



Launching a Revenue Cycle Automation Strategy

What Does the Future of Revenue Cycle Hold?

During his keynote address at Facebook's F8 conference, Mark Zuckerberg announced 2016 as the year of the "bot."¹ Mr. Zuckerberg was betting on the proliferation of software-powered robots (commonly referred to as "bots") that we have seen perform simple, mundane tasks, such as composing emails, booking travel plans, securing dinner reservations, and launching customer service chatbots that can effectively respond to customer service inquiries. Google announced in May of 2018 Google Duplex, a technology for conducting natural conversations to carry out "real-world" tasks over the phone, including scheduling appointments with a computer that seemingly sounds and interacts exactly like a human.

Intelligent automation (IA), artificial intelligence (AI), robotic process automation (RPA), and machine learning (ML) are all hot buzzwords in today's healthcare industry. While slower to adopt, the healthcare sector is gradually embracing this technology.

An evolved future is emerging, with an exciting path toward administrative automation. IA has the ability to revolutionize the revenue cycle. An organization that has appropriately planned for and integrated automation strategies into its revenue cycle operations can differentiate itself through transformed processes, more strategic customer service tactics, reduced cost to collect, and redeployment of talented employees to focus only on the toughest of problems.

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TERMINOLOGY...**DEMYSTIFIED**

While automation terms such as IA, AI, RPA, and others are prevalent throughout the market, many have varied understandings of their meaning. These terms have unique definitions but are in the same family of approaches to help computers “learn” and “think.”

INTELLIGENT AUTOMATION (IA)

is a term emerging as a holistic description of everything from desktop scripting to RPA to artificial intelligence, as applied to process execution.

ARTIFICIAL INTELLIGENCE (AI)

is the ability for a program to make predictions or decisions or take actions based on insights developed by ML algorithms. It is a combination of cognitive automation, ML, reasoning, hypothesis generation and analysis, natural language processing, and intentional algorithm mutation, producing insights and analytics at or above human capability.²

ROBOTIC PROCESS AUTOMATION (RPA)

is a form of IA. It is a server-based software automation solution (aka software robot) that uses existing system interfaces to automate repetitive, mundane, and error-prone work previously done by humans. It is technology that mimics the steps of a rules-based, non-subjective process. RPA is the most commonly used IA solution in the market today and has the most application to revenue cycle processes.

MACHINE LEARNING (ML)

is a method of data analysis that automates analytical model building, where computers can be supplied with massive amounts of data and can “learn” how to complete a specific task or make a prediction or decision based on patterns it identifies in that data. Traditional ML requires labeled data, where humans provide the set of initial rules, data features (individual characteristics or variables—input), and data labels (output), then the computer learns by applying those to a dataset. The resulting algorithm is refined as the computer is provided with and analyzes new datasets. Humans correct any errors the machine makes.³

IA offers the promise to dramatically increase the speed and accuracy of repetitive tasks to improve business processes, costs, and outcomes. It is built upon existing software platforms and workflows, making it a cost-effective solution that is relatively quick to implement. It has the potential to transform many healthcare processes, including those that require staff to manually access and gather data from several different applications to complete their activities (See Figure 1). A transformed, automated revenue cycle is one where consumers can interact with intelligent bots to ask questions about or pay their bills, and natural language processing (NLP) outbound calls can interact with insurers to check the status of claims for those that still require workforce-enabled, telephonic inquiries. Automating more of the repetitive, rules-based functions allows organizations to turn more attention to patients' most pressing needs for guidance and assistance. Figure 2 below illustrates some of the ideal processes to explore.

Figure 1. What Does an Automatable Process look Like?



