

BECOMING STRATEGIC WITH INTELLIGENT AUTOMATION

PAPER 6 INTELLIGENT AUTOMATION IN HEALTHCARE

AUGUST 2021

Dr. John Hindle & Dr. Leslie Willcocks
Knowledge Capital Partners



Despite multiple obvious uses for automation, the healthcare sector has mainly been a follower, even a laggard.

INTRODUCTION

During 2020-21, spurred by the COVID-19 pandemic, intelligent automation galvanized many healthcare organizations. But has this been a quick technological fix or the kick-start of something long lasting? Despite multiple obvious uses for automation, the healthcare sector has mainly been a follower, even a laggard. Will increased investments – up 70% this year – translate into impressive results or end in automation fatigue?

According to Accenture, 69% of healthcare organizations had piloted or adopted intelligent automation by 2021. Such organizations in the USA and UK have seen improvements in:

- Patient journeys; appointment scheduling and management
- COVID-19 testing
- Patient data extraction and review; medical procedure coding and billing
- Claims administration; payment cycle management
- Employee on- and off-boarding

Such positive automation applications during 2020-21 suggest an obvious forward agenda. First, devising much simpler, more intuitive administrative processes for payments, patient records and claims. Second, streamlining coordination between diverse care agencies, including insurers, patients, and preventive and therapeutic care providers. Third, and most obviously, moving to whole patient care – simplifying and speeding up ‘moment of truth’ service, also building portable electronic medical records as a foundation for improved management, quality of care and patient outcomes.



The World Health Organization predicts a shortfall of around 9.9 million healthcare professionals worldwide by 2030

But why is automation urgently needed? The big picture tells the story. The World Health Organization predicts a shortfall of around 9.9 million healthcare professionals worldwide by 2030, despite the global economy creating 40 million new health sector jobs by the same year. Larger aging populations and increasingly complex healthcare demands and therapies will create rising pressure on relatively fewer health workers.

The Brookings Institution estimates that around 33% of tasks currently performed by healthcare practitioners have the potential to be automated. Intelligent automation, paired with other emerging digital technologies, can transform patient experiences, access and outcomes. It can also transform self-care and prevention, diagnosis and triage, clinical decision support, care delivery, and chronic care management. Furthermore, it can support healthcare research and innovation.

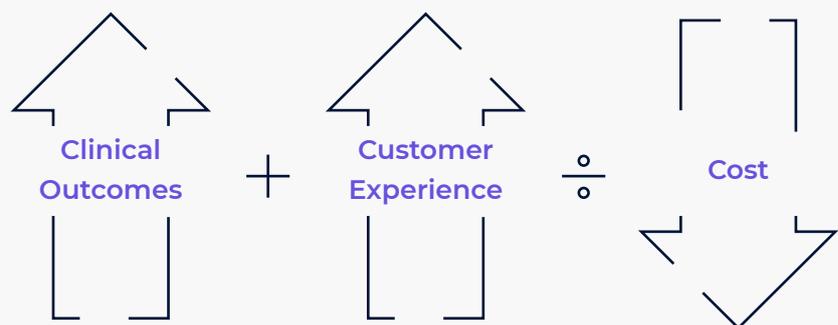


In fact, it already is. Let us look at the progress three leading healthcare organizations are making toward these possible futures.

CASE 1

A new “digital native” healthcare provider operates as a GP practice in the UK’s National Health Service and as a direct care provider in the US, serving all economic levels from private practice to Medicaid. Its explicit goal is to disrupt existing systems by providing affordable, accessible, value-based care with a simple, clear strategy: delivering robust clinical outcomes and improved customer experiences while controlling cost. Or, as the company expresses the formula: *clinical outcomes + customer experience ÷ cost*.

A new “**digital native**” healthcare provider developed a simple, clear business strategy:



The provider first deployed its RPA solutions in the UK, where it built core processes, infrastructure and capacity to support 100,000 patients. The company developed fully automated processes for symptom checking (clinical team plus records), digital appointments (including by mobile) and after-care appointment processes. RPA plays a major role in making these processes, as well as clinical operations, more efficient – coordinating care across patients’ special needs. The provider then rolled the automation program to other regions, focusing on core goals, in the face of greatly rising volumes as measured by appointments processed.

➔ On basic operating performance, the company’s planned **Efficiency** gains were 30%, but it reports having achieved 100% improvement – *more than triple expectations*.

