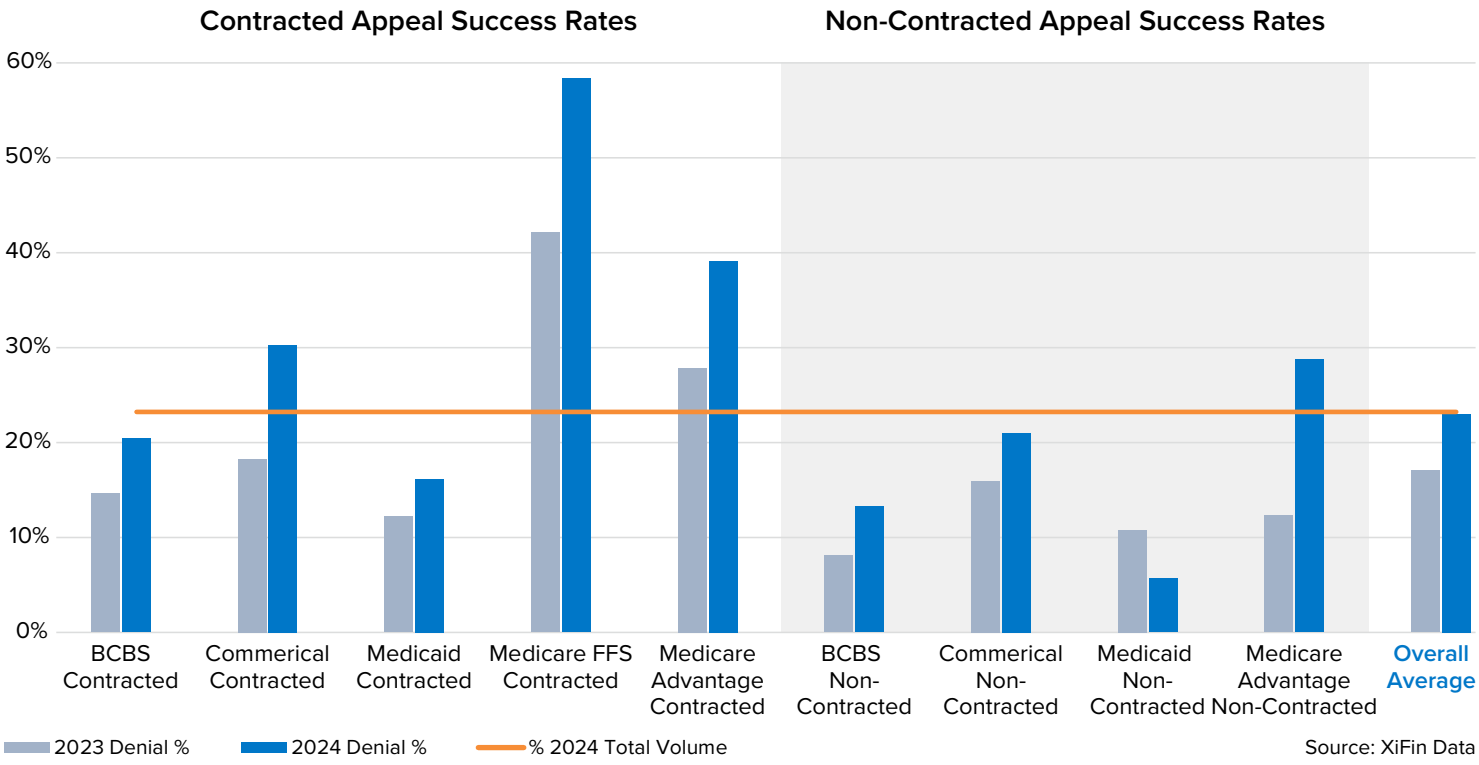
The Value of Reviewing Appeal Success Data at the Payor Group Level

While automation and smart workflows can streamline appeal handling, not all appeals deliver the same return on effort. Different payor groups exhibit distinct denial behaviors and varying responsiveness to appeals, making it essential for providers to track appeal success rates at a granular level. Without this visibility, organizations may invest significant resources into appeals with little chance of success, while missing opportunities to prioritize and escalate those with higher reimbursement potential. For example, some XiFin customers selectively escalate appeals to the second

and third level to highlight when claims are being repeatedly denied even though they meet all medical necessity, documentation, and other payor policy requirements.

By understanding these patterns, providers can tailor their appeal strategies, allocate resources more effectively, and maximize revenue recovery. Appeal success rates vary significantly by payor group, segment, and procedure. As the chart below indicates, on average, contracted Medicare plans have the highest appeal success rate, averaging just shy of 60% success in 2024; at the opposite end are Medicaid Non-Contracted plans, which have the lowest success with an average of 5%.

Percentage of Claims Successfully Appealed by Payor Group in 2024 Compared to 2023



Source: XiFin Data

Revenue Impact of Appeals by Segment

The table below summarizes appeals success and breaks it out by segment. Note: Revenue recovered by corrected claims is excluded since these claims follow a separate process and impact denial codes such as CO97 (Procedure or Service Is Not Paid for Separately), CO18 (Duplicate), and CO234 (Procedure Not Paid Separately). In 2024, appeals accounted for 4.34% of total revenue generated by XiFin customers, down from 7.38% in 2023, but up from 3.39% in 2021.

These figures indicate that even with the decline from the prior year, the amount of revenue achieved through appeals in 2024 is enough to cover many providers' total yearly cost of the RCM technology to collect all claims. They also show that while it is worthwhile to appeal, it is best done intelligently and efficiently. Appeals success by segment ranges from an anemic 0.09% of total insurance payments in 2024 for clinical tests to a robust 8.66% of total insurance payments for molecular diagnostics tests during the same period. Appeal payments as a percentage of total insurance payments increased year-over-year in the anatomic pathology segments but decreased in the clinical/hospital and molecular segments from 2023 to 2024.

The 2024 appeals data illustrate that with an automated, strategic appeals process, the additional revenue collected through appeals (4.34% in 2024) is sufficient to cover the cost of the RCM technology used to collect *all* claims for the year for many diagnostic providers.

This is particularly true in the molecular segment, where in 2024, appeals contributed 8.66% of revenue.

