



# Power positive health outcomes

An executive guide to transforming  
healthcare and delivering exceptional  
experiences across the ecosystem







# Three steps to power positive health outcomes

**From the rise of virtual care to the demand for increased access and personalization, evolving priorities constantly challenge how healthcare and life sciences companies focus their resources.**

But the original tenets of the industry continue to hold strong: lowering costs and improving outcomes while working toward a healthier society. And, in the face of regulatory, administrative and operational hurdles, combined with consumer demands for an easier, connected experience, health leaders must rely on innovation and digital transformation to stand out in a growing market of competitors.

According to our latest Innovation Index study, 65% of health plans, providers and life sciences executives expect a positive impact from the pace of technology change, yet only about half (53%) have integrated modern technologies into their processes in anticipation of tomorrow's digital needs.<sup>1</sup>

Healthcare and life sciences organizations require resiliency and agility to manage care more effectively for an aging population, control costs and complexity and outpace new market competitors — all while balancing the pressures to grow faster and improve margins and revenue.

## Healthcare and life sciences organizations can power positive health outcomes by:

- 01 Modernizing and unlocking technology's full potential to support delivery and growth**
- 02 Optimizing data and leveraging AI/GenAI to power integration and healthcare breakthroughs**
- 03 Delivering engaging digital experiences that increase satisfaction**



# 01 | How to unlock technology's full potential to support delivery and growth

**The healthcare industry is rapidly evolving, which means modernizing technology to support delivery and growth is critical to an organization's success — and survival.** Among organizations in all three healthcare segments across the U.S. and Canada, 53% say integrating new and modern technologies into their processes is a key priority area over the next two years.<sup>2</sup>

Modernizing technology enables healthcare organizations to streamline workflows, enhance clinical decision-making and personalize care and wellness — with a focus on lowering the cost of delivery and management. By embracing cloud, GenAI and automation, data and interoperability standards, as well as cybersecurity best practices, providers, payers and life sciences organizations can securely access, share and analyze vast amounts of data to support insights, innovation and value-based care initiatives.

IT modernization is essential to further strengthen organizational resilience, agility and competitiveness. And, while organizations may perceive challenges associated with modernization, there are many solutions readily available to overcome these challenges and unlock technology's full potential.

## **Unlock technology's full potential:**

- **Minimize cost and avoid disruption associated with IT modernization**
- **Streamline complex regulatory compliance through enhanced data practices**





# Minimize cost and avoid disruption associated with IT modernization

**One of the biggest challenges for healthcare and life sciences organizations when it comes to modernizing technology is perceived cost.**

Implementing new technology or updating existing systems can be a significant investment. Plus, the thought of migrating applications and related processes often feels too daunting.

Business executives and teams may be comfortable with their current systems and processes, seeing modernization as a disruption to care delivery and business objectives. The findings of our Innovation Index, where 33% of respondents say that inadequate or outdated technology moderately holds back their organization's innovation efforts, echo these issues.<sup>2</sup>

Health plans can streamline claims administration by considering an as-a-service claims processing platform and related functions like mailroom and audit services. For example, Community Health Plan of Washington implemented this approach and reduced its backlog to less than 2.5 days while enhancing member and provider satisfaction.<sup>3</sup>

## Advice

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**Take a phased approach to reduce costs and minimize disruption.**

To minimize costs and make IT modernization less daunting, organizations should take a phased, incremental approach that focuses on continuous improvement. Doing so “offers organizations a lot of breathing room regarding cost sensitivity.”<sup>4</sup> It also “allows aging IT systems to become more composable (or modular).”<sup>5</sup>

An experienced IT partner can help organizations select, implement or manage applications, helping to lower operational costs, reduce financial burden and minimize disruption. Partners typically include change management strategies before, during and after implementation to minimize disruption and support employee adoption. These strategies can include involving staff in the decision-making process and providing training and support to guarantee a smooth transition to new technology.

