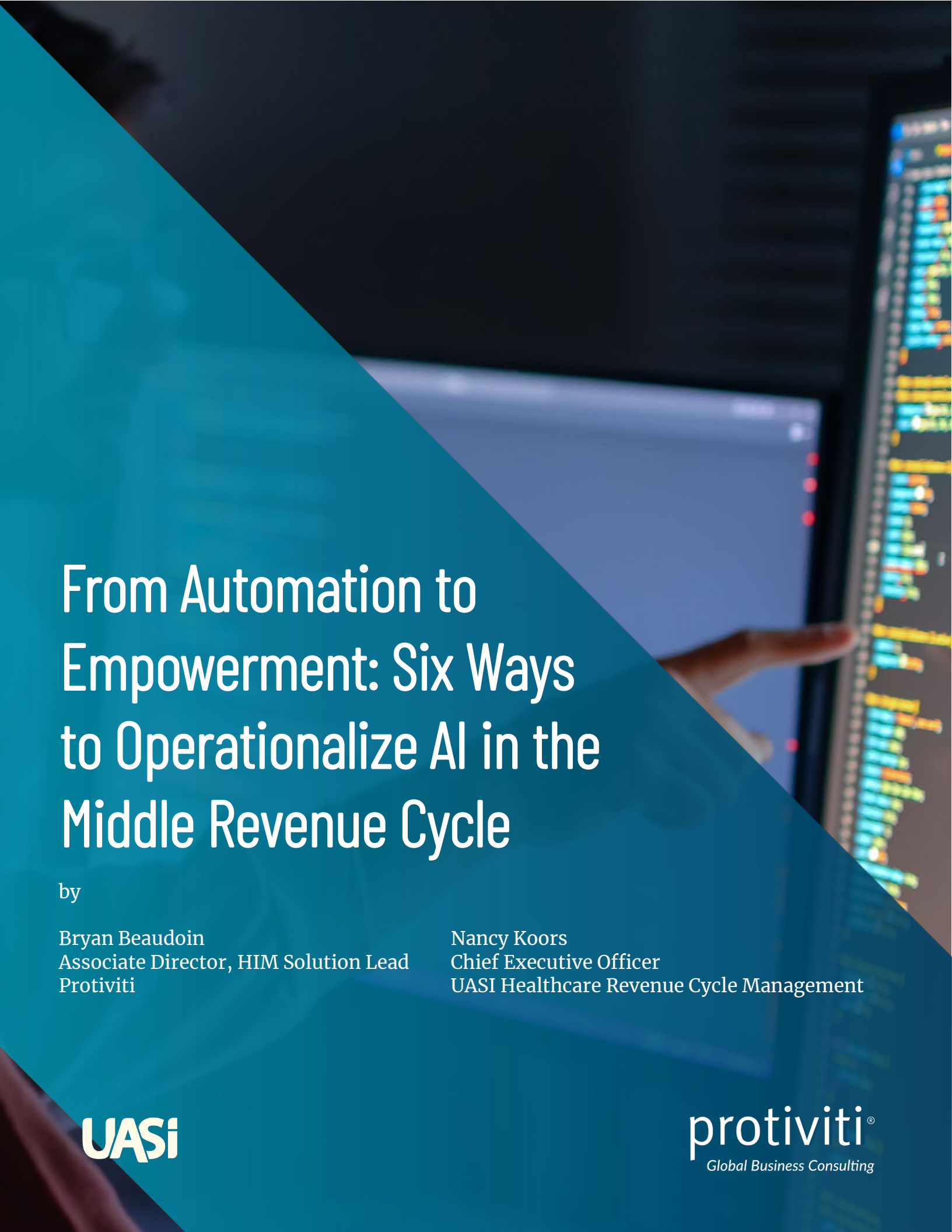

From Automation to Empowerment: Six Ways to Operationalize AI in the Middle Revenue Cycle

by

Bryan Beaudoin
Associate Director, HIM Solution Lead
Protiviti

Nancy Koors
Chief Executive Officer
UASI Healthcare Revenue Cycle Management

UASI

protiviti®
Global Business Consulting

Artificial intelligence (AI) is rapidly transforming healthcare operations, particularly within the middle revenue cycle. This includes Health Information Management (HIM), coding and Clinical Documentation Improvement (CDI). While many providers are optimistic about AI, healthcare organizations are generally early in their AI maturity; only 45% of AI applications have moved beyond ideation or proof-of-concept stages.[1] This makes managing the human side of AI adoption a critical success factor. Key challenges across all industries include staff apprehension, workflow disruptions, data privacy concerns and risk of overreliance on AI outputs.