	Appeal Payments as % of Total Insurance Payments Received		Average Payment Amount per Successful Appeal	
Segment	2023	2024	2023	2024
Clinical	0.43%	0.09%	$96	$131
Molecular	11.17%	8.66%	$1,584	$1,874
Pathology	1.50%	1.69%	$249	$231
Overall Average	7.38%	4.34%	$541	$451

Source: XiFin Data

As a percentage of total insurance payments received, revenue driven by appeals declined from 2023 to 2024 across all segments except pathology. This decline can be attributed to several scenarios but is likely driven by the ability to now attach medical records and other relevant documentation at time of claim submission for UHC, reducing the need to file appeals with relevant attachments on the back end.

Payor policies have a material influence on molecular appeal trends. Complex testing is more susceptible to swings in denial trends as prior authorization and medical necessity requirements evolve, and clarity on reimbursement requirements influences the building of front-end edits that improve clean claims at the time of initial filing.

In the pathology segment, the improvement in successful appeals increased the overall revenue garnered by appeals, but a shift in the appeal mix led to a drop in average payment per successful appeal (down 6% from 2023 to 2024).

In another view, the following table shows a sample of procedure codes across segments with their corresponding appeal success rates. Clinical procedures generally have very high appeal success rates but tend to have the lowest average revenue per successful appeal. While the financial impact per appeal for these types of procedures is modest, if volumes are high enough, then the effort will be worthwhile, given the high appeal success rate.

Molecular procedures have significantly lower appeal success rates (ranging from 25% to 44% in the shown sample), yet they deliver the highest revenue per successful appeal in the dataset. With such high dollars attached to this type of testing, a strong appeals program is warranted, even at modest volumes.

Pathology procedures show moderate appeal success rates (49%–57% in the sample shown) and mid-range revenue impacts ($56–$148). While not as lucrative as molecular appeals, the consistent success rates make them a steady contributor to recovered revenue.

Strategic implications: Providers need to take a threaded approach to maximize ROI.

- In the clinical segment, appeals can be viable, but it is important to maintain efficiency.
- For molecular diagnostic organizations, the high revenue-per-appeal rates justify additional investment in documentation, pursuing the appeal, undertaking proactive denial prevention measures, and investing in specialized expertise.
- For pathology practices, providers should continue to pursue relevant appeals while working to lift success rates or bypass denials by proactively responding when a denial can be anticipated.

Procedure Code	Segment	Code Description	Appeal Success Rate	Average Revenue per Successful Appeal
80053	Clinical	Comprehensive Metabolic Panel	87%	$7.97
80061	Clinical	Lipid Panel	87%	$7.19
82306	Clinical	25 Hydroxy Includes Fractions if Performed	87%	$10.96
83036	Clinical	HGB Glycosylated	86%	$5.36
84443	Clinical	Assay of Thyroid Stimulating Hormone TSH	88%	$5.57
85025	Clinical	Blood Count Complete Auto&Auto Difrntl WBC	85%	$2.47
87491	Clinical	IADNA Chlamydia Trachomatis Amplified Probe TQ	58%	$23.21
87591	Clinical	IADNA Neisseria Gonorrhoeae Amplified Probe TQ	59%	$23.43
81162	Molecular	BRCA1 BRCA2 Gene Analysis Full Seq Full Dup/Del Alys	44%	$1,460.52
81220	Molecular	CFTR Gene Analysis Common Variants	35%	$360.59
81329	Molecular	SMN1 Gene Analysis DOSAGE/DELET Alys w/ SMN2 Alys	34%	$91.37
81404	Molecular	Molecular Pathology Procedure Level 5	25%	$208.25
81405	Molecular	Molecular Pathology Procedure Level 6	27%	$194.10
81406	Molecular	Molecular Pathology Procedure Level 7	25%	$178.76
81420	Molecular	Fetal Chromosomal Aneuploidy Genomic Seq Analysis	43%	$561.51
81432	Molecular	Hereditary Breast CA-Related Gen Seq Analysis 10 Gen	41%	$536.47
81433	Molecular	Hereditary Breast CA-Related Dup/Del Analysis	41%	$352.21
88305	Pathology	Level IV Surg Pathology Gross&Microscopic Exam	52%	$110.64
88307	Pathology	Level V Surg Pathology Gross&Microscopic Exam	57%	$80.10
88341	Pathology	Immunohistochemistry/Cytchm Ea Addl Antibody Slide	51%	$148.05
88342	Pathology	Immunohistochemistry Tissue Immunoproxidase Ea Antibody	49%	$72.65
88360	Pathology	M/PHMTRC Alys Tumor Imhchem Ea Antibody Manual	49%	$56.67

The XiFin Payor Rate Transparency Monitor helps providers compare their in-network contracted reimbursement rates across payors nationwide by billing code. This provides a unique a view of the payor landscape through interactive visualizations. It allows providers to select their diagnostic test category, billing codes, and billing modifiers across one or multiple payors to better understand and inform their market access and payor relations strategies.

A Single Appeal Attempt Is Not Sufficient

It is essential to note that a single appeal attempt is not sufficient to maximize revenue. As seen in the molecular appeals example below, while the volume of appeals decreases with each attempt, the success of collecting additional revenue with each round of appeal attempts is impactful.

The next section demonstrates the impact of a multi-attempt appeal strategy in each segment.

Appeal Trends and Successes: Hospital Outreach and Clinical Laboratory Claims

The hospital outreach and clinical laboratory segment maintains a comparatively low volume of denials (6.5% for the analysis of 2024 data). However, low denial volumes do not negate the need for robust appeals processes.

Prior authorization denials decreased as a percentage of total appeals filed in the anatomic pathology and clinical segments, while molecular experienced a material increase of nearly double the volume. While the percentage of revenue driven by appeals declined, the average payment amount per successful appeal increased. The tables below clearly show that appealing Medical Necessity, Prior Authorization, and Out-of-Network denials can drive incremental revenue capture.