For instance, at NTT DATA, we help move Epic electronic health record (EHR) hosting from onsite to the cloud which can save providers up to 30% on infrastructure costs over five years and 50% annually after migrating. Savings and related resources can be reallocated to cloud-supported innovation initiatives like consumer and clinician experiences, clinical and operational forecasting and virtualized care.

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# Streamline complex regulatory compliance through enhanced data practices

**Compliance with country, federal and local healthcare privacy regulations can prove to be a significant hurdle.**

For life sciences companies, that means strict adherence to regulations that set standards for product quality, patient safety and data integrity. These regulations include the U.S. Food and Drug Administration's (FDA) draft guidance for Computer Software Assurance and the updated GAMP® 5 standards from the International Society for Pharmaceutical Engineering.<sup>6</sup> As a result, organizations must invest in modernization solutions that also provide robust data security systems and implement strict protocols for handling protected health information (PHI).

**A regional U.S. healthcare system sought to eliminate its reliance on time-consuming, disparate and complex spreadsheets for managing HIPAA compliance.**

The organization partnered with NTT DATA and its healthcare consulting experts to innovate and automate HIPAA security risk assessments, reporting and remediation. The system was able to assess the security posture of 100% of locations and implement a new 6-week risk assessment process.

[Read the success story](#)

## Advice

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**Implement robust data governance, conduct regular risk assessments to identify vulnerabilities, provide data integrity, and establish protocols to respond to any security breaches.**

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Case study

# Regional Blues Plan lowers costs and grows membership, while positioning for value-based care success

The Regional Blues Plan wanted to better use its member data to improve patient and provider satisfaction in support of value-based care models. NTT DATA used AWS expertise and its Nucleus data and intelligence fabric to create a secure, HIPAA-compliant data platform within four months. This next-generation cloud-based data platform increases the company's efficiency by over 33% compared to its expensive, on-premises legacy platform.

By bringing together healthcare claims data from multiple processing systems, and unstructured sources like patient touchpoints, this regional health plan now has the power and flexibility to build personalized experiences that will boost loyalty and entice new members as well.

[Read the full case study](#)





## 02 | Optimize data and leverage AI to power integration and healthcare breakthroughs

**Data literally saves lives. The quality of data — completeness, consistency, accuracy and access — can have a direct impact on patient outcomes, which is why it's among the most critical components of the healthcare continuum.** And while healthcare companies are sitting on mountains of data that can be effectively and securely leveraged to better serve patients, about one-third of organizations continue to be challenged with regulatory issues (35%), inaccurate data (31%) and lack of technology to analyze data (28%).<sup>2</sup>

Effective data management also allows health plans to better understand member preferences. By analyzing data, payers can identify patterns and trends that can be used to anticipate needs, offer self-service tools and encourage next-best actions. This, in turn, can improve member satisfaction and loyalty, leading to better retention rates for payers. Data-rich AI tools can help providers triage critical patient care and easily coordinate operations. Life sciences companies can leverage AI tools to enhance clinical monitoring capabilities to fast-track drug discovery.

There are three key focus areas where data, AI and automation can support integration across the healthcare value chain to boost positive outcomes:

- **Minimize data breaches and cyberattacks**
- **Improve interoperability by modernizing data management and technology**
- **Revolutionize care, streamline operations and support innovation with AI and automation**





# Minimize data breaches and cyberattacks

**Health-focused organizations must protect the security of PHI, which can be a significant challenge when using outdated technology.** According to the 2023 HIMSS Healthcare Cybersecurity Survey, 55% of respondents reported that their organization experienced a significant security incident in the past 12 months.<sup>7</sup> With this threat level, implementing technology that protects organizational data needs to be a priority.

And, while healthcare and life sciences organizations are held to strict regulations for handling and archiving PHI, potential attackers are using the latest technology to penetrate existing cybersecurity. Organizations with a heavy reliance on legacy systems may struggle to combat the latest threats.

