healthcare solutions

Robotic process automation in U.S. healthcare:

State of the industry.

2025

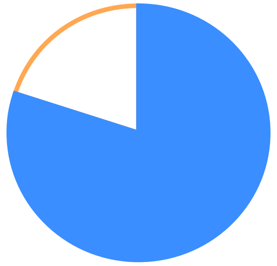
Robotic process automation (RPA) is revolutionizing healthcare administrative workflows across the United States. In an industry facing unprecedented pressure to reduce costs, improve efficiency, and overcome staffing challenges, RPA has emerged as a powerful solution by deploying software "bots" to handle repetitive, rule-based tasks with remarkable precision.

> RPA is almost certainly the most transformative operational technology in healthcare today, with greater impact than we've seen from any administrative solution in the past decade.
>
> **Stephane Couture, Chief Strategy and Operations Officer, LGI Healthcare Solutions Inc.**

This white paper examines the current state of RPA adoption in U.S. healthcare, exploring adoption rates, market growth trajectories, key solution providers, emerging technologies, regulatory considerations, and the concrete benefits and challenges organizations face when implementing these solutions.

Key highlights

- **Rapid adoption:** Healthcare organizations are swiftly embracing RPA, with 74% of U.S. healthcare providers already automating parts of their revenue cycle processes. An additional 80% plan to implement RPA solutions by the end of 2025, reflecting strong confidence in the technology.
- **Significant market expansion:** The U.S. healthcare RPA market is set to experience substantial growth, expanding from $0.67 billion in 2024 to approximately $6.92 billion by 2034. This tenfold increase represents an annual growth rate of about 26%.
- **Integration with advanced technologies:** Nearly half of healthcare organizations utilizing RPA for revenue cycle management have incorporated artificial intelligence components, reflecting a growing trend toward more advanced and comprehensive automation.
- **Proven ROI:** Organizations have achieved substantial benefits with RPA, including up to 83% reductions in claims processing time, annual cost savings reaching approximately $260,000 per year per organization, and a projected $17.6 billion in industry-wide administrative cost reductions.



80%

of U.S. healthcare providers plan to implement RPA solutions by the end of 2025.

The U.S. healthcare RPA market is set expand to approximately $6.92 billion by 2034.