In Protiviti's 2026 Top Risks Survey,[2] healthcare leaders listed **data and cybersecurity risks (41%), integrating AI with legacy technologies and business processes (38%), and preparing the workforce to use AI responsibly (33%)** as their most pressing challenges.[3] As organizations adopt AI technologies, they must manage change effectively to ensure successful integration. This involves redeploying and upskilling staff, training on new workflows, educating providers and implementing robust auditing mechanisms. "AI is a partner, not a replacement" should be a key mantra when discussing the potential implementation of AI in the middle revenue cycle space. As AI adoption accelerates, the differentiator will not be the sophistication of the technology, but how effectively organizations redeploy talent, retrain staff and build trust through governance.

Findings from Protiviti's 2026 Global Transformation Survey suggest that executive alignment plays a key role in addressing these challenges. As health systems modernize core platforms and deploy AI, alignment among clinical, operational, technology and finance leaders may be just as important as the technology itself. Organizations with stronger executive alignment reported significantly higher confidence in transformation outcomes, AI realization and operational performance.[4]

In Protiviti's 2026 Top Risks Survey, healthcare leaders listed data and cybersecurity risks (41%), integrating AI with legacy technologies and business processes (38%), and preparing the workforce to use AI responsibly (33%) as their most pressing challenges.

---

[1] *The Healthcare AI Adoption Index*," Bain & Company, Bessemer Venture Partners, and Amazon Web Services, April 22, 2025.

[2] *Unlocking Opportunity: Executive Perspectives on Top Risks and Opportunities Survey 2026*, Protiviti and NC State University ERM Initiative, 2026.

[3] "Healthcare under pressure: Mastering risk to unlock new growth, Protiviti Top Risks 2026: Healthcare Insights," January 2026,

[4] The Alignment Advantage in Transformation, Protiviti, June 2026.

AI isn't replacing staff; it's redefining their value

One of the most significant shifts involves redeploying staff. Rather than eliminating roles, organizations are repositioning team members such as coders and CDI specialists into higher-value functions. For instance, hospital systems implementing an AI-powered coding solution can reassign coders to auditor and validator roles. These professionals now focus on reviewing AI-generated codes for accuracy and compliance, allowing them to concentrate on complex cases requiring clinical judgment.

Similarly, coding vendors can facilitate the transition of coders into documentation improvement and provider education roles. In hospitals using AI-driven CDI tools, specialists were redeployed to prioritize high-impact cases while AI handled initial chart reviews. These changes led to measurable improvements, including a realized 5% Case Mix Index (CMI) improvement through accurate diagnosis-related group (DRG) selection and a 50% increase in CDI productivity.[5]

Training and upskilling for an AI-enabled workforce

Training is another cornerstone of successful AI adoption. Organizations must ensure that staff understand not only how to use AI tools but also how these tools integrate into existing workflows. Effective training includes hands-on learning, workflow mapping, and support from departmental-change champions. AI-enabled coding programs increasingly rely on workforce training, with upskilling initiatives helping coders collaborate effectively with automation systems that can achieve approximately 95% accuracy in areas such as documentation-to-code matching, reinforcing the need for human oversight alongside AI.[6]

---

[5] Association of Clinical Documentation Integrity Specialists (ACDIS), "AI-Enabled CDI Powers 5% CMI Improvement and 50% CDI Productivity Increase for Texas-Based Hospital," CDI Strategies, April 14, 2023.

[6] Gitnux, "AI in the Medical Billing Industry Statistics 2026," 2026, accessed June 17, 2026.

Upskilling staff is essential to prepare them for evolving roles. This includes enhancing data literacy, deepening clinical knowledge and improving technology fluency. Organizations using natural language processing (NLP) case-triage and prioritization tools have successfully implemented certification programs and microlearning modules to help staff adapt. These efforts empower professionals to take on strategic responsibilities in documentation quality and provider engagement.

Building provider trust in AI as a clinical support tool

Educating providers is equally important. Physicians must understand that AI supports rather than replaces clinical judgment. Education initiatives should clarify AI's role, demonstrate its value in reducing administrative burden, and address concerns about surveillance or liability. In hospitals using AI in CDI, providers reported greater satisfaction due to fewer queries and clearer documentation prompts.[7] Additionally, use of ambient listening tools, which capture and transcribe patient-provider conversations and make provider documentation easier, can significantly reduce documentation burden, creating a significant win from a provider-satisfaction perspective and potentially reducing provider burnout.

Physicians must understand that AI supports rather than replaces clinical judgment.

[7] Francisco N. Alvarez and Ross Koppel, "Effect of an AI-powered clinical workflow tool on CDI queries," *Journal of Translational Research*, vol. 2, no. 1, 2025, accessed June 17, 2026.