## Advice

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**Transition data and processes to cloud-based systems to bolster security.**

Moving data and processes to cloud-based systems helps provide data security and compliance. Instead of a complete overhaul of technology — which can be cost-prohibitive — providers, health plans and life sciences organizations can consider incremental upgrades to their existing systems. Doing so can help reduce costs and minimize disruption to operations.

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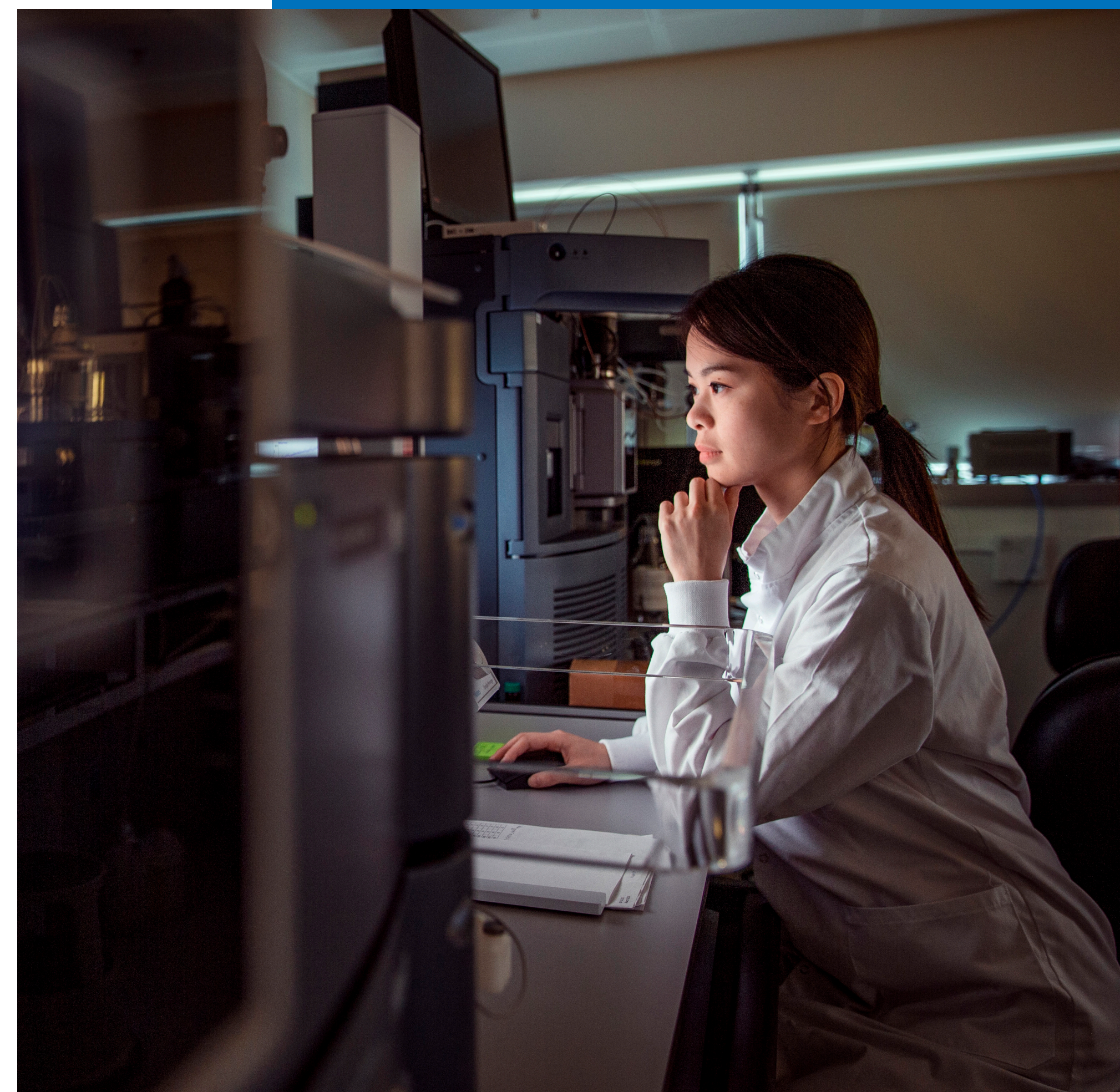


Success story

# Global biotech company increases productivity and scalability by migrating critical data to S4/HANA

A prominent global biotech company needed to migrate critical data from its legacy SAP systems to the new greenfield implementation of S4/HANA technology to update and streamline current business processes and systems, as part of a massive digital business transformation initiative.