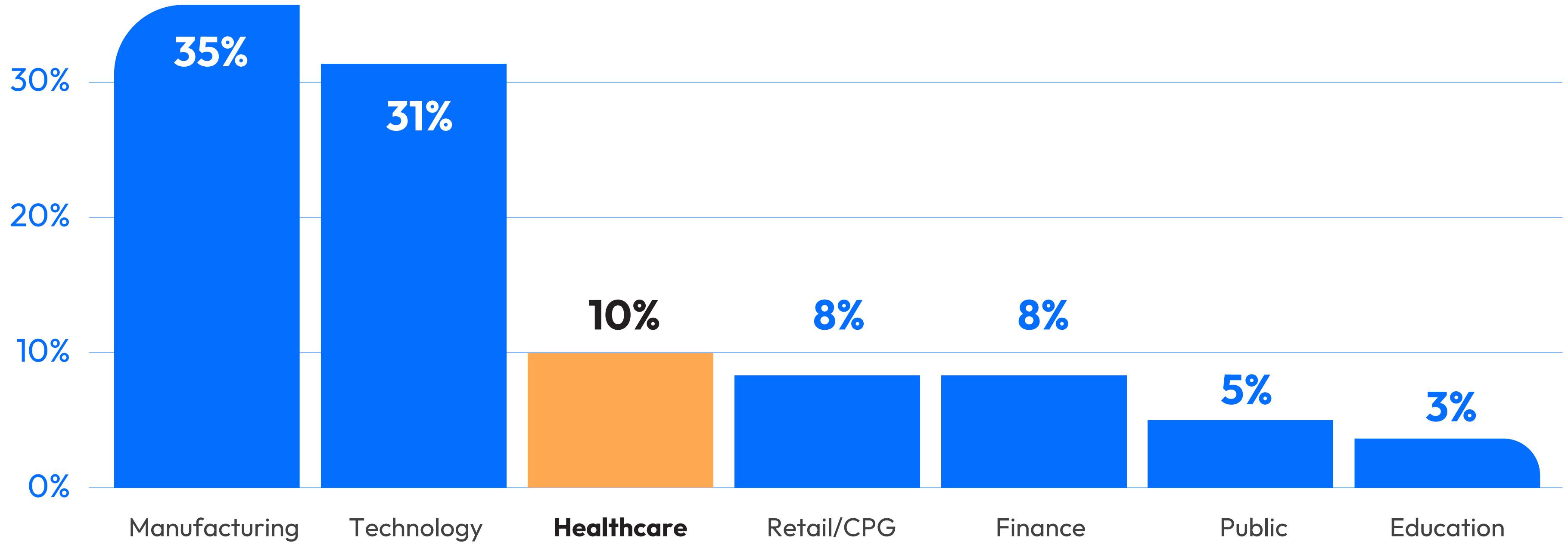
Adoption of RPA in healthcare

Healthcare has traditionally been cautious in adopting new operational technologies, often trailing other industries. Recent data shows approximately 10% of healthcare organizations had deployed RPA in some form across their enterprise, compared to 35% in manufacturing and 31% in technology sectors.

In 2021, healthcare's RPA adoption (~10%) lagged behind manufacturing (35%) and technology (31%), as well as finance and retail/CPG (~8% each). However, analysts now predict that healthcare will lead in RPA adoption over the next decade, narrowing the gap significantly. In 2020, only about 5% of healthcare organizations had RPA in use, but by 2023 roughly 50% were projected to deploy RPA—showing a tenfold surge. Surveys by late 2021 found about 51% of U.S. health systems are already using RPA in their revenue cycle operations.

However, this gap is rapidly closing as providers recognize RPA's value. The adoption story varies significantly by department, with finance and billing leading the way:

RPA Adopion by industry (2021)



A 2023 survey found that [74% of U.S. healthcare organizations] have already automated at least part of their revenue cycle operations. Of the organizations not yet using automation, 80% planned to implement RPA by 2025, indicating a clear trend toward mainstream adoption in financial departments.

The momentum is particularly notable in the transition from pilot projects to enterprise deployment. Healthcare organizations typically begin with small automation initiatives in scheduling, claims processing, and other back-office tasks before expanding to clinical support functions and more complex workflows.

We're seeing a fundamental shift from 'Should we automate?' to 'Where else can we automate?' as RPA successes create momentum across health systems.

Simon Charest, Chief Product Officer
LGI Healthcare Solutions Inc.

Market size and growth trends

The market for RPA in healthcare is experiencing explosive growth. In the United States alone, the healthcare RPA market is valued at approximately $0.67 billion in 2024 and projected to reach about $6.92 billion by 2034 – a remarkable tenfold increase reflecting a Compound Annual Growth Rate (CAGR) of approximately 26% annually.

Forecasts indicate that the U.S. RPA healthcare market will soar from under $1 billion in the early 2020s to over $20 billion by the mid-2030s, reflecting ~25%+ CAGR. Global estimates show similarly dramatic expansion: from $1.4 billion in 2022 to $9–10 billion by 2030 and around $14+ billion by 2032.

This trajectory far outpaces overall healthcare IT spending and underscores growing confidence that automation will become integral across healthcare processes.

This robust growth is driven by three key factors:

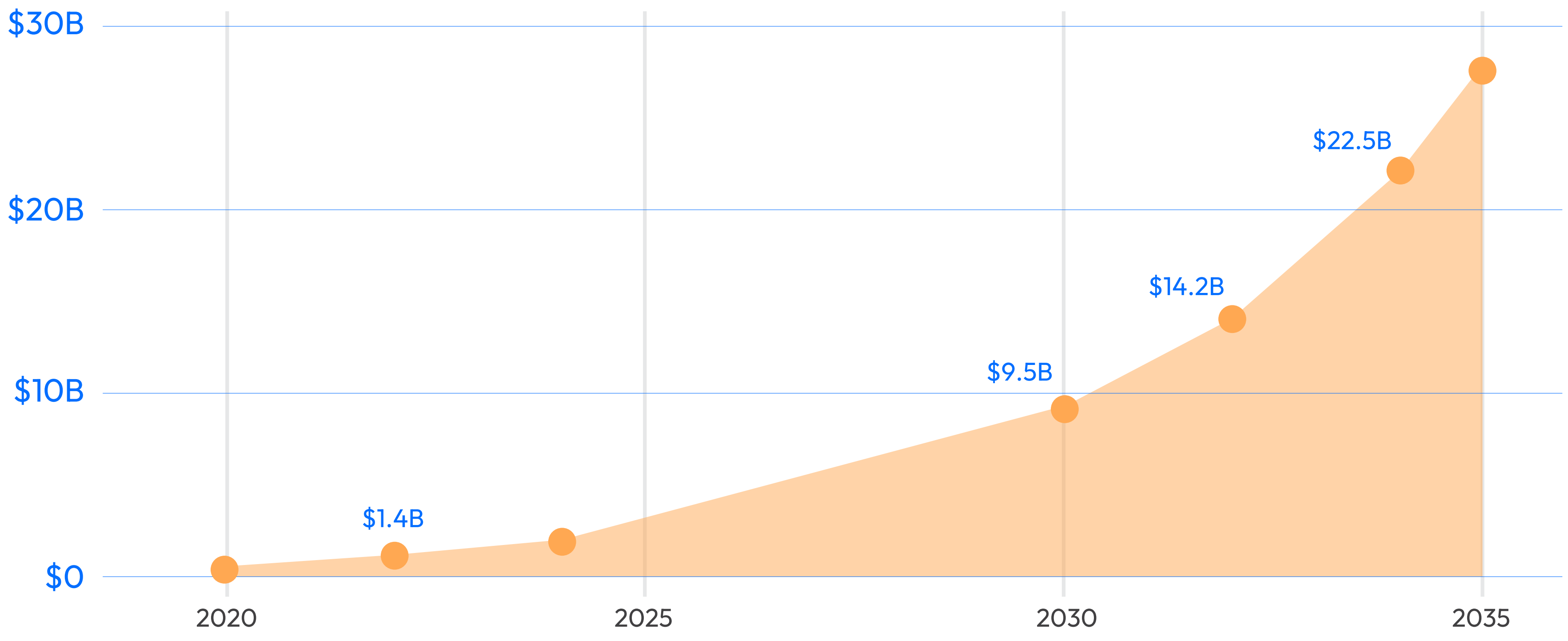
1. **Digital transformation initiatives** accelerated by the pandemic
2. **Administrative cost pressure** in an industry with tightening margins
3. **Workforce constraints** making automation increasingly attractive

The 10x projected market growth over the next decade isn't just about more organizations adopting RPA – it's about the expanding scope of what can be automated as the technology matures.

Franco Sicilia, Chief Commercial Officer
LGI Healthcare Solutions Inc.

North America currently dominates spending on healthcare automation solutions, and this region is expected to maintain its leadership position due to high labor costs and compelling ROI from automating billing, insurance, and records workflows.

RPA in healthcare market growth (projected) (market size in bilions USD)



The evolution of use cases is particularly noteworthy. While early RPA deployments focused on basic tasks like data transfer between systems and form completion, healthcare organizations are now automating increasingly sophisticated workflows and integrating RPA with other technologies. The trend toward "hyperautomation" – combining RPA with AI, optical character recognition, and process mining – is accelerating market growth by enabling automation of a wider range of clinical and administrative processes.

Key players in healthcare RPA solutions

The healthcare automation landscape encompasses both specialized healthcare-focused automation providers and general-purpose RPA platforms. Organizations focused exclusively on healthcare, such as [LGI Healthcare Solutions], bring deep domain expertise developed over decades, offering comprehensive, scalable [solutions for automating] end-to-end healthcare workflows like claims management, prior authorizations, EHR migrations, and revenue cycle management.

Among the general platform leaders, [UiPath, Automation Anywhere, and Blue Prism] offer tailored solutions for healthcare processes, each with varying degrees of complexity and deployment requirements.

Several enterprise software companies with established healthcare footprints have also entered the RPA market, including Hyland Software, Kofax, Pegasystems, and WorkFusion, all offering healthcare-specific functionalities and integration capabilities.

