



# 'Bots in the rev cycle

Hospitals increase revenue recovery with robotic process automation



**Hospitals are in a bind. As the shift toward value-based contracts intensifies, revenue cycle operations are becoming increasingly complex. Payers are exploring new ways to quantify value as it relates to reimbursement, which puts additional pressure on hospitals to provide documentation to support claims. Even positive developments such as lower unemployment have led to higher labor costs. All of this has the potential to decrease hospitals' cash flow and negatively impact the bottom line.**

What are hospitals to do to offset cost pressure and potential loss of profitability? Some forward-thinking provider organizations are exploring robotic process automation (RPA) in the revenue cycle. Before that effort gets underway in earnest, it is likely that healthcare executives will have a number of questions that need to be answered.

## **Why do I need more technology?**

RPA is special-purpose software programmed to be used with data and rule-based processes to replace or supplement repetitive tasks normally handled by humans. Not to be confused with more advanced forms of intelligent automation, such as machine learning and cognitive computing, RPA is lower cost and easier to implement. The technology is more efficient, is not prone to human error, and acts as a conduit for processes requiring communication between multiple existing systems.<sup>i</sup>

## **Have the potential scope areas and benefits of RPA been quantified?**

Healthcare organizations are far from alone in consideration of RPA and other intelligent automation technologies. Right now, 55 percent of North American enterprises are seriously examining how RPA might impact their businesses. The global IT robotic automation market is expected to be worth almost \$5 billion by 2020.<sup>ii</sup> Viewed through a larger lens, RPA and artificial intelligence (AI)<sup>1</sup> taken together are projected to reach \$150 billion by the same year.

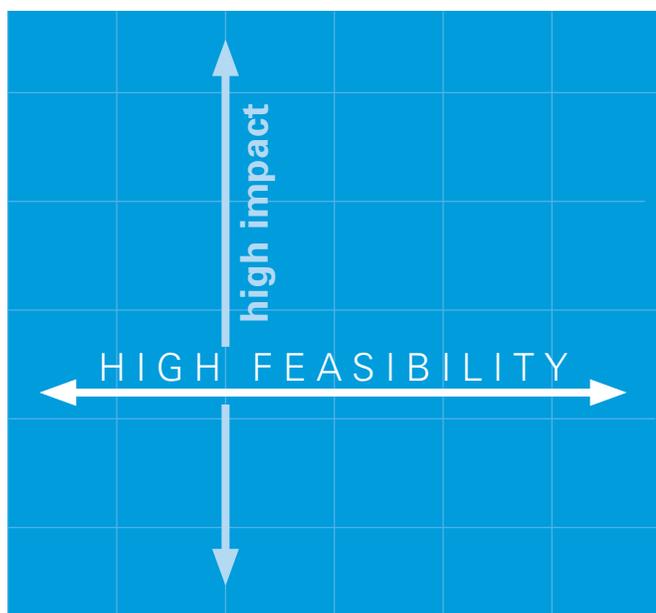
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# \$5 Billion

**The global IT robotic automation market is expected to be worth \$5 billion by 2020.**

<sup>1</sup> AI is defined as the combination of cognitive automation, machine learning, reasoning, hypothesis generation and analysis, natural language processing, and intentional algorithm mutation to produce insights and analytics at or above human capability.

When it comes to cost reduction, studies show that RPA can create 25–50 percent savings.<sup>iii</sup> Compared to IT outsourcing, improvements in productivity fueled by process automation are almost double, according to the Automation Index from the Information Services Group (ISG).<sup>iv</sup> Given the fact that 30–40 percent of healthcare claims result in edits or exceptions that could lead to denials, RPA can help identify issues, facilitate claims review, and quantify and categorize past denials. It is, therefore, arguable that hospitals could use RPA to recoup millions of dollars in accounts receivable that might have gone unpaid.



### Would RPA in the revenue cycle mean that people would lose their jobs?

In general terms, process automation can run 24/7/365 at a fraction of the cost of human labor. In healthcare, however, RPA is not so much a substitute for headcount but a means of allowing hospital personnel to focus on value-added work. Further, the software may reduce reliance on third-party collections and/or provide cost-effective ways to address revenue recovery on accounts that would have gone unaddressed. Accounts can be assigned to humans, software bots or both based on a variety of criteria, including account balance, payer, denial type, or even a combination of many criteria. RPA can take actions on those accounts to move them forward toward resolution.