As a percentage of Clinical Appeals filed in 2024 as compared to 2023:

- Additional Information appeals increased 10.8%
- Medical Necessity appeals increased 83.3%
- Prior Authorization appeals decreased 16.9%

Defining the Three Levels of an Appeal

Level One

- Submission of a high-level appeal letter specific to the testing performed
- May have a letter written by a genetic counselor and/or pathologist to define the scientific methodology of the test as well as medical criteria
- Generally, the attachment of the pathology report and requisition is included
- Submitted to a separate department at payor, typically reviewed by an RN
- First-level appeals may be sent more than once

Level Two

- Written appeal includes a cover letter specific to the case
- A genetic counselor and/or pathologist will provide evidence to support the patient has met specific criteria to satisfy payor policy
- A qualified independent contractor will review the appeal, and the provider may submit additional medical records not submitted in first level appeal

Level Three

- Resubmission of second appeal documentation for review by an Administrative Law Judge
- In some cases, it may be strategic to request an outside review of the case
- The process of outside review is not looked upon well by payors
- Measure the pros and cons of taking an aggressive approach

2024 Clinical Appeals

Appeal Type	% Total Clinical Appeals 2024	Clinical Appeal Success Rate 2024	Clinical Avg Payment per Appeal 2024	Clinical Avg Payment per Successful Appeal 2024
Additional Information	35.0%	33.3%	$ 41.50	$ 124.49
Medical Necessity	28.6%	11.8%	$ 38.27	$ 323.10
Other	17.2%	65.1%	$ 19.69	$ 30.26
Prior Authorization	8.3%	15.6%	$ 51.51	$ 329.42
Out of Network	4.8%	19.3%	$ 104.57	$ 540.52
Timely Filing	4.0%	6.0%	$ 5.74	$ 94.97
Experimental/Investigational	2.1%	36.6%	$ 5.99	$ 16.37

2023 Clinical Appeals

Appeal Type	% Total Clinical Appeals 2023	Clinical Appeal Success Rate 2023	Clinical Avg Payment per Appeal 2023	Clinical Avg Payment per Successful Appeal 2024	% Change in Appeals Filed 2024 vs. 2023
Additional Information	31.6%	35.0%	$ 60.58	$ 136.20	▲ 10.8%
Medical Necessity	15.6%	13.0%	$ 34.38	$ 154.42	▲ 83.3%
Other	21.3%	22.0%	$ 28.23	$ 43.22	▼ 19.1%
Prior Authorization	10.0%	15.0%	$ 2.88	$ 90.67	▼ 16.9%
Out of Network	8.1%	14.0%	$ 5.82	$ 109.68	▼ 41.0%
Timely Filing	3.1%	11.0%	$ 13.89	$ 126.34	▲ 28.7%
Experimental/Investigational	10.3%	9.0%	$ 4.25	$ 51.75	▼ 79.7%

▼ indicates appeals filed went down ▲ indicates appeals filed went up

Clinical Appeal Success Rate By Attempt

Appeal Type	% of Appeals Paid after 1st Attempt	% of Appeals Paid after 2nd Attempt	% of Appeals Paid after 3rd Attempt	Total % of Successful Appeals 2024	Total % of Successful Appeals 2023
Additional Information	29.7%	2.7%	0.9%	33%	35%
Medical Necessity	9.2%	1.8%	0.8%	12%	13%
Other	63.9%	1.1%	0.1%	65%	22%
Prior Authorization	5.9%	9.3%	0.4%	16%	15%
Out of Network	18.8%	0.6%	0.0%	19%	14%
Timely Filing	4.4%	1.5%	0.2%	6%	11%
Experimental/Investigational	36.6%	0.0%	0.0%	37%	9%
Total	**26.4%**	**2.5%**	**0.6%**	**29%**	**33%**

Appeal Trends: Molecular and Genomic Testing

At $1,874, the average payment per appeal for molecular testing in 2024 is more significant due to the high-dollar value of the testing.

Medical Necessity appeals account for 19.9% of the total appeals filed in 2024 in the molecular segment and had an average success rate of 14.1%. Another 25.4% of appeals are for claims denied for Additional Information, and Prior Authorization at 20.1% of total appeals filed.

As a percentage of molecular appeals filed in 2024 compared against 2023:

- Additional Information appeals decreased 7.2% year over year
- Medical Necessity appeals decreased 25.3%
- Prior Authorization appeals increased 77.7% and the average payment per appeal increased, while Prior Authorization appeal **success rates remained stable**

2024 Molecular Appeals

Appeal Type	% Total Molecular Appeals 2024	Molecular Appeal Success Rate 2024	Molecular Avg Payment per Appeal 2024	Molecular Avg Payment per Successful Appeal 2024
Additional Information	25.4%	30.0%	$ 613.91	$ 2,048.01
Medical Necessity	19.9%	14.1%	$ 330.47	$ 2,340.53
Prior Authorization	20.1%	13.5%	$ 254.04	$ 1,881.40
Out of Network	8.6%	10.1%	$ 249.48	$ 2,463.91
Experimental/Investigational	6.2%	10.6%	$ 332.61	$ 3,141.57
Non-Covered	5.2%	20.2%	$ 257.32	$ 1,273.86

2023 Molecular Appeals

Appeal Type	% Total Molecular Appeals 2023	Molecular Appeal Success Rate 2023	Molecular Avg Payment per Appeal 2023	Molecular Avg Payment per Successful Appeal 2024	% Change in Appeals Filed 2024 vs. 2023
Additional Information	27.4%	35.0%	$ 96.63	$ 1,969.90	▼ 7.2%
Medical Necessity	26.6%	13.0%	$ 175.81	$ 1,376.56	▼ 25.3%
Prior Authorization	11.3%	15.0%	$ 227.27	$ 1,496.10	▲ 77.7%
Out of Network	7.4%	14.0%	$ 128.45	$ 910.32	▲ 15.9%
Experimental/Investigational	3.2%	9.0%	$ 233.43	$ 2,662.82	▲ 94.8%
Non-Covered	1.4%	16.0%	$ 237.62	$ 1,512.34	▲ 268.9%

▼ indicates appeals filed went down ▲ indicates appeals filed went up

Because of the value of molecular claims, completing a second-level appeal is required to maximize reimbursement. Often a third-level appeal is also justified. The table below illustrates the incremental revenue derived from subsequent appeals for molecular denials.

