

## AI for Medical Record Review

AI-driven, user-centric medical record insights

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## Challenges in Medical Record Review

Medical record review (MRR) is an imperative activity performed by health care payers to identify potential quality-of-care or medical necessity issues. It is also a critical program integrity issue as it may uncover potential fraud, waste, and abuse (FWA). MRR is a complex, time-consuming process requiring a specialized skillset to identify whether a claim has been paid correctly, aligns with payment policy, and is compliant with regulations. The time it takes to conduct the MRR is dependent on the complexity of the case under review and the size and type of the document submitted by the supplier/provider. The potential volume of MRRs that can be conducted is directly dependent on the number of staff available to perform them. For example, the Centers for Medicare and Medicaid Services (CMS) pays approximately one billion claims per year but is typically conducting MRR on only 0.3% of all claims.<sup>1</sup> Additionally, most payers are required to pay claims within 15 to 30 days upon receipt and are hard pressed to conduct MRR given finite, high-cost, specialized clinical resources. To combat this growing challenge, Artificial Intelligence (AI) is starting to be used in MRR to aid the process by expediting review cycles with AI-driven models that accelerate processing while adhering to policy and sub-regulatory guidelines. Recent implementation of AI within MRR at a US Health Plan reduced MRR processing times multi-fold, improved timelines for payment, reduced decision timelines while also providing consistency to the MRR process. This paper describes some of the common challenges of the current, manual MRR process and provides insight into how AI can help enhance the process via the latest technologies.

## Value of Program Integrity in Medical Record Review

Analysis of claims and medical record data is critical to confirming that the proper level of care was provided and appropriately billed. One of the top priorities for modern health care agencies is program integrity. The purpose of program integrity is to make correct payments for services that are reasonable and necessary while simultaneously detecting and eliminating fraud, waste, and abuse (FWA). Methods to determine accurate payment, compliance, and adherence with medical standards include review of payor policy, payor fee schedules, managed care contract provisions, provider notices and manuals, and conducting MRR against standards of care. Health care agencies rely heavily on clinicians, medical coders, and Certified Fraud Examiners (CFE) to perform reviews that uphold program integrity in the following three key areas related to claims:

### 1. Prior Authorization of High-Cost Procedures

Review of the clinical information provided by the provider to understand the request for a high-cost procedure or service

### 2. Medical Necessity Determination

Review of the clinical information provided by the provider to determine if the services provided were consistent with standard medical practices, patient diagnosis, and patient qualification for the service

### 3. Adjudication Accuracy

Verification of the service and cost of the claim submitted

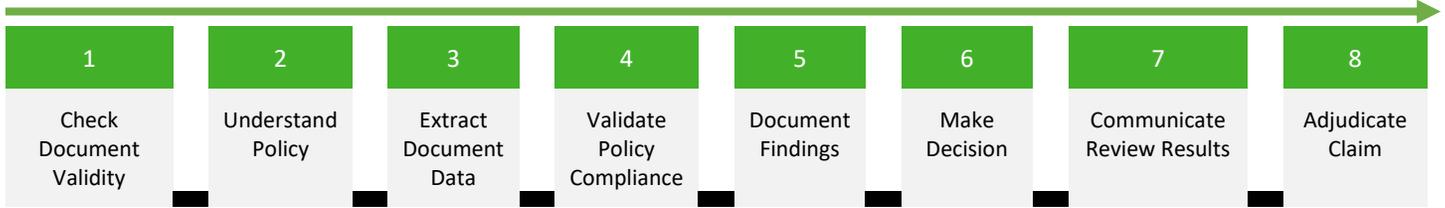
When addressing these areas, MRR is a key component in determining whether the claim or service is accurately documented, necessary, and compliant with the clinical and regulatory policies.

## Overcoming Challenges in Medical Record Review

Currently, most MRR is manual, complex, costly, and resource intensive. Due to the volume of records and intricacies of each review, only a small percent of claims undergo a comprehensive review. For example, CMS processes close to one billion claims worth approximately \$300 billion, annually. Of those claims, 99.7% are processed and paid within weeks of submission, with no review of documentation and accuracy.<sup>2</sup> Current manual MRR involves several complex steps which are highlighted in Figure 1. The process is laborious and often very time consuming, making it challenging for payors to adjudicate claims on time.