### How would RPA work in a hospital's revenue cycle?

RPA is well-suited to the revenue cycle because the technology works best with structured data, a defined set of parameters, and concrete tasks. Already, some organizations are using the technology selectively, particularly in accounts receivable departments, as well as for financial close and reconciliation processes, preliminary financial statements, and month-end reporting. Ultimately, RPA can be used to assist in the management and resolution of accounts from preregistration and appointment scheduling to the final payment of a bill.

Following is an overview of what RPA would look like in three different revenue cycle functions – new patient appointments, patient pre-arrival and arrival, and claim denials:

**New Patient Appointment Requests.** Getting new patients scheduled efficiently can be time-consuming. RPA provides a cost-effective means of routing appointments to a specific work queue based on specialty, diagnosis, location, insurance carrier, etc. Specifically, a patient fills out a new patient electronic appointment request form. A bot then scans the data, places it into a consolidated report, sorts and filters the report according to business rules, and routes the report to a specific referral management representative. The representative then uses the report to schedule the patient's appointments. The result is increased satisfaction for both patients and call center personnel and the ability to reallocate resources to more mission-critical tasks.

**Patient Pre-Arrival and Arrival.** RPA can be used to assist in the check-in process, validate patients' health plan coverage, ascertain whether particular providers are in-network, and obtain preauthorization for procedures and treatments. Since data entry mistakes related to a patient's insurance carrier or ID number can eventually lead to claim denials, the increased efficiency offered by RPA is invaluable.

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**Claim Denials.** The number of days claims sit in accounts receivable can have a dramatic impact on cash flow. At present, handling denied claims is capacity constrained and requires more labor to scale. When considering a single claim, the cost of deploying human labor or outsourcing exceeds the potential reimbursement. However, in aggregate, the dollars at risk can be in the millions. RPA provides reliable, fast, economical labor, while addressing recovery of revenue that might have been written off. In addition to decreasing the number of days a claim remains unresolved, RPA can contribute to better data quality and compliance with federal regulations governing Medicare claims filings.

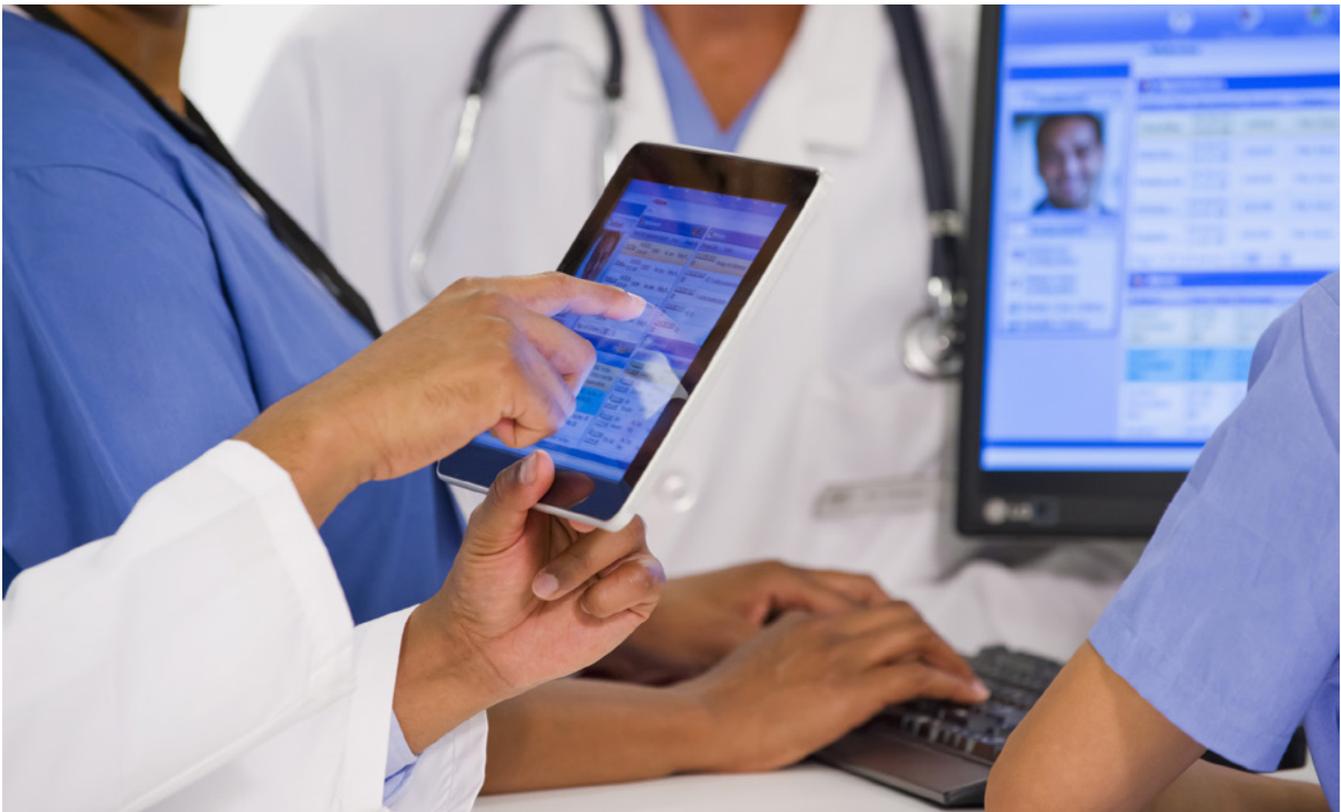
### What are the next steps after RPA in the revenue cycle?