The migration spanned over 30 sites across more than 20 countries and three regions, showcasing the immense global scale and logistical complexity involved. NTT DATA provided a fully managed data migration service that emphasized scalability and flexibility, crucial for the project's success given its geographic and operational breadth. We also revamped the existing data migration strategies to enhance scalability and introduced automation to increase productivity. A significant strategy employed was the "right-shoring" model, which optimized the use of global resources, enabling the rapid assembly of a specialized team of over 300 professionals across North America, LATAM, Europe, and India in less than a year. Through this partnership, NTT DATA has not only demonstrated its capability in handling large-scale, complex data migrations but has also solidified its role as a trusted strategic partner in the biotech industry.





# Improve interoperability by modernizing data management and technology

**According to Everest Group's Healthcare Data and Analytics 2023 PEAK Matrix® Assessment Report, "the healthcare industry is experiencing a significant increase in investment in advanced analytics and data integration to enable the implementation of use cases in key areas such as value-based care, population health, interoperability, and data privacy."**<sup>1</sup>

Yet, most organizations use multiple, potentially outdated, systems and software to manage patient, member or consumer data. Doing so often leads to data silos and difficulties in accessing and sharing information between hospitals, plans, labs, pharmacies and so on. Modernizing data management and technology has a direct impact on powering positive health outcomes.

Using outdated systems can lead to fragmented patient care, adverse patient outcomes or duplicative efforts in the care setting. For pharma and life sciences companies, it can result in research inefficiencies and delays or missed opportunities for innovation. For life sciences companies, conducting complex clinical trials, managing data and analyzing results within these systems can be a drain on resources. And, for payers, new regulations regarding data access have renewed efforts to make critical data architectural updates to systems.

This has pushed interoperability from a back-end reporting capability to a front-end business process that can help health plans move toward more connected and patient-centered models. But even as half of healthcare and life sciences organizations are making strides in this direction with investments in data architecture and new technology such as AI and machine learning (ML), only 45% rate their organization's capability to access their systems and data as advanced.<sup>2</sup>

**NTT DATA named a Leader in Everest Group's Healthcare Data and Analytics 2023 PEAK Matrix® Assessment Report**

[Download the report](#)

## Advice

**Invest in interoperable, centralized systems and cloud-based platforms for connectivity and secure information sharing.**

By integrating and securing vast amounts of health data into a single, secure and accessible location in the cloud, organizations can improve visibility and connectivity across all stakeholders.

Transferring data from siloed, offline locations to cloud-connected services will help organizations better access their data, allowing them to enhance compliance with changing regulations using intelligent automation.

Investing in interoperable systems helps solve integration issues, provides seamless communication, improves secure sharing of private information, and allows organizations to analyze large volumes of data in a fraction of the time.

Interoperable systems can help providers deliver safe, effective, patient-centered care. Health plans can identify patterns faster and make predictions about future health outcomes. Life sciences organizations can use interoperable systems to increase the productivity of clinical trials while maximizing dedicated resources. With careful planning, testing and customization, an integrated tech stack can help health organizations focus on innovation rather than existing system maintenance.



## Case study

# Novavax accommodates growth and improves operational efficiencies

Novavax, a biotechnology company, lacked a standardized framework to define how data was organized and structured across its various IT systems and applications. To enhance data management and interoperability, they partnered with NTT DATA to upgrade their ITSM capabilities and improve efficiency as they experienced rapid growth. This included upgrading to a new ServiceNow platform, creating a common service data model and configuration management database, and implementing an employee service portal. These changes would benefit a growing workforce and accommodate higher demand.