Other specialized healthcare automation providers, like AKASA and Waystar (which recently acquired Olive), have developed targeted solutions particularly suited for tasks such as revenue cycle management and medical coding.

The healthcare RPA market continues to evolve toward integrated ecosystems, emphasizing interoperability, rapid deployment, and industry-specific knowledge. Major EHR vendors like Epic and Cerner are exploring automation features and partnerships, further driving adoption and innovation in healthcare RPA. Providers increasingly opt for hybrid approaches—leveraging both specialized healthcare-specific solutions and general-purpose platforms—to effectively address the complexity of healthcare operations.

Emerging technologies and innovations in healthcare automation

Healthcare RPA continues to evolve, incorporating complementary technologies that enhance and expand automation capabilities. Significant developments include:

- **Advanced document management:** Employing optical character recognition (OCR) and computer vision technologies to rapidly and accurately manage insurance cards, medical records, and lab reports.
- **Improved system integration:** Increasingly robust API-driven integrations allow seamless and secure data exchange between RPA systems and core healthcare platforms, improving reliability and reducing the need for manual intervention.

These technological advancements further strengthen RPA's role as a long-term, essential component of healthcare operational efficiency, rather than a temporary or transitional solution.

Improved interoperability and integration

Traditional RPA often operated via the user interface (mimicking clicks and keystrokes), which can be fragile. Modern healthcare RPA solutions now offer robust integration through:

- **Fast Healthcare Interoperability Resources (FHIR)-enabled integration points** allowing bots to seamlessly pull or push data from certified EHR systems in compliance with the 21st Century Cures Act
- **API-driven connections** that reduce reliance on screen-scraping techniques
- **EHR-specific connectors** designed for major systems like Epic and Cerner

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Complementary technologies

Several other emerging technologies are enhancing healthcare RPA implementations:

- **Process mining and task mining** – Analyzing hospital workflows to identify the best RPA opportunities
- **Chatbots and voice assistants** – Interfacing with patients for appointment scheduling or intake questions, then triggering RPA bots to record responses
- **IoT integration** – Using sensor data to automatically update inventory systems and trigger supply reordering
- **Low-code/no-code platforms** – Enabling clinical staff to develop their own simple automations without extensive technical knowledge

These innovations suggest a future where healthcare automation becomes smarter, more connected, and capable of handling a larger share of both administrative and clinical support tasks.

Regulatory considerations impacting healthcare RPA adoption

- **Billing compliance** – RPA bots handling Medicare/Medicaid billing must adhere to CMS rules to avoid triggering audits or false claims penalties
- **Clinical decision boundaries** – While RPA is primarily administrative, any bot influencing patient care decisions may face additional oversight
- **State-level regulations** – Some states have specific requirements for handling patient data that affect how RPA can be implemented
- **Labor relations** – Introducing automation may trigger workforce considerations under employment laws or union agreements

Regulatory compliance is simultaneously a driver and challenge for healthcare RPA. Organizations must carefully assess risks and involve compliance officers early in implementations, while choosing vendors and strategies that prioritize security, auditability, and alignment with healthcare standards.

Benefits of RPA in healthcare

Healthcare organizations implementing RPA realize diverse benefits spanning operational, financial, and experiential dimensions:

Operational efficiency and cost savings

RPA significantly accelerates process throughput while reducing manual effort. Examples include:

- One healthcare organization reduced claims processing time by 83% through RPA implementation
- Another provider achieved approximately $260,000 in annual employee cost savings by automating claims-related tasks
- Industry-wide, automating routine administrative transactions could save the U.S. healthcare system $17.6 billion annually

These savings enable organizations to handle growing patient populations without proportional increases in administrative staff – addressing a critical need during healthcare workforce shortages.

Accuracy and error reduction

Manual data entry inevitably introduces errors in healthcare administrative processes. RPA bots:

- Follow programmed rules exactly, producing consistent results
- Eliminate typos, mis-sequenced entries, and overlooked fields
- Reduce denied claims and costly rework due to data validation
- Automatically log each action, creating an audit trail for compliance and quality control

The improved accuracy not only reduces financial leakage but also enhances clinical safety when bots handle data transfer between systems, ensuring the correct patient information is consistently updated across appointments, referrals, and pharmacy orders.

