Building a Future-Ready Healthcare Revenue Cycle with AI, Automation and Analytics

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Administrative complexity, shrinking margins, and mounting patient expectations are straining traditional processes and human resources. Manual workflows in revenue cycle management (RCM) are time-consuming, error-prone and expensive. In fact, healthcare organizations in the United States could save up to $360 billion by deploying analytics and automation.

Against this backdrop, the integration of artificial intelligence (AI) and predictive analytics is no longer a future aspiration; it's an operational necessity. These advanced technologies are already transforming the revenue cycle in hospitals and health systems, automating eligibility verification, streamlining prior authorization, improving coding accuracy and reducing compliance risk.

The benefits are quantifiable. Organizations adopting AI in RCM report lower error rates and denials, improves proactive issue resolution, more accurate revenue forecasts, assistance with budget planning and improved decision making.

"All the administrative tasks that are part of the revenue cycle in healthcare are significant pain points. It adds cost, it adds delays in the whole process and has a significant financial impact overall for cost of care."

–Abhijith Godbole
  Associate Vice President, Sutherland Healthcare Solutions

Realizing the potential of AI, automation and analytics in RCM requires more than technology; it demands responsible design, governance and multi-stakeholder collaboration to augment (not replace) the human expertise that underpins healthcare finance.

Key takeaways:

- **Discover top AI and automation use cases in revenue cycle management.**

- **Learn how predictive analytics improves financial forecasting and cash flow.**

- **Understand where human oversight is critical to maintain accuracy and empathy.**

- **Build a balanced approach to technology adoption that maximizes ROI.**

Why the Revenue Cycle Must Evolve

The process of tracking payment from patient scheduling through treatment, coding, billing and reimbursement is complicated by the network of payers, negotiated contracts and constant changes to compliance requirements and reimbursements.

A well-implemented RCM offers significant benefits from improved patient experience and reduced claims denials to lower administrative costs and increased cash flow. But managing clinical revenue is more complex than ever and challenges are present at all stages of the patient journey.

RCM is fraught with end-to-end complexity that create administrative inefficiencies and impacts productivity and the patient experience with challenges that include complex billing processes, rising claims denials and collections delays that are made worse by strained resources, high healthcare costs and regulation changes.

Despite rising expectations from patients for seamless financial engagement, labor shortages affect 83 percent of healthcare leaders across the revenue cycle, reimbursement growth is constrained and margins are shrinking. Lack of information technology resources and legacy infrastructure along with financial, security and privacy concerns block AI adoption in RCM, according to Godbole.

"Constantly changing compliance guidelines are also a challenge," he adds. "You have to keep up with all of this and just keeps adding to the administrative processes."

The potential for AI to address these challenges is the reason that 65 percent of providers have adopted AI in RCM. But success depends on having the right infrastructure, capabilities and team to transform a manual, complex process that depends on effective collaboration.

65%[*]

of providers have adopted AI in RCM.

37%*

of healthcare organizations have experienced negative financial impact from clinical documentation and coding discrepancies.

The Evolution of Revenue Cycle

The cumbersome, manual processes that are commonplace in RCM have significant impacts. New research from the Healthcare Financial Management Association found that clinical documentation and coding discrepancies had a negative financial impact on 37 percent of healthcare organizations and just nine percent of respondents felt "very confident" that their organization captured all of the revenue to which it was entitled.

Embedding AI and analytics into healthcare RCM has the potential to address pain points and drive improvements in areas such as cost-to-collect, denials and patient collections. Investments in AI can also improve RCM processes, including streamlining workflow and optimizing resource allocation.

As adoption increases, healthcare leaders also expect AI to expand to additional functions within RCM, including eligibility and benefits verification and prior authorization. With all of the potential and emerging use cases, Godbole acknowledges that it can be difficult to know where to start.

"The return on investment absolutely exists across the value chain. What you need to prioritize really depends on which is your biggest pain point or where you have the most inefficiencies within your RCM process."