Figure 2. Examples of Revenue Cycle Tasks Ripe for Automation

SCHEDULING	PRE-REGISTRATION	FINANCIAL COUNSELING	REGISTRATION/ED & CHECK-IN	REVENUE INTEGRITY	PATIENT FINANCIAL SERVICES (PFS)
Pricing of services	Prior authorization	Presumptive charity	Pre-authorization and notification of admission	Departmental denials reporting and distribution	Fully automated primary and secondary billing
Insurance verification	Query patients for additional information	Credit scoring and identification of high financial risk	Ability to check coverage, COB, out-of-pocket, and pricing	Charge reconciliation and variance reporting	Update/add modifiers
Merging of duplicate MPIs based on rules	Medical necessity checks/ABN generation	Auto-routing of patients to financial counselor	Live chat with financial counselors	Rule-based clinical documentation scans and alerts	Under-payment processing/resolution

There are numerous vendors experienced in the solution of deploying a “digital worker” to do repetitive tasks. To date, most of these vendors are industry agnostic, which promotes accessibility for organizations looking to explore opportunities in the healthcare revenue cycle. The barriers to entry are diminishing, with more investments and solutions being tested. The difference in adoption rates has much to do with the ability to standardize data, organizational and cultural acceptance or resistance, and ethical or regulatory hurdles. With an ever-present call to reduce the cost to collect through accelerated cash collections and workflow efficiencies, there’s never been a better time to explore automation opportunities. That said, we recognize the road to implementing IA solutions is a challenging journey. To get started, it is critical that an organization define a path that galvanizes innovation and tests new ways.

Call to Action: Where Do I Begin?

To be successful and realize full potential, organizations must understand the complexities of any given process, avoiding the automation of existing processes that are not leading practice, and engaging and supporting stakeholders throughout the process. Like other transformational projects, an IA solution will require proper governance and a careful approach to ensure a successful implementation that aligns with organizational strategies and goals. To appropriately begin or even continue the journey, there are several steps to consider for successful implementation and adaptation by employees, providers, and patients/consumers alike.

- **Establish a Governance Structure**

As IA deployment is a new capability being developed in the organization, it is likely to raise numerous questions for which there are no existing answers. Close monitoring and leadership support for execution is important in the early deployments until it becomes part of the fabric of the organization. A center of excellence (COE) or an innovation committee can provide the guidance to support proper IA opportunity identification, monitor IA performance, select and manage IA vendors, and align automation and enterprise strategies. Team members who are well-respected leaders are recommended for the committee, as they will become agents of change. The composition of the committee should also include leaders from across the entire organization, including clinical departments, physician practices, ambulatory clinics, finance, scheduling, patient access, health information management, revenue integrity, patient financial services, customer service, compliance, information technology, and human resources.

- **Develop a Strategic Framework Tied to Workforce Management**

The automation strategy should align with the overall organizational short-term and long-term vision. Successful IA deployment is likely to create a material amount of capacity for the human workforce and may also create anxiety among the current staff who are responsible for the manual tasks targeted for automation. Organizations embarking upon an automation strategy should prepare for the potential human resource questions that may arise such as how “digital workers” will integrate with the current workforce and what is the expected impact on the current workforce. They should be ready to share how IA fits within the organization’s vision for the future, such as how it will help to free up valuable resources to focus on customer service or other meaningful work, enabling the organization to address tasks for which it has not previously had sufficient resources, and foster the opportunity for all employees to function at the highest end of their role. If appropriate, a fully established plan to retrain and/or redeploy valuable team members to new tasks should be created prior to IA implementation.

Learn more about integrating automation into your workforce in our article [“What’s Next for Revenue Cycle: Digital Workforce Integration.”](#)

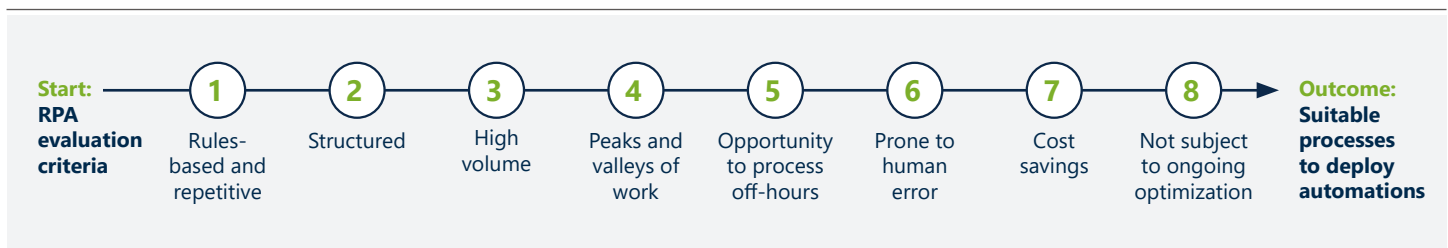
● **Identify and Inventory Process Opportunities Viable for Automation**