Using RPA in the revenue cycle offers hospitals benefits beyond recovered revenue. The technology allows data transfer between screens, applications and even outside provider organizations. This seamless transfer eliminates human error and false interpretations from information processing. Further, RPA facilitates connectivity and continuity of patient care outside of a hospital's four walls, which can lead to improvements in clinical outcomes.

RPA as a stand-alone technology is just the beginning. The technology can be integrated with patients' electronic health records so, when providers need to substantiate the medical necessity of a procedure or treatment, they can easily attach a portion of a patient's medical record, including both structured and unstructured data (e.g., physician's notes).

Further down the line, RPA will be integrated with machine learning, data and analytics, and cognitive technologies. All of these technologies working together will likely extend the impact of automation from claims and financial administration to diagnoses, population health management, utilization management, care coordination, and remote monitoring.

There is no doubt that this is a challenging time for healthcare organizations. However, many of the changes of the past years point in a positive direction that we all embrace—healthier patients, an increase in access to care, satisfaction with the healthcare experience, better use of data to inform clinical decisions, and an industry-wide commitment to value and quality. RPA and other intelligent automation technologies are invaluable innovations that can help organizations rise above the current uncertainty and continue to protect both their patients, and their organizations' solvency.



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# How KPMG can help

## How can KPMG help me make strategic use of intelligent automation?

The healthcare and life sciences professionals at KPMG LLP (KPMG) are currently helping companies transition their back- and front-office functions from human labor to intelligent automation, including RPA and cognitive technologies/analytics. Through our partnerships with leaders in the cognitive space, coupled with the capabilities of our in-house data & analytics center, we have our finger on the pulse of how self-learning computers and AI can be applied to improve efficiency, automate decision making, and develop predictive insights.

We provide systems integration and IT optimization that are tied to business transformation objectives. Additionally, we believe that automation should be built into business process design, transformation efforts, and human capital decisions. Instituting process automation necessitates an incremental change management program to overcome organizational resistance and provide reassurance about the continued value of human capital and the need to integrate intelligent automation technologies into evolving workflow processes.

When it comes to revenue cycle IT optimization, we take a value-driven approach that aligns IT improvements with the imperatives driving your business—reducing denials and maximizing revenues, meeting the needs of a more discerning healthcare consumer, better understanding payment trends, realizing value-based reimbursements, and facilitating a smoother workflow.

Our team of revenue cycle professionals comprises strategy and advisory leaders, specialists in healthcare information technology, leading data scientists, and proprietary predictive analytics tools. The team has deep industry experience serving large, complex health systems across the United States, as well as academic medical centers, children's and community hospitals, and large multispecialty clinics.

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<sup>i</sup> Institute for Robotic Process Automation & Artificial Intelligence.

<sup>ii</sup> IT Robotic Automation Market: Global Industry Analysis, Size, Share, Growth, Trends and Forecast 2016 – 2024 – Transparency Market Research  
<http://www.transparencymarketresearch.com/it-robotic-automation-market.html>

<sup>iii</sup> Institute for Robotic Process Automation & Artificial Intelligence.

<sup>iv</sup> Stephanie Overby, (September 30, 2016). Why automation doubles IT outsourcing cost savings, CIO magazine;  
<http://www.cio.com/article/3126150/it-industry/why-automation-doubles-it-outsourcing-cost-savings.html>

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