

Auto Authorizations in US HealthCare

Background In US Healthcare when a patient gets admitted or visits a doctor (provider) for any medical condition. Doctor or the Registered Nurse (RN) suggest some services and submit an authorization to the insurance provider for approval so that the procedure / services / healthcare can be provided to the patient.

Business Question How can AI be utilized to automate and optimize the authorization of healthcare services in the U.S., reducing administrative burdens, improving efficiency, and ensuring timely patient care? How can Healthcare organizations streamline the prior authorization process to improve patient care?

Current or Traditional Approach Traditionally, healthcare service authorization is a labor-intensive process involving manual review by insurance providers, third-party administrators, and healthcare professionals. Providers submit pre-authorization requests that undergo assessment based on policy guidelines (CareWebQI / Milliman Care Guidelines) , medical necessity, and payer requirements. This process is often slow, prone to errors, and leads to delays in patient treatment, increased administrative costs, and physician burnout.

Plausible Solution Using AI AI-powered systems can transform service authorization by automating key steps in the approval process. AI-driven solutions can:

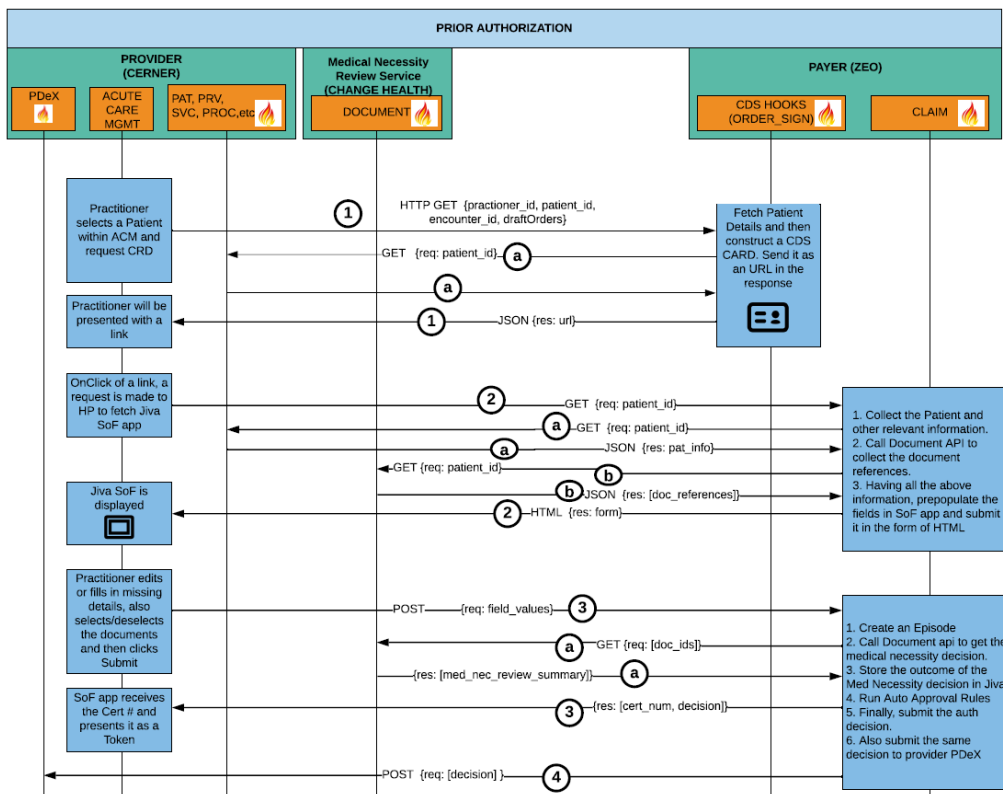
- **Analyze patient records and policy requirements** to determine service eligibility instantly.
- **Use natural language processing (NLP)** to interpret medical documentation and extract relevant details.
- **Employ predictive analytics and machine learning models** to assess approval likelihood based on historical data.
- **Integrate with electronic health records (EHRs) and payer systems** for seamless real-time processing.
- **Identify discrepancies and flag complex cases** for human review when necessary.

The unique value proposition of AI-driven authorization lies in its ability to process vast amounts of data quickly and accurately, reducing administrative workload, accelerating approvals, and patient-centric care enhancing patient satisfaction.

Effectiveness of the Solution can be measured using the following key performance indicators (KPIs):

1. **Reduction in authorization turnaround time** e.g., percentage decrease in approval processing time.

2. **Increase in automation rate / approval rate** percentage of cases approved without manual intervention.
3. **Accuracy of AI decisions** aligning AI recommendations with final human-reviewed approvals and reducing authorization related denials.
4. **Decrease in admin costs** of manual processing for payers and providers.
5. **Patient Outcomes** tracking time-to-treatment & patient satisfactions scores.
6. **Provider Satisfaction** Survey-based metrics to assess ease of use



Expected Benefits from Using AI Solution:

1. **Faster Approvals:** Patients receive quicker responses, leading to timely medical interventions. Less time spent on paperwork, more time for patient
2. **Reduced Administrative Burden:** Physicians and hospital staff can focus on patient care rather than paperwork. About 80% of the labor costs can be saved using the AI enabled solutions.
3. **Lower Costs:** Automation reduces operational costs for healthcare providers & insurers (Payers). Improved compliance & reduced fraud through AI audits

4. **Improved Accuracy:** AI minimizes human errors and inconsistencies in the authorization process. Potential AI to expand into admin tasks, further optimizing healthcare operations.
5. **Scalability:** AI can handle increasing service authorization volumes without additional workforce requirements.
6. **Better Compliance:** Ensures adherence to regulatory (HIPPA, NCQA) and insurance guidelines through automated rule-checking and AI driven audits.
7. **Higher Provider and Patient Satisfaction:** Patient will benefit by this process where he will be receiving the required care at the right time without any delay. Reducing provider frustration with faster approvals which would be avoiding delays in treatment
8. According to industry estimates, insurers implementing AI driven auto authorization can expect a ROI of 5x to 10x over a few years, potential savings of about \$10M-\$50M

References

1. Website. <https://www.mcg.com/care-guidelines/care-guidelines/>
2. Website. www.zeomega.com
3. https://en.wikipedia.org/wiki/Health_Insurance_Portability_and_Accountability_Act
4. https://en.wikipedia.org/wiki/National_Committee_for_Quality_Assurance
5. https://en.wikipedia.org/wiki/Health_insurance_in_the_United_States
6. https://en.wikipedia.org/wiki/Artificial_intelligence_in_healthcare
7. <https://www.fiercehealthcare.com/payers/hcsc-using-augmented-and-artificial-intelligence-quicken-speed-prior-authorization>
8. American Medical Association (AMA). (2021). Prior Authorization and Utilization Management in U.S. Healthcare.
9. Jiang, F., Jiang, Y., Zhi, H., Dong, Y., Li, H., Ma, S., ... & Wang, Y. (2017). Artificial intelligence in healthcare: past, present, and future. *Stroke and Vascular Neurology*, 2(4), 230-243.
10. Bates, D. W., Saria, S., Ohno-Machado, L., Shah, A., & Escobar, G. (2014). Big data in health care: using analytics to identify and manage high-risk and high-cost patients. *Health Affairs*, 33(7), 1123-1131.