In addition to a vision for how IA fits within the organization’s strategy, it is important to define the goals and scope of the processes to be automated. As this is new territory, defining and gaining consensus on how the success of IA will be measured is important both for an objective review in the future and for appropriate documentation of current (baseline) performance. Potential measures of success may include:

- Increased productivity through the successful completion of high-volume, repetitive tasks in a reduced amount of time.
- Reduced FTEs needed to complete required tasks, leading to less costly services and more flexibility for supervisors and managers.
- Improved capacity of the human workforce to perform higher-value tasks, thus improving job satisfaction as well as workforce value.
- Increased data integrity, leading to fewer errors, better reporting, and improved analytics.

Sub-committees will be responsible for moving throughout the revenue cycle to identify opportunities to streamline current processes, with an eye toward prioritizing low-effort, high-value opportunities (i.e., identify the low-hanging fruit). At first glance, certain processes will appear too complex to automate. Try breaking processes down into their smaller sub-components to reveal more apparent automation opportunities. When one repeatable subset of cases after another is automated, very soon a previously “too-complex-for-automation” process is nearly entirely automated and running 24/7 via the digital workforce. Many revenue cycle processes will be good candidates for RPA automation, with criteria reflected below:

Figure 3. RPA is the Most Prevalent IA Solution in the Market Today



● **Document the Current State Through Process Mapping**

Once opportunities are prioritized, detailed processes must be documented, with decision trees for every nuance and exception. All potential inputs and outputs of the process need to be identified, evaluated, and documented, and downstream and upstream impacts will have to be identified and considered throughout the process. Additionally, and perhaps most critical to a successful IA solution, the process being automated should already be an efficient, leading-practice process. Automating processes that are not leading practice may have unintended downstream consequences and create additional work for others or impede future efforts to improve interrelated processes. Once there is confidence that the processes to be automated are leading practice, it is critical to develop a robust understanding of the specific process(es) being automated. Automation is only successful when every variation in a process flow has been catalogued so that the digital worker (“bot”) can be programmed correctly.

A complete evaluation and documentation of all processes and variations prior to involving the IA vendor enables the organization to more effectively guide the IA vendor partner to develop an effective solution. Additionally, identifying the technical requirements associated with the processes to be automated will support realistic timelines

and prevent delays that impact go-live dates. During the process mapping, it will be critical to ensure that business needs and requirements are shared by both IT and operations. Sharing in this responsibility develops a more thorough and well-designed solution. Given the amount of regulations within the American healthcare system, there should also be a thorough understanding of compliance and level of acceptable risk before any automation can be deployed.

● **Select a Vendor**

Selecting the right IA vendor is very important, but knowing how to optimize their technology is paramount. IA vendors typically know their craft very well. However, they may have little experience or knowledge of unique healthcare processes, so it is crucial that the organization and IA vendor work together to:

- Assign a project manager with strong performance improvement skills and knowledge of IA capabilities.
- Improve automation capacity through re-engineering of processes to better enable IA solutions.
- Track and monitor the success of the IA solution and modify processes as necessary to overcome any shortfalls in performance.

● **Conduct a Proof of Concept**

Before deploying automation more broadly throughout a department or organization, it is prudent to launch a pilot as a proof of concept. This should start with selection of a discrete process prioritized as ripe for IA, with sequenced tasks in a well-documented roadmap. This will allow for evaluation, iteration, and remediation prior to continuing further on the IA journey.

● **Ensure a Strong Change Management Infrastructure**

While many find automation an exciting next step and worthy area of investment, it is important to understand that this may not be a sentiment that is universally accepted across an organization. It is important to embark on this process with a clear definition of how the change process will be managed throughout the project.