The improved platform led to more accurate CMDB records, faster service fulfillment, reduced IT costs, and a globalized employee support experience. The partnership with NTT DATA helped Novavax successfully transform its IT capabilities, leading to over 126,000 automated continuous integration updates and a 200% increase in knowledge management articles.

[Read the full case study](#)



# Revolutionize care, streamline operations and support innovation with AI and automation

**Healthcare and life sciences organizations should embrace AI/GenAI for its transformative potential to revolutionize patient care, streamline operations and inspire innovation.**

Payers, for example, can apply AI-driven predictive analytics to identify high-risk patients, stratify populations based on their healthcare needs, implement targeted interventions to prevent adverse events and reduce hospital readmissions. In the hospital setting, AI-based systems help triage normal chest x-rays over those with critical findings so radiologists can prioritize critical patient care more efficiently.

In the life sciences industry, AI algorithms can analyze genomic data to identify potential drug targets, predict drug response and personalize treatment regimens for individual patients.

While AI/GenAI holds much promise, automation also provides many benefits. From upgrading service desk solutions with automation capabilities to streamlining patient appointments, organizations are turning to automation to improve customer satisfaction and increase efficiency.

For example, Integra LifeSciences, a leading multibillion-dollar global medical technology company, cut testing time by 98% by automating 100 of its Oracle ERP Cloud platform tests and consolidated data onto its Salesforce platform so that sales teams could prospect, track and close opportunities quickly and efficiently.<sup>10</sup>

## Advice

**Invest in analytics, automation and AI/GenAI solutions to improve outcomes and lower costs.**

### Healthcare providers

1. **Improve patient care with predictive analytics:** Predict patient outcomes, identify high-risk individuals and intervene proactively to prevent adverse events.
2. **Gain real-time monitoring and alerts:** Implement real-time data from remote patient monitoring devices to track patient vital signs, medication adherence and disease progression.
3. **Enhance clinical decision support:** Integrate support systems into EHR systems to assist healthcare providers in making evidence-based decisions at the point of care.

### Health plans

1. **Optimize population health management:** Stratify populations based on their healthcare needs, identify gaps in care and implement targeted interventions to improve health outcomes.
2. **Enhance payment integrity:** Use advanced analytics and ML algorithms to detect patterns of fraud, waste and abuse in healthcare claims data.
3. **Personalize member engagement and communication:** Customize engagement and communication strategies based on individual preferences, health risks and needs.

### Life sciences

1. **Accelerate drug discovery and development:** Expedite the drug discovery process, identify promising drug candidates and optimize clinical trial design.
2. **Improve precision medicine and personalized healthcare:** Harness genetic data to facilitate precision treatments for patients based on their genetic makeup.
3. **Generate real-world evidence (RWE):** Use real-world data (RWD) from EHRs, claims databases and patient registries to support decision-making and improve patient outcomes.



Case study

# Intelligent automation elevates staff productivity and customer care

A renowned U.S. healthcare equipment and service provider successfully automated more than 50 critical business processes by applying a cloud-based RPA platform.<sup>8</sup> The software bots efficiently managed the entire order processing and claims authorization workflows. This enhanced operational efficiency, productivity and patient satisfaction for the company's vast customer base of over two million.

The bots processed 10,000 automated claims submissions per week and 2,000 automated equipment and service orders daily, freeing up more than 75 employees to focus on innovation projects. By transforming operational workflows, the company benefits from more effective claim and order processing while accelerating new patient onboarding.

[Read the full case study](#)





## 03 | Deliver engaging digital experiences that increase satisfaction

Just as the advent of EHRs ushered in a new era of industry connectivity, instantaneous access to digital health data, including health records, patient appointments and other health-related information can help organizations advance positive outcomes and improve consumer, patient and member satisfaction.

