Leveraging Artificial Intelligence as a Smarter Path for Prior Authorizations
Frost & Sullivan recently invited industry leaders in healthcare to participate in a unique thought leadership forum, our Executive Think Tank Dinner. This forum brought together stakeholders with visibility into revenue cycle management (RCM) to discuss challenges, strategies, artificial intelligence (AI), prior authorization and other issues tied to optimizing RCM.

Greg Caressi, Senior Vice President and Global Business Unit Leader – Transformational Health with Frost & Sullivan, opened the session by discussing top immediate areas where AI can potentially make a positive impact in the financial segment of healthcare processes, operations and health IT applications (Figure 1).

**Figure 1 - Three opportunity areas for AI in financial IT from 2018-2022:**

<table>
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<tr>
<th>Establish Cost Efficiency</th>
<th>Hedge Risk</th>
<th>Improve Competitiveness</th>
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<tr>
<td>• Preauthorize claims to reduce preventable denials</td>
<td>• Ensure safe and secure sourcing of patients’ claims data</td>
<td>• Automate patient eligibility assessments, clinical documentation and claims processing</td>
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<tr>
<td>• Automate clinical documentation improvement and repurpose coder/clinician time</td>
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<td>• Focus on predicting denials management and expediting collections</td>
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For example, Frost & Sullivan has observed that claims management via AI is beneficial as it saves providers a substantial amount of money that was earlier dedicated for resubmission of denied claims ($25/claim). Furthermore, pre-authorizing claims is a technique that can be achieved by AI-powered RCM platforms, which seamlessly interface with providers’ electronic health records on one side, and with incumbent payor systems on the other, to auto-adjust claims content based on each payor’s coding and reimbursement criteria (all without human intervention).

Health systems and health plans that have a higher degree of participation in alternative payment contracts or risk-based contracts can be more receptive to AI-powered health IT products that can minimize gaps in revenue cycles and optimize operational efficiency.

All hospitals and health systems can benefit from improved revenue flow and denials management through better prior authorization processes. The impacts of more efficient prior authorization procedures on the patient experience are notable and have a direct impact on the patient financial experience, a concept that is at the forefront of issues in the healthcare market today.
KEY PAIN POINTS IN RCM

The group discussed the top issue that was keeping them up at night regarding revenue cycle management. Leading responses included preventing and managing denials, reducing the cost to collect, and dealing with the patient financial experience in the context of the consumerization of healthcare.

Denials management and reducing cost to collect are important focus areas in the RCM process. Both are areas with interesting innovations occurring in the market. While the clinical experience for patients is a key focus given the multitude of quality, outcomes and payment factors that are directly tied to it, the financial experience can be as, or even more, important than clinical considerations for some patients. A negative financial experience is a key factor in patients changing providers and doubting the quality of clinical care they are receiving or may receive from their provider.

Kelly Kloeckler, Associate Vice President Revenue Cycle Operations, UT Southwestern Medical Center, shared that her organization did an analysis and directly found that people are willing to change providers based on their non-clinical experience, which includes factors such as the ability to schedule and pay bills online. Another attendee mentioned that the patient financial experience can often be the first step in trust between the patient and a healthcare provider.
“EHRs and their ever-changing technology have impacted me and my organization the most [in terms of those technology waves]. Learning how to leverage IT to solve integrated operational problems, harness their power, provide actionable data insights, and build an improvement culture have been the common focus areas.”

**ARTIFICIAL INTELLIGENCE AND TECH WAVES**

Different technology waves come and go, impacting markets, stakeholders, organizations, and consumers in various ways. The attendees were asked to compare the current “AI wave” to various others, including:

- The initial boom of the internet (e.g., patients and doctors can communicate via email, patients can more easily research illnesses and treatments, etc.).
- EHRs and the consolidation of patient, clinical, and financial data (e.g., moving from paper to digital, more easily share information across providers, etc.).
- The advent of social media (e.g., chat forums for patients afflicted with similar diseases, crowdfunding sites to raise money for patients, providers receive widespread consumer ratings, etc.).
- Mobile and the “Internet-of-Things” (e.g., mobile apps that can guide physical therapy exercises or diagnosis skin issues via pictures, wearable technologies that track vitals and patient movement, etc.).