Molecular Appeal Success Rate by Attempt

Appeal Type	% of Appeals Paid after 1st Attempt	% of Appeals Paid after 2nd Attempt	% of Appeals Paid after 3rd Attempt	Total % of Successful Appeals 2024	Total % of Successful Appeals 2023
Additional Information	23.9%	4.7%	1.3%	30%	35%
Medical Necessity	12.2%	1.7%	0.3%	14%	13%
Prior Authorization	12.3%	1.1%	0.2%	14%	15%
Out of Network	8.4%	1.5%	0.2%	10%	14%
Experimental/Investigational	8.7%	1.6%	0.4%	11%	9%
Non-Covered	17.1%	2.9%	0.2%	20%	16%
Total	**16.3%**	**2.7%**	**0.6%**	**20%**	**20%**

The XiFin® Empower RCM solution integrates automation with prior authorization vendors, allowing claims meeting prior authorization criteria to be submitted to a prior authorization solution automatically. Utilizing real-time data exchange via application programming interfaces (APIs) with our partners, Empower RCM can more quickly acquire the necessary prior authorization number and update the patient's information in Empower RCM upon those values being returned. Barring any additional issues, the claim is submitted to the payor, with prior authorization included and minimal need for a user to touch the claim or spend time making authorization requests by phone. Considering it may take an individual an average of 20–30 minutes to acquire prior authorization manually, this process significantly reduces the back-end burden of appeals.

Timely filing, underpayment, and out-of-network appeals, while smaller in volume, are still fruitful in recovery, particularly in the second and third attempts.

Appeal Trends: Anatomic Pathology

Approximately 2% of the pathology claims received into Empower RCM require an appeal, which will account for 1–2% of the pathology practice's revenue. The revenue reclaimed in pathology is largely attributed to the first appeal. However, a robust process that includes multiple attempts is critical in revenue recovery if the first appeal is not overturned.

As seen in the table below, one of the most common appeals in pathology is in response to Additional Information Required to adjudicate the claim denial codes. For example, appeal responses for denial code CO252 could include submitting the pathology report for review, providing additional detail on utilization of unspecified codes for services rendered, providing medical records or prior authorization codes.

As Services Not Provided by Network/Primary Care Provider (Out-of-Network) denials have increased in the pathology segment in 2024, some XiFin customers are using the appeals process to trigger No Surprises Act (NSA) disputes.

As prior authorization policies soften, specifically on testing that has an 80% or greater chance of approval, we see a noticeable decline in prior authorization appeals, congruent with the 42.3% decrease in Prior Authorization denials from 2023 to 2024. With that, there has been a lift in Medical Necessity denials, to some degree the result of policies continuing to deny cases that previously may have required prior authorization.

Additional information requests are consistent and predictable, determined by the denial code received. Where there is consistency, there is the opportunity for automation. Automating the packaging and submission of appeals saves time and cost and improves follow-up and payment timeliness.

As a percentage of appeals filed in 2024 compared to 2023:

- Medical Necessity decreased 7.3%
- Additional Information decreased 39.6%
- Prior Authorization decreased 4.5%
- Bundling and Non-Covered denied tripled from the previous year

Non-Covered appeals are less likely to be successful than Medical Necessity and Additional Information appeals. The sharp increase in Non-Covered volume, combined with lower payment recovery, appeals as a percentage of total revenue generated, was marginally impactful in the Pathology segment.

2024 Pathology Appeals

Appeal Type	% Total Pathology Appeals 2024	Pathology Appeal Success Rate 2024	Pathology Avg Payment per Appeal 2024	Pathology Avg Payment per Successful Appeal 2024
Medical Necessity	19.1%	44.0%	$ 81.49	$ 185.05
Additional Information	16.9%	48.2%	$ 128.51	$ 266.71
Prior Authorization	12.2%	28.9%	$ 49.40	$ 170.98
Bundling	7.0%	81.8%	$ 145.28	$ 177.54
Non-Covered	8.1%	36.5%	$ 43.26	$ 118.55
Timely Filing	7.0%	41.9%	$ 98.14	$ 234.25
Maximum Benefits	2.7%	55.7%	$ 268.28	$ 481.31
Out of Network	2.3%	21.0%	$ 32.47	$ 154.92

2023 Pathology Appeals

Appeal Type	% Total Pathology Appeals 2023	Pathology Appeal Success Rate 2023	Pathology Avg Payment per Appeal 2023	Pathology Avg Payment per Successful Appeal 2024	% Change in Appeals Filed 2024 vs. 2023
Medical Necessity	20.6%	29.0%	$ 50.42	$ 176.75	▼ 7.3%
Additional Information	27.9%	26.0%	$ 68.71	$ 269.32	▼ 39.6%
Prior Authorization	12.8%	20.0%	$ 53.70	$ 275.31	▼ 4.5%
Bundling	2.0%	67.0%	$ 117.21	$ 173.86	▲ 249.3%
Non-Covered	1.7%	40.0%	$ 42.17	$ 105.25	▲ 375.8%
Timely Filing	4.4%	18.0%	$ 31.42	$ 176.86	▲ 58.9%
Maximum Benefits	0.6%	53.0%	$ 268.24	$ 507.01	▲ 354.1%
Out of Network	16.6%	27.0%	$ 64.15	$ 234.25	▼ 86.3%

▼ indicates appeals filed went down ▲ indicates appeals filed went up

Pathology Appeal Success Rate By Attempt

Appeal Type	% of Appeals Paid after 1st Attempt	% of Appeals Paid after 2nd Attempt	% of Appeals Paid after 3rd Attempt	Total % of Successful Appeals 2024	Total % of Successful Appeals 2023
Medical Necessity	35.5%	5.4%	3.1%	44%	29%
Additional Information	38.8%	7.5%	1.9%	48%	26%
Prior Authorization	22.9%	4.5%	1.5%	29%	20%
Bundling	58.5%	15.8%	7.5%	82%	67%
Non-Covered	35.2%	1.2%	0.1%	36%	40%
Timely Filing	33.9%	6.7%	1.3%	42%	18%
Maximum Benefits	37.8%	11.5%	6.5%	56%	53%
Out of Network	19.6%	1.4%	0.0%	21%	27%
Total	**42.0%**	**6.5%**	**2.4%**	**51%**	**28%**

Using CO252 as an example, the response process is the same every time, which makes this process well-suited for automation. Empower RCM can be set to automatically pull the pathology report, generate a CO252-specific appeal letter, complete a payor-specific form (if required), package the documentation, and submit via paper through the print vendor. When automated, CO252 denials are bundled and sent for print within a day of receiving the denial, without a user's need to touch the claim. If the payor requires a portal submission, documentation is still stored on the claim in Empower RCM, saving considerable time in the small percentage of instances when manual intervention is required.