To enhance digital experiences and in-person visits or interactions, organizations can implement several strategies to deliver value-added services and resources that build consumer trust, including intuitive and user-friendly digital platforms, such as mobile apps, web portals and virtual care and engagement tools.

These strategies provide patients and members with easy access to relevant information, educational resources and support services. Additionally, organizations need quick, safe and efficient access to data and the ability to use analytics and AI to personalize digital interactions and tailor content recommendations using omnichannel marketing capabilities.

On the employee side, a well-designed workplace that offers digital tools and user-friendly interfaces and intuitive features can significantly improve employee engagement and satisfaction.

Employees feel empowered and supported when they have access to the tools and resources they need to perform their work effectively and collaboratively. This, in turn, leads to higher job satisfaction, motivation and ultimately ensures better customer support and success.

## Advice

**Rely on robust data tools, techniques and governance and digital workplace solutions.**

- **Implement robust data governance and compliance policies and procedures** to ensure quick, safe and efficient access to consumer, patient or member data and the ability to collaborate across the healthcare ecosystem. It also ensures regulations are adhered to while collecting and using patient data. This can help build trust when using data to provide personalized experiences.
- **Adopt automation and advanced analytics tools and techniques** to understand vast amounts of data as well as patient, member and consumer behavior and preferences to help deliver more personalized and engaging digital experiences.
- **Implement or expand use of an HR Service Delivery (HRSD) platform or capabilities** to help eliminate information silos and distribute service queries more effectively across the organization for real-time visibility into the status of actions or the identification of trends to improve the employee experience. For example, [learn how](#) a healthcare leader transformed its employee experience with ServiceNow.
- **Improve employee onboarding by automating asset deployment** so new hires have access to equipment and systems right away and then offer an omnichannel 24x7 live help desk support.
- **Use GenAI solutions to help unlock enterprise knowledge** documentation and standard operating procedures that helps train customer-facing help desk employees so they can provide excellent service to consumers, patients and members.



Case study

# Independent Health charts an IT transformation to maintain its award-winning member satisfaction

Buffalo, N.Y.-based Independent Health recognized the importance of providing an excellent end-user experience for its 1,200 employees to maintain high levels of member satisfaction. To achieve this, the health plan partnered with NTT DATA to transform its IT service desk and modernize its infrastructure.

The result was a proactive and predictive IT operations model that improved employee support and satisfaction. The transformation journey focused on improving access, onboarding and outcomes. NTT DATA helped Independent Health benchmark achievements in call resolution and achieve a 3.9 out of 4 customer satisfaction rating for its IT services.

[Read the full case study](#)





Spotlight

# Humana | Beyond buzzwords: What really makes for great omnichannel customer experiences

It's no secret customer expectations are sky-high (and constantly getting higher), which leaves you trying to reimagine your company's user interactions. Omnichannel experiences and AI have opened doors to unprecedented possibilities. However, the path to success is not paved solely with visionary concepts — you need a strategic interplay of visionary goals and incremental successes to propel your organization forward.

Humana needed a messaging experience for members that was quick, flexible and appropriate to enable self-serve. Launch by NTT DATA helped Humana design and user test an end-to-end messaging experience focused on denied claims. The new messaging experience helps reduce call volume to the call centers and enables and encourages users to self-serve using AI-driven digital tools, reducing costs, and improving customer satisfaction.

Hear the Humana VP of Digital Experience discuss how to optimize omnichannel strategies to create consistent customer experiences, change experiences for the better, and keep even the largest of teams motivated.

[Listen to the podcast](#)





# Transform healthcare and deliver exceptional experiences across the ecosystem

As the industry continues to face changes and growing demands, the path to transforming healthcare and delivering exceptional experiences is clear.

Executives must embrace innovative and resilient digital transformation solutions to truly meet expectations from consumers, patients, members and employees.