–Abhijith Godbole
   Associate Vice President, Sutherland Healthcare Solutions

Meaningful transformation takes time. Successful AI implementation in RCM requires unified analytics and data platform that integrates EHR, billing, claims and financial data into a "single source of truth." In addition to focusing on interoperability, audit trails, compliance and governance frameworks, healthcare organizations must also address common barriers to implementation, including legacy systems, limited API interoperability, data silos, poor data quality and weak governance.

"Not having your base infrastructure in place with respect to data knowledge management and things like that leads to… more superficial AI implementation and not yielding the results that AI can potentially generate. Understanding where you are and making sure that your current infrastructure is AI scalable really leads to meaningful transformation."

–Abhijith Godbole
Associate Vice President, Sutherland Healthcare Solutions

Front End

- End-to-end patient access solutions.

- AI agents and chatbots can help patients schedule, confirm appointments, collect payments and manage all pre-visit communication, assist with eligibility and benefit verification.

- AI agents and chatbots can automate prior authorization automation and predictive scoring for patient ability to pay.

- Conversational AI agents to manage omnichannel patient communication preferences.

Middle Cycle

- Technology can assist with coding, capture and documentation.

- Natural Language Processing (NLP) and Large Language Models (LLMs) can translate clinical notes into medical codes and ensure code compliance.

- AI assists with clinical documentation, highlighting gaps and prompting for missing data.

- AI and machine learning (ML) can also be used for data validation, auditing, fraud detection by spotting outliers or patterns of abuse.

Back End

- Predictive modeling can be used to flag likely denials pre-submission.

- AI agents for insurance phone call follow up, robotic process automation-based claim status, AI driven next best action recommendations.

- AI-assisted appeals drafting, routing escalation can speed up the process.

- AI based claims, scrubbing, and payment posting process.

Unlocking the Value of AI and Analytics

Intelligent RCM can strengthen financial health and drive long-term sustainable growth but success requires investing in infrastructure, data standardization and knowledge management assets. The best outcomes are realized when stakeholders from multiple departments are involved and can prepare for systemwide adoption that includes a plan for deployments and full-scale implementation.

Godbole advocates a "humans in the loop" approach to AI adoption. Even as AI get more autonomous, the goal is not to displace humans but to enable faster, better, more accurate decisions that allow humans to focus on higher value tasks. Humans are critical to the success of AI and data analytics in RCM.

"It should be seen a new way of improving outcomes, not a threat to the workforce. If you have a cohesive model where humans are complementing what AI is doing and vice versa and there's a continuous feedback loop... that's when AI is most meaningful."