While equally common in the pathology segment, Medical Necessity denials can be more tedious, depending on the test and payor mixes. While certain Medical Necessity denials can be automated with nuanced rules, others will continue to need staff oversight to determine the best next actions. For example, human intervention can be required for new molecular tests where payor policies are still evolving. In these cases, a coder may want to review the case criteria to draft a strategic, case-specific letter, possibly from the pathologist, for the response.

Even in the event of manual review, automating the assigned next actions is still critical. For example, automation helps maintain the integrity of appeal packaging and submission once the user has selected the desired letter and attachments. Empower RCM includes logic to drive appeals based on a specific payor ID, denial reason code, and CPT. This ensures that, as more complex denials are received, they can still be partially automated. This, in turn, mitigates the administrative burden on the billing team and, thus, the cost to collect is reduced.

How AI Is Driving Incremental Revenue Cycle Management Improvements

Healthcare providers face a familiar but ever-intensifying challenge: managing rising volumes, shifting payor rules, and increasing pressure on margins—without expanding operational costs. In this environment, artificial intelligence (AI) is no longer a future concept, but a practical tool that has proven successful in delivering smarter decisions, streamlining workflows, and improving financial outcomes. The XiFin team has seen tangible benefits in terms of increasing the speed of reimbursement and reducing the time and cost associated with correcting errors and missing information.

Rather than promising sweeping transformation overnight, AI's most meaningful impact in revenue cycle management is often incremental, yet not inconsequential. When embedded directly into core billing and reimbursement workflows, AI becomes a quiet force multiplier—cutting through complexity, reducing denials, and boosting productivity in measurable ways, including translating payor responses.

Embedded AI as a Strategic Advantage

While many organizations promise improvements with a "quick fix" bolt-on AI solution, this strategy undermines and reduces AI's benefits. The quality and quantity of benefit delivered by AI in the RCM process (and across all AI applications) is intrinsically tied to the underlying quality and predictive strength of the data. Therefore, bolt-on AI applications often fail to adequately understand and use the available data to their greatest advantage.

This is especially true when companies pitch AI applications that are not built specifically for healthcare or revenue cycle management. As they say, garbage in (to AI), garbage out (of AI). Embedded AI like XiFin's, in contrast, is closely aligned with the underlying data and understands not only the data itself but also the processes and workflows the AI hopes to improve. Embedded AI works in lockstep with billing logic, decision trees, exception processing workflows, and reimbursement analytics, enabling intelligent automation and prioritization without requiring human intervention to trigger it.

Strategic RCM partners that offer embedded AI bring more than just technology to the table. They offer a framework for continuous operational improvement, backed by models trained on real-world healthcare data and refined in live billing environments. The result is faster payment, lower costs, and a more intelligent, adaptive approach to revenue cycle management. Let's look more closely at the types of AI and uses and real-world successes.

The Core AI Technologies Driving Results in RCM

A trio of AI technologies is reshaping how providers approach claims management, payor communications, and financial forecasting:

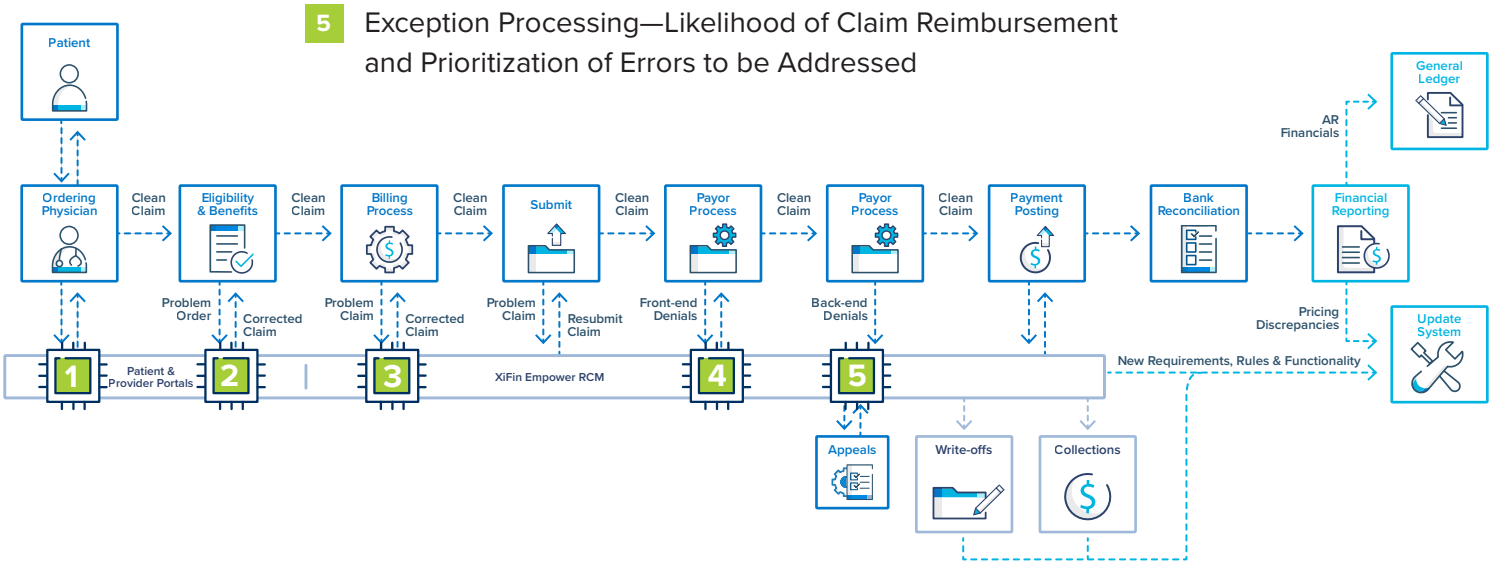
Machine Learning (ML) models are trained on historical data to predict future outcomes. In RCM, ML can assess the likelihood of reimbursement, anticipate denials, and inform expected payment amounts. This allows staff to focus on high-value claims and avoid wasting time on cases unlikely to succeed.

Natural Language Processing (NLP) enables systems to extract meaning from unstructured text. This is particularly valuable in healthcare billing, where payor responses often arrive as vague or inconsistent notes. NLP can interpret these messages, identify root causes of denials, and drive automated actions in response.