<sup>1,2</sup> Centers for Medicare & Medicaid Services. (2020). Sources Sought Notice - Using Advanced Technology in Medical Review. <https://govtribe.com/opportunity/federal-contract-opportunity/sources-sought-notice-using-advanced-technology-in-medical-review-ssn210993>

**Figure 1: High Level Overview of Manual MRR Steps**



Conducting the MRR requires certified medical coders to receive regular training regarding dynamic medical policies and clinical standards. Coders are required to be familiar with a variety of medical record layouts, such as electronic medical records (EMR) or handwritten medical record documentation. MRR is further complicated by the complexity of the patient’s medical condition, a multitude of diagnosis codes, the volume of clinical notes, and payor payment requirements. Some additional challenges are captured in Table 1.

**Table 2: Common challenges within MRR**

	Inconsistent document sequencing
	Non-standardized document layout
	Varying clinical syntax
	Repeated and copied information
	Lengthy processing times
	Inconsistent coding
	Resource intensive documentation of findings

As a result of these challenges and complexities, there are two major pain points:

**1. Infeasibility of performing manual medical record reviews on all claims**

The first line of defense in program integrity is to pay claims correctly. Given the relatively small fraction of claims undergoing a comprehensive MRR, there is significant potential for gaps in identification of erroneous payments and adjudication of claims.

**2. Complexity in coding**

Much of the time spent conducting MRR is consumed by making sure the documentation is complete (e.g., valid dates, signatures), applicable to the conducted procedures, supportive of the medical condition under review, and in alignment relevant regulatory policy. Due to the multi-faceted review process, inconsistencies may occur and lead to otherwise preventable medical provider appeals and rebuttals.

It is impractical for agencies to conduct a manual review of all medical records in the claim adjudication process. However, with advancements in technology and the use of AI, portions of the MRR process can be automated to reduce the challenges and pain points identified above. AI can identify high-risk areas needing closer review within the medical record, prioritize medical records for review, and still provide reviewers with the ability to validate findings before final adjudication. It aids the user by quickly reviewing the medical record against established medical policies and procedures to streamline the review process and increase consistency. Lastly, AI can also assist in tracking real-time progress of the reviews and completion rates to assist organizations in identifying problem areas and allowing them to make timely, informed decisions.

## AI for Medical Record Review Benefits

AI for medical record review brings efficiency and consistency to the currently manual MRR process through advanced machine learning models. Overall, machine learning driven models can:

1. Review a large percentage of claims, eliminating the need for a manual review
2. Assign risk scores to remaining claims so that manual intervention can be strategically focused
3. Provide guidance to reviewers with applicable evidence regarding adherence to clinical policies while automatically documenting findings

Using the latest industry technologies, AI-driven models can scan clinical documents, parse out relevant portions of the documentation (e.g., lab results, radiology reports, medical history, and clinician notes), and apply clinical policy against the extracted information to aid in quick, informed decision-making. By automating components of the MRR process, AI also provides consistency and reduces non-compliance with policies and medical standards.

### AI for MRR Potential Benefits

- ✓ Prioritization of at-risk areas
- ✓ Documentation of pertinent findings
- ✓ Approval/Denial recommendations based upon the evidence identified
- ✓ Identification of at-risk claims for further review
- ✓ Identification of inconsistent documentation
- ✓ Record verification

While human intervention will still be required, applying AI to MRR can better focus reviews while also increasing the number of medical records that receive review. Recent implementation of AI within MRR at a US Health Plan showed reduced MRR processing times, yielded time savings for medical necessity reviews, eliminated and automated a significant number of manual reviews, and reduced provider calls related to authorization and medical necessity.

Additional capabilities of AI for MRR are outlined in Figure 2.

**Figure 2: AI Capabilities within Medical Record Review**

-  **Document Ingestion:** Accept various format including EHRs and PDFs
-  **Pre-Loaded Policies:** Pre-loaded, CMS compliant policies, additional policies can be created and added to validate documentation against audit requirements
-  **Natural Language Understanding (NLU):** Machine learning models that can compare criterion against documentation requirements resulting in a rating that is applicable to the ruleset and indicative of documentation sufficiency
-  **Prioritization:** Identify at-risk areas within the medical record being reviewed
-  **Documentation of Pertinent Findings:** Ability to note the location of findings which increases efficiency for the reviewer
-  **Cloud-agnostic:** Open-source technology stack

## How AI for Medical Record Review Can Help

AI for medical record review can more strategically focus MRRs in the most at-risk areas for quick, consistent, and efficient reviews. Given the volume of information now available through medical records and EHRs, an approach solely comprised of human interaction will not be able to keep up with increasing demands of the MRR process. AI for MRR is designed to integrate with clients' current processes while growing and supporting the greatest areas of need.

Contact us to learn more about how AI for MRR can enhance efficiency, consistency, and throughput!

## Contact Us

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