Organizations that prioritize modernization and use technology to its full potential — with integrated data and AI solutions — are better equipped to meet demands, outpace the competition and deliver engaging experiences that will power positive health outcomes across the ecosystem.

Executives across healthcare are planning for the future of the industry — a future that is not limited by the current capabilities of their digital infrastructure. Those who look forward with resiliency and vision will be better equipped to overcome new challenges waiting on the horizon.



## Providers

- Improve patient-centered care
- Boost productivity
- Increase data accessibility for all stakeholders
- Build robust and secure infrastructure to prepare for and prevent breaches
- Integrate devices and apps across the organization under one digital platform



## Health plans

- Encourage proactive, preventive care
- Manage chronic conditions to improve quality of life
- Lower the cost of care
- Deliver rich, engaging member experiences
- Improve collaboration and data sharing with providers



## Life sciences

- Improve supply chain resiliency and increase manufacturing efficiency
- Speed time to market
- Elevate engagement with patients and providers
- Ensure regulatory compliance, validate systems and mitigate risk
- Leverage real-world data and real-world evidence across the enterprise



# Ignite tomorrow, today.

NTT DATA recognizes the unique challenges across the healthcare industry. With more than 50 years of experience serving businesses across the ecosystem, we are an invested partner that shares your vision for a healthier future for all. The tenacity of healthcare organizations inspires us to power positive health outcomes with comprehensive digital solutions that impact the healthcare continuum far beyond project completion.

From small projects to enterprise-level transformations, we provide access to cutting-edge solutions powered by data and analytics, artificial intelligence, machine learning and automation to help you stay ahead of the curve.

Ready to power positive health outcomes?

[Learn more](#)

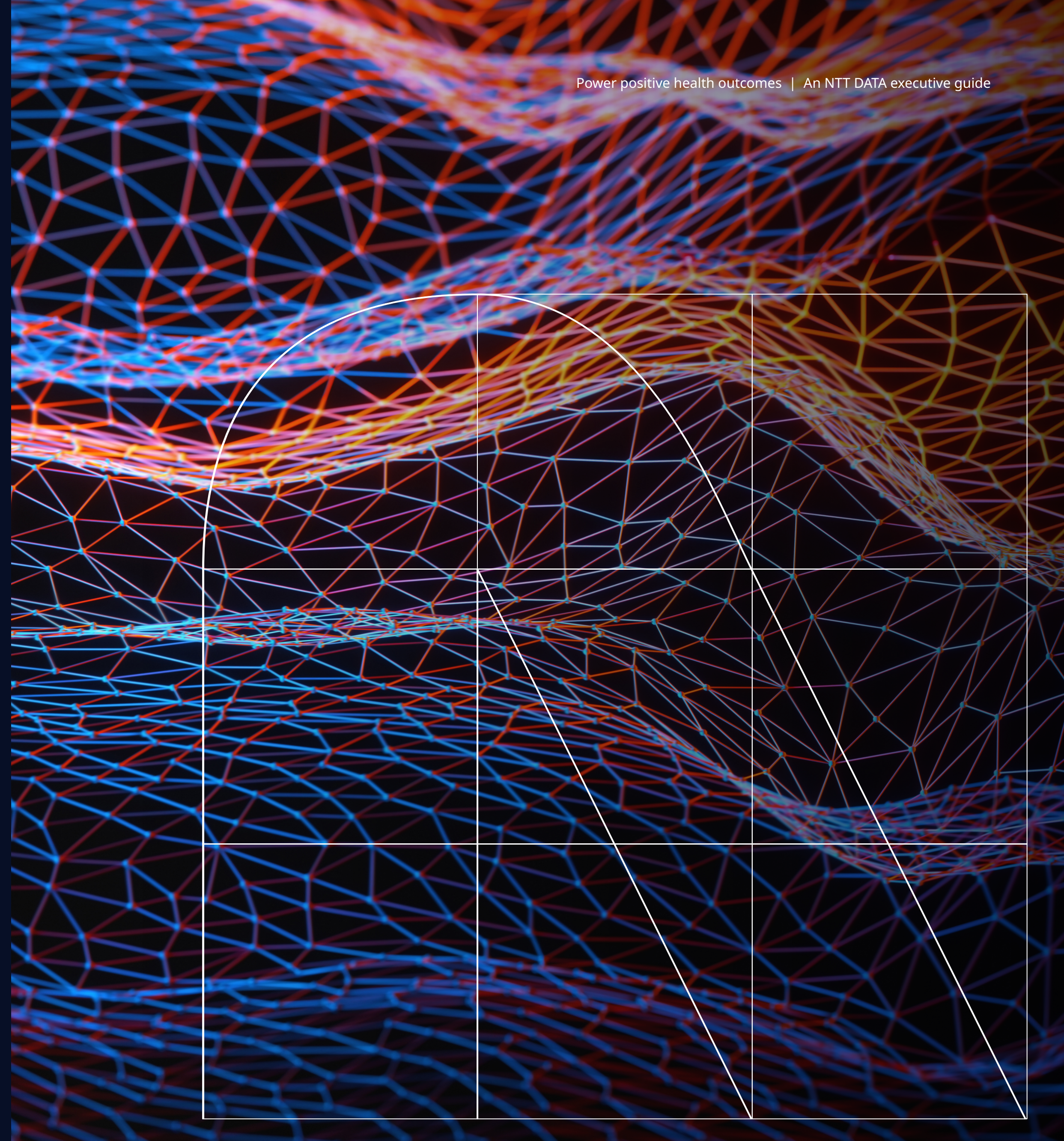
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## NTT DATA proudly serves:

**| 40+** providers, including six of the largest U.S. health systems

**| 70+** health insurers, including six of the largest U.S health plans

**| 35+** pharmaceutical companies worldwide, including six of the top 20 life sciences companies





# Sources

- 01 NTT DATA. "Driving healthcare innovation." 2023. <https://us.nttdata.com/en/engage/driving-healthcare-innovation-unlock-the-power-of-data>

---

- 02 NTT DATA. "Innovation Index: How organizations are achieving growth, value and high performance." 2023. <https://us.nttdata.com/en/insights/innovation-index>

---

- 03 NTT DATA. "A Stronger Community, a More Stable Provider Network." Case study. <https://us.nttdata.com/en/case-studies/a-stronger-community-a-more-stable-provider-network>

---

- 04 Imran MacMillan. "Building an informed future state." NTT DATA. May 5, 2023. <https://us.nttdata.com/en/blog/2023/may/building-an-informed-future-state>

---

- 05 Imran MacMillan. "Think before you pull the plug: How to modernize your legacy technology." NTT DATA. July 26, 2023. <https://us.nttdata.com/en/blog/2023/july/how-to-modernize-your-legacy-technology>

---

- 06 International Society for Pharmaceutical Engineering. "ISPE GAMP® 5: A Risk-Based Approach to Compliant GxP Computerized Systems." July 2022. <https://guidance-docs.ispe.org/doi/book/10.1002/9781946964571>

---

- 07 Healthcare Information and Management Systems Society. "2023 HIMSS Healthcare Cybersecurity Survey." 2024. <https://www.himss.org/sites/hde/files/media/file/2024/03/01/2023-himss-cybersecurity-survey-x.pdf>

---

- 08 NTT DATA. "Intelligent Automation Elevates Staff Productivity and Customer Care." Case study. <https://us.nttdata.com/en/case-studies/intelligent-automation-elevates-staff-productivity-and-customer-care>

---

- 09 NTT DATA. "We're a Leader in healthcare data and analytics." 2023. <https://us.nttdata.com/en/engage/we-are-a-leader-in-healthcare-data-and-analytics>

---

- 10 NTT DATA. "Growth, agility and a competitive edge through automation." Case study. <https://us.nttdata.com/en/case-studies/integra-lifesciences-client-story>





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