Generative AI and Large Language Models (LLMs) are adding a new dimension of intelligence, particularly in communication-heavy aspects of RCM. These deep learning models are used for intelligent chatbots, appeal letter generation, patient billing explanations, and internal content creation—freeing up staff from repetitive documentation tasks.

Real-World Applications and Benefits of Embedded AI

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



1. Capturing Third-Party Insurance More Accurately

One of the most persistent sources of claim reimbursement delays is correcting inaccurate or incomplete insurance information. For diagnostic and ancillary services providers that may not interact with patients directly, this problem is amplified. XiFin's AI-powered Insurance Card Scan web service uses optical character recognition (OCR) and machine learning to extract data from scanned images and intelligently match it to the correct payor.

This solution improves first-pass eligibility rates, reduces manual entry errors, and ensures claims are submitted with verified information the first time—accelerating reimbursement and minimizing rework.

Key benefits include:

- More accurate insurance capture, even without face-to-face patient contact
- Fewer delays caused by incomplete or mismatched payor details
- Less administrative burden on staff and patients
- Improved eligibility verification and downstream billing accuracy

2. Accurately Calculating Patient Responsibility Estimates

Providing patients with clear, accurate cost estimates is vital for financial transparency and upfront patient collections. But generating these estimates requires more than just eligibility data—it requires predictive modeling. Machine learning models trained on recent adjudicated claims help fill in the gaps where payor data falls short.

For instance, benefit structures are often generalized, missing procedure-specific details or containing conflicting copay and coinsurance information. ML models overcome this by generating precise estimates of allowed amounts, patient out-of-pocket responsibilities, and coverage limitations based on real-world outcomes. These insights allow providers to offer estimates that align more closely with what will be billed and collected.

3. Managing Negotiated Rates and Expect Pricing with Precision

AI is pivotal in determining the expected reimbursement for contracted and non-contracted payors. Historical modeling enables the RCM system to forecast payment amounts per CPT/HCPCS code, even accounting for payor behavior variances and inconsistencies.

By automating expect pricing, providers can:

- Identify underpayments in real time
- Forecast monthly revenue more accurately
- Evaluate payor performance and contract adherence
- Inform pricing strategies with real-world insight

This type of intelligent pricing management helps turn complex payor relationships into predictable financial workflows.

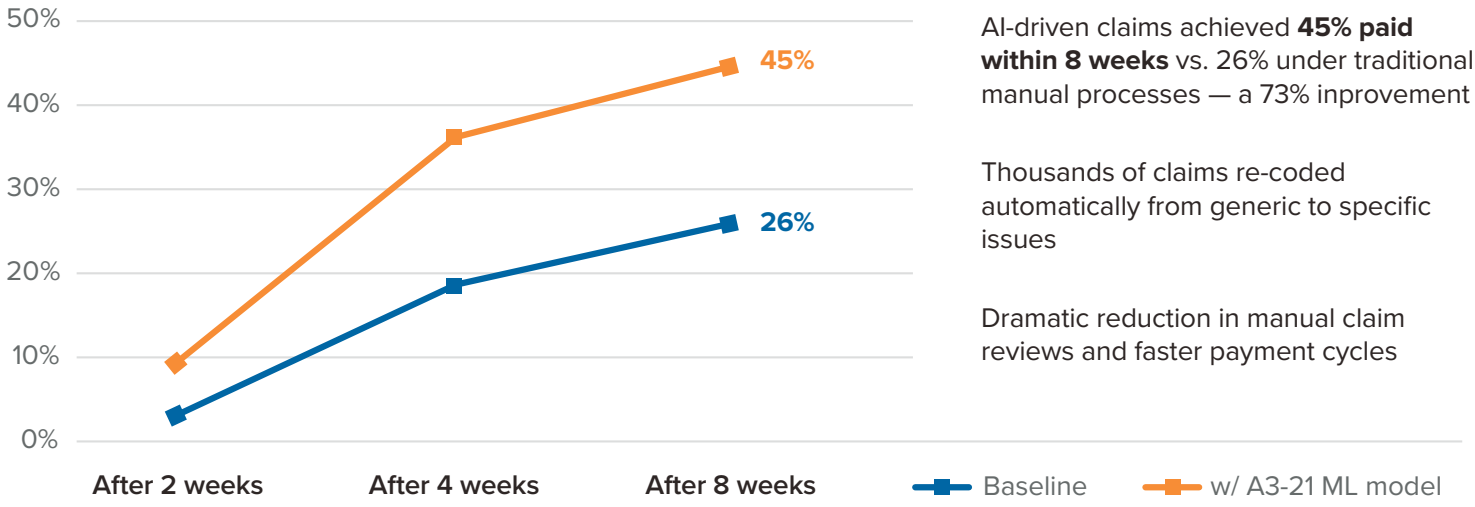
4. Decoding Claim Status: Simplifying Interactions with Payors and Translating Payor Responses into Actionable Next Steps

Among the most frustrating barriers to efficient claim resolution is the generic A3-21 status code—a catch-all indicator that something is wrong with a claim, but with no clear guidance on what needs to be fixed. XiFin's embedded NLP model addresses this by analyzing the associated free-text payor messages and translating them into specific, actionable categories such as "subscriber ID mismatch" or "invalid diagnosis code."

This reduces the time staff spend deciphering vague messages and accelerates issue resolution. The XiFin model also feeds into a real-time dashboard that allows managers to monitor trends, route work, and focus resources where needed most. **Since its introduction, providers leveraging this model have seen payment velocity improve by over 70% compared to traditional manual processes.**

Measurable Impact Within 8 Weeks

Machine Learning Improves Percentage of Claims Paid after Claim Status - Early Results



AI-driven claims achieved **45% paid within 8 weeks** vs. 26% under traditional manual processes — a 73% inprovement

Thousands of claims re-coded automatically from generic to specific issues

Dramatic reduction in manual claim reviews and faster payment cycles

5. Smarter, Predictive Exception Management: Likelihood of Claim Reimbursement and Prioritization of Errors to be Addressed

One of the most transformative uses of embedded AI is in exception processing—where claims that encounter issues are triaged, corrected, and resubmitted quickly. XiFin's EP Workgroups use AI to evaluate whether a claim is likely to be paid based on current errors, assign a payment probability score, and route the claim to the team member best suited to resolve it.