From our perspective, there are multiple change management dimensions to be considered (defined below and depicted in Figure 4 on the following page):

Process analytics is the dynamic art of analyzing processes through a data-driven view and serves as an essential tool toward gaining objective insights into the efficiency of operations.

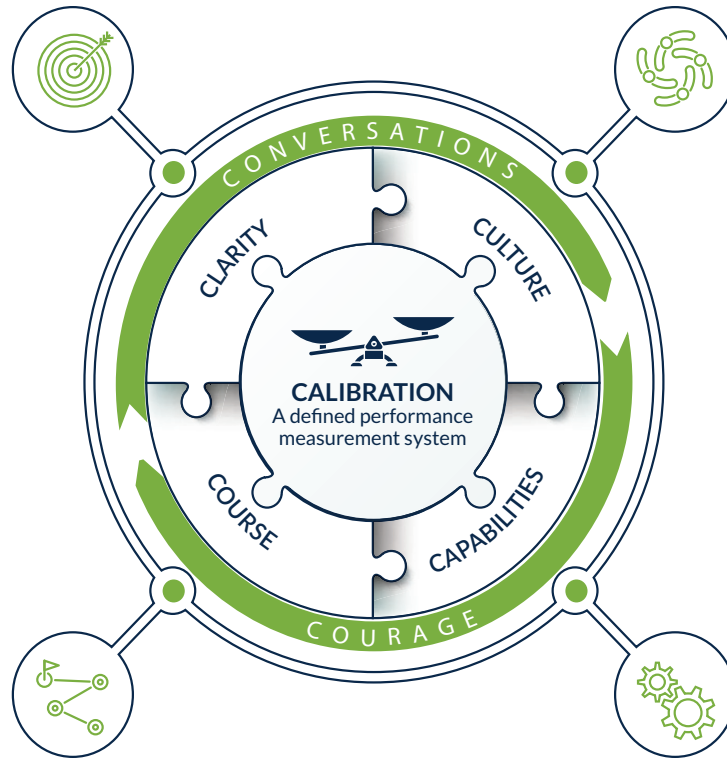
By mining data contained within providers' systems, a timeline model of end-to-end revenue cycle processes is created and can be used to visualize gaps, identify variations, and more clearly direct leaders to ripe automation opportunities.

Process analytics can be applied to a list of high-impact workflows, including prior authorization, eligibility and coverage verification, claim billing and collections, and much more.

Learn more about how process analytics can help optimize your current processes.



Figure 4. Change Management Dimensions



Fostering **clarity** in the goals and reasons for embarking on the journey.

Focusing on IA **capabilities**—the people, processes, and technologies required to operate in a new environment.

Alignment with **culture**—understanding how the values and behavior of the organization are reflected in the process for IA deployment.

A **communication** program that promotes bidirectional conversations.

A **course** that is flexible to navigate the challenges and learnings along the journey yet still leads toward the identified end state.

Calibration throughout the process to ensure that performance metrics are being measured and achieved.

Courage to raise difficult and unpopular issues that impact achievement of outcomes.

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The Path Forward

In coming years, it is expected there will be continued growth and expansion of IA throughout all industries, including healthcare. According to a survey we conducted in 2021, 68% of health system executives believe that further investment is needed in intelligent automation (IA) programs to advance their overall enterprise goals.⁴ Another recent survey showed that 75% of organizations intend to restructure their revenue cycle operations in response to shifting business dynamics caused by the pandemic.⁵ Gartner estimates that by the end of 2024, organizations will lower operational costs by 30% by combining RPA, ML, and AI technologies with redesigned operational processes.⁶

With this continued growth and prevalence of IA, coupled with the ever-present need to improve margin within healthcare organizations, it is quite likely more revenue cycle organizations will explore and adopt IA in coming years. Proper planning and a well-thought-out approach to execution is critical to success. The benefits can be robust, including reduced cycle times, more predictable outcomes, improved quality, cost savings, advanced analytics, and increased employee satisfaction.

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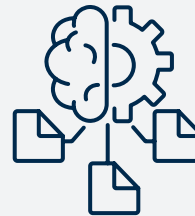


Trending Adoption of RPA



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