Governance and oversight: Building trust in AI

Auditing and monitoring AI tools is critical to ensure responsible use. Organizations must validate AI-generated outputs, track performance metrics and establish feedback loops. Coders reassigned to auditor roles have helped reduce denials and improve revenue integrity. Governance committees with representatives from HIM, CDI, coding, compliance and clinical leadership oversee these efforts.

Organizations must also audit and monitor specific AI technologies. For ambient listening tools, audits should include random sampling of transcribed encounters and comparison with clinician intent. Dashboards can track error rates and turnaround times, while feedback forms allow clinicians to report issues. For NLP tools used in documentation and query generation, audits should validate outputs against guidelines and assess clinical relevance. Monitoring includes tracking query acceptance rates and model performance. Automated coding tools require dual-coding audits, focused reviews of high-risk procedures and analysis of coding patterns. Dashboards and denial tracking help ensure accuracy and compliance.

Leading change through communication

To build support among frontline staff, revenue cycle leaders must communicate effectively. Messaging should be clear, empathetic and focused on empowerment. Leaders can emphasize that AI is a tool to enhance expertise, not replace it. Transparency about training and role evolution, collaboration in refining AI tools and a shared vision for a smarter revenue cycle are key themes. These messages can be delivered through town halls, meetings and direct communication.

Tracking AI performance: Metrics that matter

To operationalize this oversight, organizations must define clear, consistent performance metrics. Below are some key metrics revenue cycle and compliance leaders can track to monitor the effectiveness and compliance of AI technologies in the middle revenue cycle:

Metric	What it measures	Why it matters
Coding Accuracy Rate	% of AI-coded encounters matching human coder validation	Ensures compliance and billing integrity
Query Acceptance Rate	% of AI-generated queries accepted by providers	Indicates clinical relevance and trust by providers
Denial Rate (AI-coded)	% of claims denied that were AI-coded	Flags potential compliance or documentation issues
Time to Code	Average time per encounter using AI vs. manual coding	Measures efficiency gains
Provider Satisfaction Score	Survey-based rating of AI tools by providers and staff	Gauges adoption and usability
Audit Discrepancy Rate	% of audited encounters with significant AI-human differences	Identifies risk areas for retraining or oversight
Query Response Time	Time taken by providers to respond to AI-generated queries	Reflects workflow impact and engagement

Implementing AI in the middle revenue cycle is a cultural and workforce transformation that fundamentally changes how work gets done. By embracing AI as a partner rather than a replacement and investing in both people and technology, organizations can elevate human expertise and unlock AI's full potential while maintaining quality and trust. The future lies in collaboration between humans and AI to elevate healthcare operations and turn AI potential into measurable, trusted outcomes.

Strategies for Implementing AI in the Middle Revenue Cycle

Redeploy Staff

Shift coders to auditing roles and managing complex cases like ICU cases

Upskill Existing Staff

Train staff in AI tools mapping new workflow routes

Train on AI and AI Workflow

Train staff in AI tools' hands-on learning and map new workflows

Audit and Monitor

Leverage "human-in-the-loop" professionals to regularly validate AI-generated outputs

Build Teams For The Future

Enhance data literacy, deepen clinical knowledge and improve technology fluency

Educate Providers

Educate providers on effective and compliant use of AI

Challenges

- Fear of job displacement
- Resistance to change
- Skills gaps
- Workflow disruption
- Trust and accountability
- Provider engagement

Messages to Frontline Staff

- AI is here to support your expertise – not replace it.
- You are the experts. AI is a tool that learns from you.
- Our goal is to build a smarter, more efficient revenue cycle

About the authors

Bryan Beaudoin

Associate Director, HIM Solution Lead

Protiviti

Bryan Beaudoin is an associate director with Protiviti and serves as the HIM Solution Lead. He can be reached at bryan.beaudoin@protiviti.com.

Nancy Koors

Chief Executive Officer, UASI

UASI Healthcare Revenue Cycle Management

Nancy Koors is the chief executive officer with UASI. She can be reached at nancy.koors@uasisolutions.com.

Protiviti (www.protiviti.com) is a global consulting firm that helps clients transform and protect their businesses, and respond to planned and unexpected events. Through a network of more than 90 offices in over 25 countries, Protiviti and its independent and locally owned member firms deliver deep expertise and tailored capabilities across technology, artificial intelligence, data, operations, finance, legal, compliance, HR, marketing, digital, risk, and internal audit—enabling organizations to accelerate innovation, navigate risks and safeguard what matters most.

Named to the Fortune 100 Best Companies to Work For® list since 2015, Protiviti Inc. has served more than 80 percent of Fortune 100 and nearly 80 percent of Fortune 500 companies. The firm also works with government agencies and smaller, growing companies, including those looking to go public. Protiviti Inc. is a wholly owned subsidiary of Robert Half (NYSE: RHI).

protiviti®