Rather than relying on spreadsheets and manual routing, this approach builds intelligent work queues that are:

- Prioritized by reimbursement value and timely filing deadlines
- Matched to team member expertise for more effective resolution
- Continuously refined based on outcome feedback

Evaluating ROI on AI-Driven Exception Management: A Cohort-Based Analysis

To assess the impact of AI-driven exception prioritization and worklist management, we analyzed both productivity and time-to-fix metrics across multiple customer cohorts. Each chart below reflects a baseline period (2 months) before AI implementation and tracks performance following adoption at four distinct time points: October 2023, May 2024, September 2024, and March 2025.

Lifecycle-Aware Measurement: Error Data vs Fix Date Matters

In revenue cycle management, the lifecycle of a claim—from initial submission, through edits and denials, to final resolution—is complex and often non-linear. Exceptions can arise at any point, and their resolution may span days, weeks, or even months. When evaluating the effectiveness of AI-driven exception prioritization and worklist management, it's crucial to select the appropriate analytical lens. Two primary metrics—time to fix and productivity—can tell vastly different stories depending on the date basis used in the analysis.

Error Date vs. Fix Date: Why It Matters

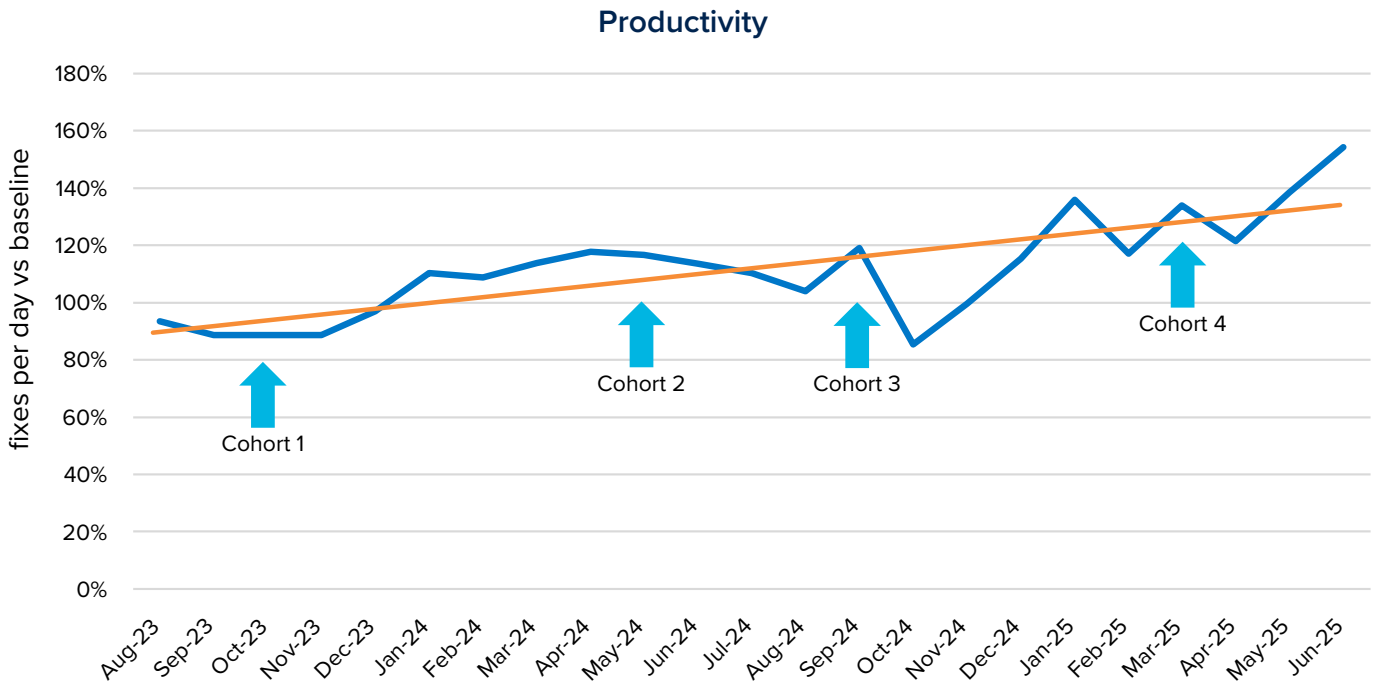
Error Date Basis: This approach measures the time to fix based on when the error originally occurred. It provides a clean view of how quickly new exceptions are resolved under the new AI-driven process. Excluding older, pre-implementation backlog items isolates the true impact of the new system on fresh errors. However, it underrepresents productivity gains, especially those related to clearing out longstanding backlog items.

Fix Date Basis: This method measures based on when the error was resolved. It captures the full scope of productivity improvements, including accelerated resolution of older exceptions. However, it can inflate time-to-fix metrics, since it includes legacy errors that naturally take longer to resolve due to their age and complexity.