“Mobile and IoT” was a leading answer from the group as a prior tech wave that is similar to the current interest in AI in the market. In terms of probing further into how one of those technology waves actually ended up being beneficial to their organization, team, and personally, across the board, factors tied to the digitization of health IT via their EMR implementation were seen as an important tech wave as well. Given the viewpoints from the thought leaders about EHRs, they have had a greater overall impact on their daily work than many previous major technology waves.
“EHRs and their ever-changing technology have impacted me and my organization the most [in terms of those technology waves]. Learning how to leverage IT to solve integrated operational problems, harness their power, provide actionable data insights, and build an improvement culture have been the common focus areas.”
– Thought Leader Attendee

“We use EPIC and it has benefited us in many ways. Being able to have a one-stop shop for all clinical documentation, coding, billing, and collecting has helped increase our revenue substantially over the past five years since its implementation.”
– Thought Leader Attendee

Artificial intelligence has been one of the top focus areas for the past two years in healthcare and healthcare information technology, which has also brought a lot of excitement in terms of the promise of AI improving, enhancing, and bringing about transformative change in the delivery of care.

The group was most excited about the promise that AI can reduce errors in the revenue cycle, leading to fewer wrongful claims denials and faster prior authorizations. At the same time, AI is a subject that still causes confusion in the market on a variety of points. For example, defining specific technologies of AI, including machine learning, natural language processing (NLP), deep learning, voice, and others in the context of specific uses and applications is a common issue. A top point of confusion with the thought leaders was understanding what kind of AI solutions are already proven and ready to be used versus what is actually 5-10 years away from being “real.” Also, an issue about liability was raised because if AI is automatically making decisions, even if it’s just in the revenue cycle and not in the clinical space, where does the liability rest—with the software vendor, the hospital, or the staff monitoring the solution?

The issue of trust in terms of vendor experience has been a part of the AI story in healthcare over the past two years given the extensive mix of companies looking to bring AI-enabled solutions to the market. Trust has been a theme across the board in other important, new technology areas of health IT, including cloud, population health management, and mobile health.

Carolyn Gibbs, Associate Vice President, Business Office Operations, Vanderbilt University Medical Center, brought up the challenge of a lack of established vendor track records with AI in healthcare. Providers are potentially trying to think through a different way to vet solution providers. Trusting in the promise that the vendor can deliver what they say they will deliver regarding AI is a key concern and a key factor for vendors to address as they speak about their solutions in the market.

Another attendee mentioned that they were “gun-shy” now regarding AI vendors after a lengthy and troubled testing and implementation phase where their organization decided to stop work and re-evaluate their approach and
vendor selection. This example reiterated the importance of trust between the vendor and the healthcare organization regarding the ability to bring results and success when implementing a solution with AI.

Philip Boyce, Chief Revenue Officer, Baptist Health, said his organization just started to look at AI this year. Baptist Health went live in May 2019 with an AI product for clinical documentation improvement (CDI), which has been outstanding thus far. He said that the solution reads every chart and determines a potential disconnect in documentation, and then pushes a worklist to CDI staff of charts to prioritize and address, and also provides data on CDI staff from an operational standpoint. The result has tripled his organization’s revenue from re-documenting, which has been a great result.

Holly Kalua, System Director, Clinical Documentation Integrity, St. Joseph Health, mentioned that her organization uses a CDI prioritization tool that uses machine learning based AI. and real-time clinical data to pre-review a patient’s entire clinical record with the use of NLP intelligence. The Clinical Documentation Specialists workload is based on a daily list of these prioritized patients, who are ranked according to the likelihood an inaccuracy between clinical evidence and documentation exists. Given they are able to review the right records at the right time, the workflow is optimized to focus on records with documentation integrity issues; this results in a more efficient process that yields improved financial and quality performance without needing additional staff.

CURRENT TACTICS IN DEALING WITH PRIOR AUTHORIZATIONS

The discussion next moved to specifics on current RCM strategies and resources the attendees were leveraging to deal with processes such as prior authorizations. Almost everyone in attendance had seen an increase in the number of patient cases over the past five years. In that context, prior authorizations have grown by 54% in the past four years, which is expected to continue. All provider attendees had seen an increase in prior authorizations and denials.
The leading outlet or resource that the attendees historically relied on the most to navigate challenges and changes in RCM was their back-office staff, where hiring and training more people were commonly used to deal with case, denial and prior authorization expansion.

“Right now, it’s all manpower,” shared Josh Wymer, Director—Data Analytics, Beaumont Health, who further detailed that his organization is looking into leveraging Robotic Process Automation (RPA) as part of the prior authorization process. A key goal in adding AI on top of RPA would be to get better results, where personnel would have to only deal with problem authorizations and 95% goes out the door without a problem.