The ROI on an RPA implementation can exceed 300% in the first year, allowing organizations to redirect resources to patient-facing initiatives.

Improved staff productivity and satisfaction

Perhaps most significantly, RPA frees healthcare workers from repetitive administrative tasks:

- Clinical staff spend more time with patients rather than on documentation
- Revenue cycle teams can focus on analyzing improvements rather than processing routine transactions
- IT departments can address strategic initiatives instead of maintaining manual interfaces

The result is higher overall productivity and often better job satisfaction.

Enhanced patient experience

Patients indirectly benefit from RPA through:

- Shorter wait times for approvals and appointments
- Fewer billing errors on statements
- More responsive administrative processes

For example, scheduling bots can manage appointments and send reminders without human intervention, helping reduce no-show rates. Before automation, up to 88% of appointments were scheduled manually, with referral-to-appointment cycles sometimes taking weeks. Automating these processes reduces delays and improves access to care.

Compliance and audit readiness

RPA strengthens compliance by embedding rules into automated workflows:

- Bots automatically verify forms are complete and compliant with regulations
- Every action is logged, creating detailed audit trails
- Compliance reporting can be automated and standardized

These capabilities help healthcare organizations avoid penalties and maintain certifications with less manual effort, addressing the ever-growing regulatory burden in the industry.

Integration with legacy systems

Healthcare IT environments are often fragmented with multiple systems that weren't designed to work together. RPA effectively facilitates their connection, overcoming challenges to create a more unified and efficient workflow.

- Enables bots to interact effectively with applications that may not have modern APIs
- Leverages advanced screen-scraping techniques that adapt to interface changes
- Supports end-to-end process automation by connecting diverse systems

> The average health system uses over 16 disparate IT systems that weren't designed to communicate with each other – successful RPA implementation requires thoughtful integration strategies.
>
> **Simon Charest, Chief Product Officer, LGI Healthcare Solutions Inc.**

Challenges of implementing RPA in healthcare

Initial costs and ROI justification

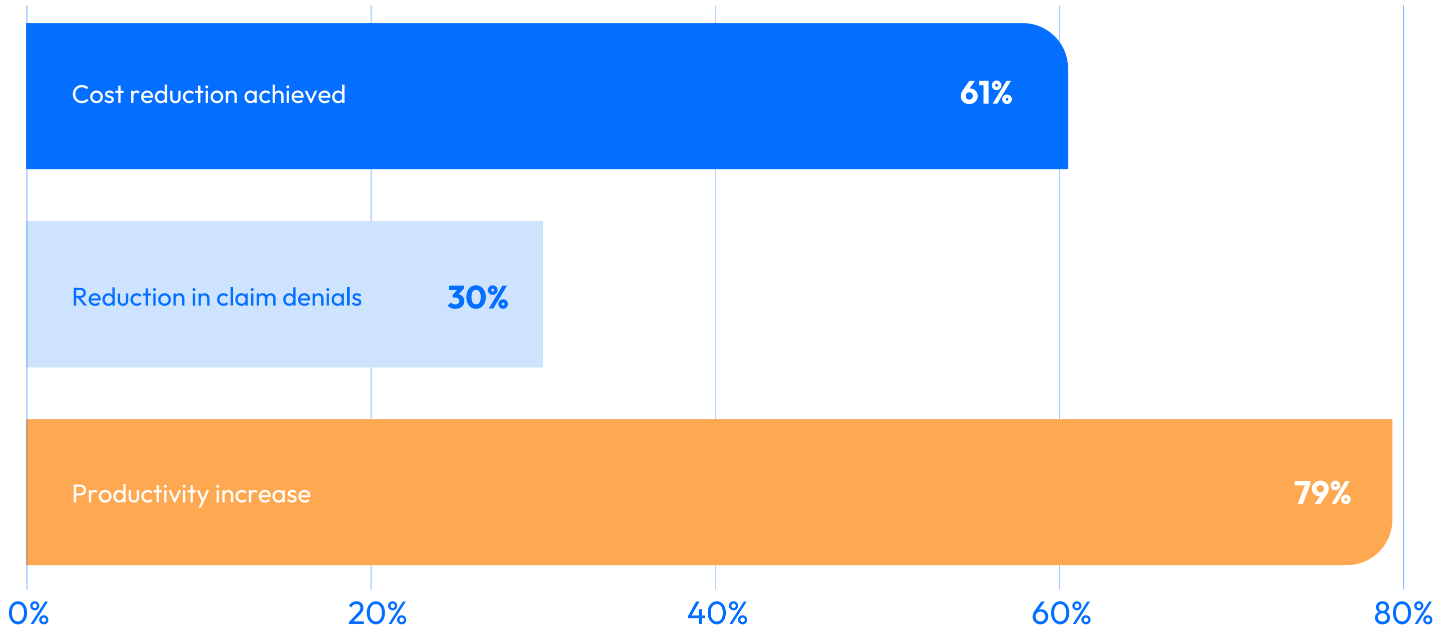
Implementing RPA requires significant upfront investment:

- Software licenses or subscriptions
- Process analysis and documentation
- Bot development and testing
- Staff training and change management

Many healthcare providers operate on tight IT budgets, making the initial outlay challenging to justify. Industry surveys indicate that a notable percentage of organizations found RPA implementation more time-consuming and costly than expected.

Strong business cases with clear, quick ROI are essential to overcome this challenge – typically by starting with high-volume, costly processes where automation benefits are most obvious.

ROI and efficiency gains from RPA in healthcare



Change management and workforce impact

Cultural resistance often poses a greater challenge than technical issues:

- Staff may fear job elimination or distrust automated systems
- Workflows and responsibilities shift when bots take over routine tasks
- Organizations need to retrain employees for new roles

Successful RPA adoption requires thoughtful change management – communicating benefits early, involving staff in design and testing, and creating paths for employees to develop higher-value skills as routine work is automated.

Scalability and maintenance

Moving beyond pilot projects to enterprise-wide automation brings new challenges:

- Governance becomes more complex as bot numbers increase
- Source system changes can break automations
- Processes with many exceptions may not translate well to RPA
- Organizations need centers of excellence to manage expanding automation programs

KPMG's research indicates that 66% of healthcare SMBs lack formal plans for scaling automation, highlighting the need for strategic approaches to grow beyond initial success.

The future of healthcare delivery isn't about replacing humans with automation – it's about redirecting human talent to the empathetic, complex care that technology cannot provide.

Stephane Couture,
Chief Strategy and Operations Officer
LGI Healthcare Solutions Inc.

Our **healthcare-specific expertise, dedicated in-house services team and proven implementation methodology** can help your organization reduce administrative burden while improving operational efficiency and staff satisfaction.

Conclusion

RPA is becoming an integral component of healthcare's digital transformation in the United States. What began as tentative exploration of automating basic clerical tasks has matured into strategic initiatives for many health systems and insurers aiming to streamline operations and reduce administrative burden.

Current adoption levels show that healthcare organizations, historically cautious with new process technologies, are now rapidly embracing automation as successful use cases demonstrate compelling ROI. Market projections with double-digit growth rates indicate we're still in the early stages of healthcare automation, with significant expansion expected both in breadth (more organizations adopting) and depth (more processes automated per organization).

Looking ahead, RPA in healthcare will continue evolving on multiple fronts:

- **Technological advancement** – The convergence of RPA and other automation tools will enable increasingly sophisticated automations
- **Operational maturity** – Organizations will establish dedicated teams or centers of excellence to manage growing digital workforces
- **Patient impact** – Automation's indirect benefits for patient care will grow as administrative burdens decrease

Those organizations that treat RPA not as a one-off IT project but as a strategic capability – investing in governance, staff development, and continuous improvement – will be best positioned to realize sustainable benefits.

In conclusion, the state of RPA in U.S. healthcare in 2025 reflects accelerating adoption and optimism, tempered by lessons learned from early challenges. By remaining patient-centric and addressing implementation hurdles thoughtfully, healthcare organizations can harness RPA to build more efficient, responsive, and innovative healthcare delivery models for the future.

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