–Abhijith Godbole
Associate Vice President, Sutherland Healthcare Solutions
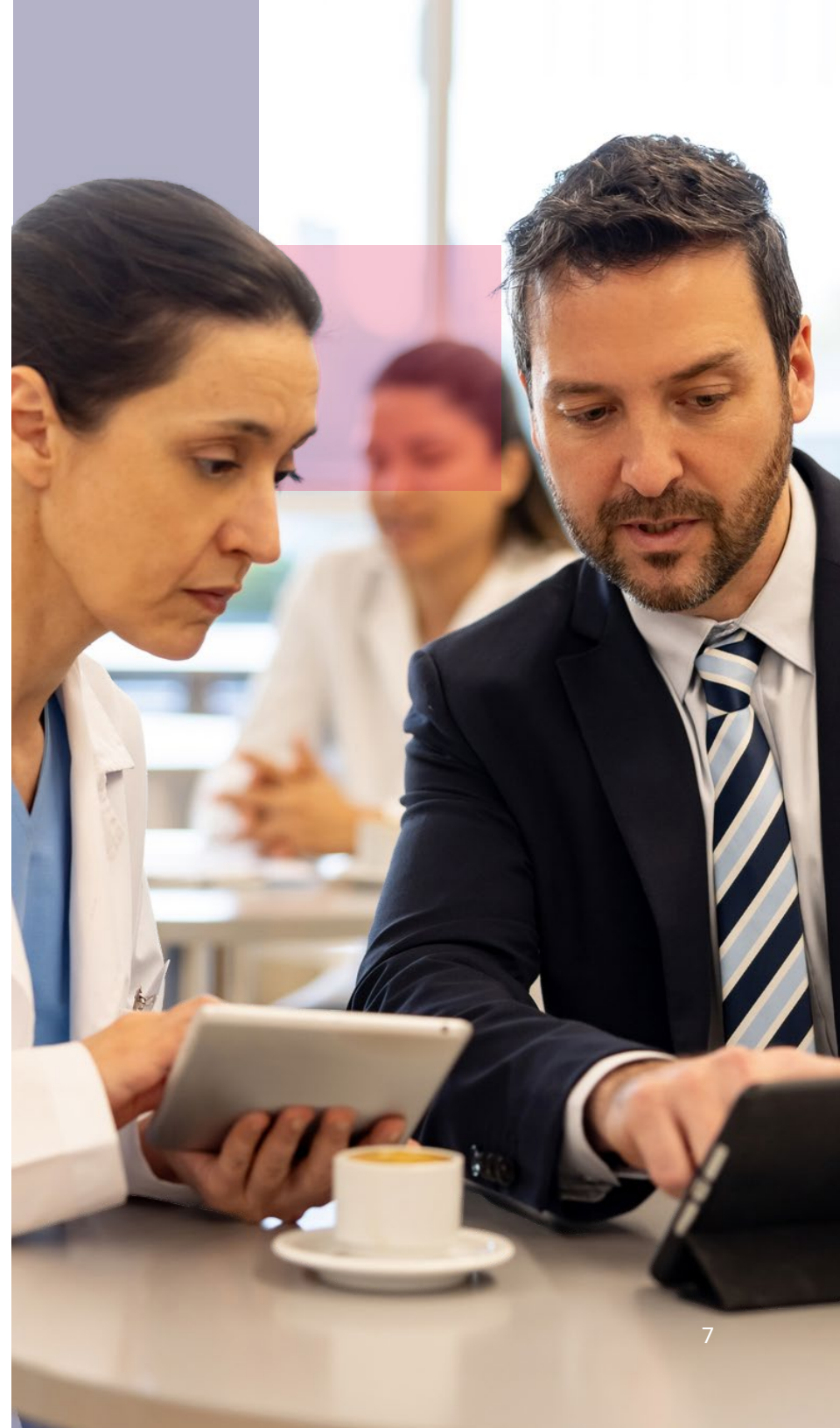
Healthcare organizations should conduct readiness assessments and evaluate risk factors and mitigate risks with guardrails that protect against bias and inequitable impacts and having humans validate computer-generated outputs. Implementation requires a holistic approach that includes a clear path to move from pilots to systemwide adoption.

"Having...well documented processes in place and making sure that AI has access to all the information in a structured way are the things that the organizations can start doing immediately while they are looking at a whole transformation journey," Godbole says. "Once you see success in terms of how AI is helping address pain points, scaling up across different RCM value chains is the best way for a healthcare organization can [move toward widespread] adoption."

The right partner can be invaluable during implementation of AI in RCM. Partner with vendors that have deep healthcare experience and can offer interoperability, modularity and domain experience and work with you in

a model that truly drive outcomes. Flexibility is also important; look for a best-in-class solution who can leverage solutions that work with existing infrastructure over a vendor that is over-committed to one EMR.

"Choose the partner who is going to help you monitor outcomes and ROI ," says Godbole. "They should be accountable if they're not delivering those particular outcomes."

Evaluating ROI should come from operational and financial metrics and transformation in RCM must be viewed as a journey that is adapted to individual processes and environments, not a one-and-done process.

AI and analytics are redefining what's possible in revenue cycle management—but true transformation depends on people, processes and purpose as much as technology. By pairing intelligent automation with human oversight and trusted partnerships, healthcare organizations can unlock efficiency, improve financial health and realize measurable value.

To get a complimentary assessment of your current RCM solutions, contact Sutherland today.

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Sutherland is a leading digital transformation company that partners with healthcare organizations to reimagine and modernize their operations. Leveraging deep industry expertise and cutting-edge capabilities in AI, automation, and analytics, Sutherland helps health systems, payers, and providers build future-ready revenue cycle operations that improve efficiency, accelerate reimbursements, and enhance patient and provider experiences. Our human-centered, technology-driven approach enables clients to achieve measurable outcomes — driving smarter decisions, sustainable growth, and better health for all.

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