To deal with the challenge organizations were seeing with prior authorizations, expressed investments in personnel were significant, with the majority of the group spending between 40-100 full-time equivalent (FTE) hours. If expected growth in prior authorizations does continue, the group felt that it would have to continue to hire more personnel to handle the volume; doctors and clinical support staff would need to become more involved in peer-to-peer reviews; and they would need more support (such as IT, business analysts, etc.) to document and maintain the changing payor rules and workflows.

Kelly Kloeckler shared that, recently, her organization started getting denials from a payor for X-ray, which is something often not scheduled in advance. She felt there are aspects of prior authorization requirements that are almost impossible to meet.
BENEFITS OF APPLYING AI TO PRIOR AUTHORIZATIONS

Leveraging AI to innovate in RCM is one of the key opportunities in healthcare moving forward to make true demonstrative change, benefiting providers, payors, and patients.

The group discussed benefits of an AI solution for prior authorizations, including:

• Reallocating high-talent personnel to more challenging and rewarding roles.
• Reducing operational costs and denial rates, creating a point of important value for their C-suite leadership.
• Shortening authorization cycles.
• Reducing the need to reschedule patient treatments.
• Enabling their organization to be in a better place with their health plans.

Provider organizations are constantly facing change in terms of payor process. Kloeckler felt that a potential benefit would be if an AI solution could help better identify changes to the authorization in real time. For example, if they didn’t do the authorization with the right codes up front and then they change, they have a real-time alert to go back and address things. The right solution should deal with such an issue.

“AI is a safeguard against impending change.”

– Pat Morrell, Strategic Growth Executive, Waystar

Pat Morrell, Strategic Growth Executive, Waystar, said AI is here to stay, and based on his long track record in AI, AI is well-suited for when you have high-caliber people in a monotonous, error-prone environment that is subject to change. He said it may take time for people to observe changes in terms of prior authorization approval with a certain payor, yet an AI can acknowledge a statistical outlier as soon as it happens. In the future, he felt it is going to be less about AI as the focal point in health IT solutions and will be more about the application that is leveraging it.

“It would be nice if there were better solutions to provide alerts in real time regarding changes to authorizations.”

– Kelly Kloeckler, Associate Vice President Revenue Cycle Operations, University of Texas Southwestern Medical Center
Figure 2 - Outcomes from Leveraging an AI Solution for Prior Authorization

Question: If there was an AI solution for prior authorizations that could automatically administer prior authorizations at a cost lower than staff dealing with them, reduce denials, accelerate authorizations, and automatically adjust to changing payor rules over time, what would the successful implementation of that solution mean for you?

The group was asked about some proposed outcomes from an AI solution for prior authorization and what those could mean for them and their organization. Across the board, reactions were positive, agreeing with benefits including being able to reallocate high-talent personnel to more rewarding and challenging roles, reducing costs and denial rates, shortening authorization cycles, reducing the need to reschedule patient treatments, and gaining better organizational equivalency with health plans. One attendee felt that they could potentially hire higher-level personnel such as nurses to do peer-to-peers given less staff would be needed to deal with the workflow.

“AI is a safeguard against impending change.”
– Pat Morrell, Strategic Growth Executive Waystar
“If you have 100 people doing prior auth now, the ideal scenario is you can repurpose 80 of them and only need 20 who can and should manage peer-to-peer facilitations.” - Pat Morrell, Strategic Growth Executive, Waystar

“In healthcare, I think of AI as augmentation as much as it is automation. You are still going to have staff doing denials and prior authorizations. You can reduce the cost while augmenting to get better outcomes and providing more information to staff. People will appreciate that as opposed to thinking about AI as a replacement. It is more about adding value.” - Greg Caressi, Senior Vice President and Global Business Unit Leader—Transformational Health, Frost & Sullivan

**FINAL THOUGHTS**

Revenue cycle leaders must learn to take full advantage of AI to drive operational and financial progress. Traditional software and workflow tools cannot do the job alone because those tools do not adapt to the rapid, day-to-day changes in the revenue cycle. AI solutions can adapt and grow smarter over time to create lasting value and sustainable results. The optimal area to introduce AI in the revenue cycle is the prior authorization process given it is an exponentially growing and frequently changing problem area with a direct effect on patient care; 91% of physicians state that prior authorizations negatively impact patient care, with 86% feeling that the burden of prior authorizations is currently high/extremely high on their practice. Providers and payers must enhance prior authorization processing with AI to accelerate patient access to care, reduce costs, increase revenue capture and margin, and improve the overall patient experience.