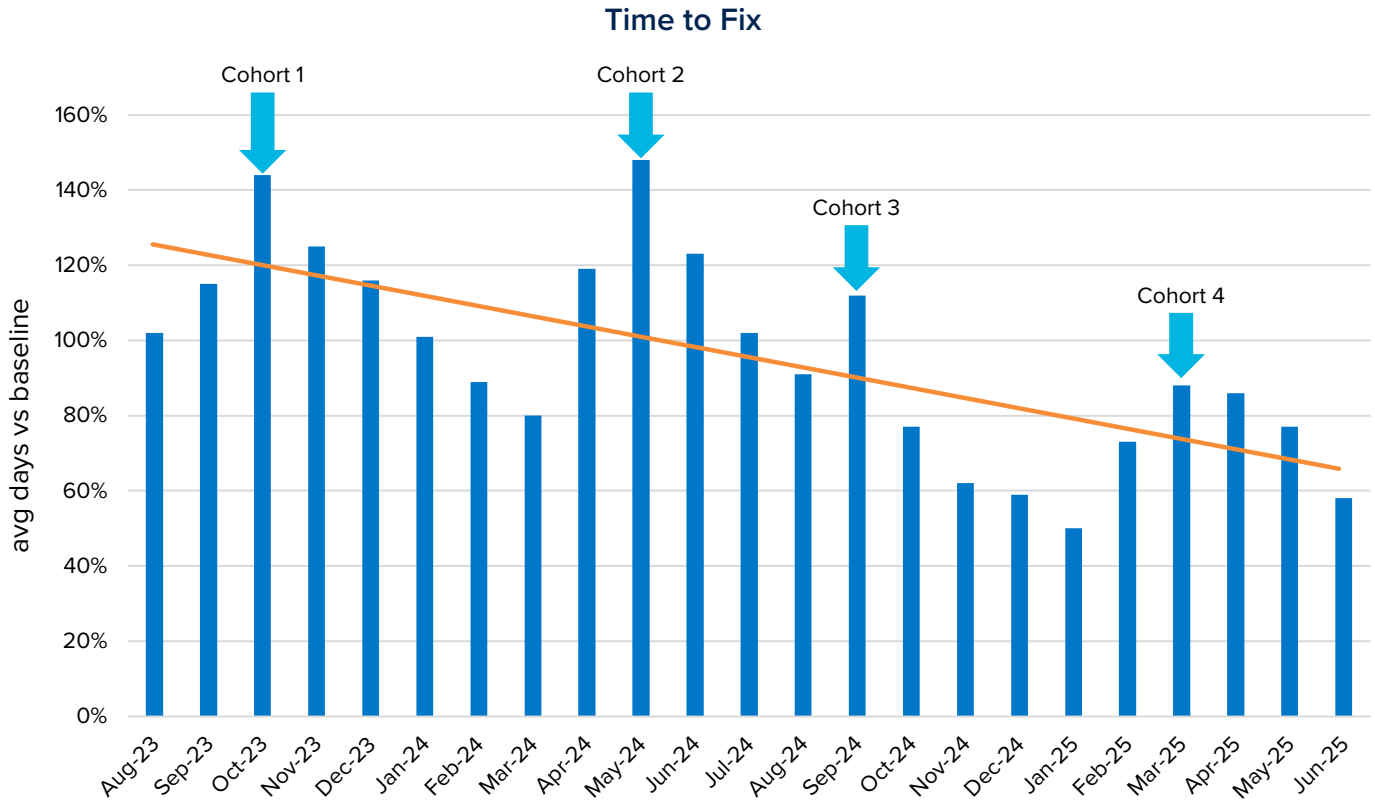
For the purposes of this analysis, we used a fix date basis.

Cohort Trends and Lifecycle Impact

Across all cohorts, most customers saw an increase in productivity 30 to 60 days following the implementation of the AI capability—reflected in a higher volume of resolved exceptions (both old and new). Overall, customers on average experienced an approximately 46% increase in productivity between August 2023 and June 2025.



Over time, as AI-driven workflows become embedded and the backlog clears, we observed a sustained reduction in average time to fix, particularly for claims that would have otherwise lingered unresolved. Customers achieved an average of approximately 49% improvement in time to fix between August 2023 and June 2025.



This lifecycle-aware approach highlights how AI not only accelerates resolution for new claims but also reclaims value from older, delayed claims, improving overall revenue cycle velocity.

Key Takeaway for RCM Leaders
By aligning performance metrics with the claim lifecycle and using Fix Date as the analytical anchor, we gain a more accurate and actionable view of AI's impact. The result is a clearer understanding of how technology drives both short-term productivity and long-term process optimization across the entire revenue cycle.

AI is becoming more integrated into healthcare workflows and enhancing payor and patient communications, from interpreting insurance cards to clarifying eligibility responses. AI is removing friction at every interaction point.

Conclusion

The findings from XiFin's 2025 Payor Denial Impact Report confirm what many healthcare leaders already know: managing the revenue cycle has grown exponentially more complex. Denials are not just signals of errors; they reflect deeper systemic challenges stemming from evolving payor policies, regulatory pressures, and fragmented workflows. While denial rates vary widely across testing segments, providers across the board are grappling with shrinking margins, escalating administrative burden, and the persistent threat of unreimbursed care.

What becomes clear through this report is that combating revenue leakage requires more than reactive denial management. It demands a strategic approach rooted in strong front-end edits, disciplined documentation, and a robust, multi-layered appeals process. The data demonstrates that appeals are not a one-and-done activity; in many cases, second and third-level appeals deliver significant incremental reimbursement, particularly in complex, high-value testing segments such as molecular diagnostics and genomics.

Furthermore, embedded artificial intelligence is a game-changer and is already delivering transformative and measurable impact. From intelligent insurance card scanning and automated claim status translation, to predictive exception processing and more accurate patient cost estimation, AI unlocks new efficiencies and elevates staff productivity. These are not theoretical benefits. Embedded AI in XiFin® Empower RCM has helped providers reduce the time it takes to fix errors by more than 40% and improve payment velocity by over 70% for certain status codes, freeing teams to focus on higher-value activities that drive financial results.

This is the future of RCM: not just automated but intelligent, not just efficient but strategic. It is a future where embedded AI supports real-time decision-making, reduces manual touches, and adapts dynamically to shifting payor policies and behavior.

This report also confirms that a well-managed denials and appeals strategy can recapture revenue at levels significant enough to cover—and even exceed—the cost of investing in an advanced RCM technology solution. Appeals are not merely corrective but a powerful financial lever that can transform unreimbursed claims into significant revenue.

Healthcare organizations that embrace this AI-powered evolution, alongside disciplined denial management and strong RCM partnerships, will be better positioned to secure timely reimbursement, reduce cost to collect, and fund their mission in the face of continued revenue compression and new challenges to financial sustainability. With visibility, adaptability, and intelligent automation, providers can turn the tide on denials and build a more resilient financial foundation for the future.

XiFin remains committed to supporting providers in this journey, delivering the tools, data, and embedded AI capabilities needed to proactively manage denials, optimize appeals, and transform revenue cycle performance; one intelligent decision at a time.

About the Author

Diana Richard

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Diana Richard brings over 20 years of experience in diagnostic provider billing to her role as Associate Vice President of National Accounts. Specializing in pathology, radiology, and hospital systems, she serves as a subject matter expert and strategic support liaison for XiFin's customers.

She conducts data studies on reimbursement trends and provides valuable insights to clients. Diana is a proficient communicator, sharing findings through presentations, webinars, and blogs. Her dedication to driving innovation and excellence in diagnostic provider billing cements her reputation as a respected leader in the field.

Diana's previous roles include senior-level business development, client management, billing performance, internal audit, and marketing. Diana holds a BA in Marketing and Economics from Francis Marion University.

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 portfolio 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.

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