Intelligent automation is delivering other kinds of value as well, including the ability to challenge and redesign all “as-is” processes for greater enterprise **Effectiveness**. The company reports much higher throughput and volumes, with many processes now running 24/7 and much stronger IT focus on core infrastructure. Additionally, it has significantly improved compliance performance in HR and Finance functions through automation. Intelligent automation has ultimately enhanced human value through proactive, easy-to-access care, for example, by automating tests and data capture for high-volume services, such as COVID-19, diabetes and smears. Productivity and security – for patients and clinical processes – have greatly improved through automation, resulting in higher customer and employee satisfaction.



The company had anticipated **Effectiveness** gains around 50% from its automation program, it reports getting 200% gains – *four times expectations*.

The company has also realized major benefits in **Enablement**. Intelligent automation has created a platform for innovation, generating analytics for new products/services and giving employees and patients a differentiated experience. With enterprise-wide automation, the company has accelerated time to market for new services and expanded market penetration. RPA has been instrumental in meeting the rapid influx of volume for services required to address COVID-19.



While the company initially assumed limited **Enablement** gains of around 20%, it reports getting 200% gains – *10 times expectations*.

CASE 2

This US healthcare network provides end-of-life hospice care, an acute, high-intensity service for patients, families and caregivers at a critical palliative and emotional juncture. Serving 10 regional facilities, the company focuses on value-based care, delivering a superior quality service with highly trained, dedicated staff. Its experience demonstrates that intelligent automation not only helps large multinationals, but delivers real value across all sizes and sectors.

The company's first automation aspiration: freeing staff from administrative tasks to fully leverage their most valuable skills and deliver more direct care for patients. Secondly, differentiating on quality of personalized care from private sector companies acquiring non-profit hospice organizations and aggressively reducing costs while keeping prices at previous levels.

The provider chose a cloud-based automation platform, which offered ease of deployment and management, as well as access to pre-built technologies and standardized software for health records, reporting and compliance. Business Process Management (BPM) and machine learning tools are being trialed, and enterprise business process modeling software is standardizing and optimizing processes across all branches.



Efficiency gains include security, accurate coding of treatment services and elimination of rework.

While early in its journey, the provider is already seeing impressive results. On **Efficiency**, while this organization planned for 20% improvement, it has gotten 60% so far, three times expectations, with more to come. Main gains include security, accurate coding of treatment services and elimination of rework, all of which support more robust revenue streams. The company is automating parts of processes to handle more work, freeing its highly skilled professionals to do more of what they are trained for – delivering high quality patient care.

Effectiveness is work in progress with 10% improvements planned and realized, plus more expected. The provider is getting value from wider workforce augmentation, greater throughput and improved regulatory compliance, with a big payoff from higher employee engagement, now freed from routine, repetitive tasks.



The provider is getting **Effectiveness** gains from wider workforce augmentation, and a big payoff from higher employee engagement.



Although the organization had not planned any **Enablement** gains, improvements to date are 20%, mainly from a fully optimized workforce, enriched employee experiences and higher levels of patient care. Patient experiences have improved in several areas. For example, automation enables early identification and booking of additional government-approved “service intensity add-ons” for patients in the last few days of their lives. The company also sees the long-term opportunity to provide services to a wider market through a national hospice cooperative. Finally, the company is more competitive; though harder to track, it is one of the few organizations in its sector focusing on intelligent automation, thus creating a valuable performance dividend.



Enablement gains include early identification and booking of additional “service intensity add-ons” to ease hospice patients’ final days.



CASE 3

This healthcare provider initially sought to capture **Efficiency** value from “automation arbitrage” – using automation to reduce inefficiencies resulting from what it terms “growth through evolution rather than design.” From 2016, the company focused on automating stable processes and reducing the transaction volumes sent to its BPO provider. One solution involved disaggregating the patient and customer onboarding process, applying digital workers to handle complex transactional parts of the process, while relying on the BPO provider to handle parts requiring human interpretation. The 24/7 availability from automation was, necessarily, strengthened during the pandemic. By 2021, the company was getting some 150% **Efficiency** gains, as it had planned.



Automation greatly improved **Effectiveness** in regulatory compliance through transaction accuracy, traceability and auditability, doubling its **Efficiency** gains.



The automation targets have also moved to capture greater enterprise **Effectiveness**, creating what it calls an “evolving business case.” As we have seen elsewhere, automation greatly improved regulatory compliance through transaction accuracy, traceability and auditability. New automated processes handled new work and work spikes without increasing headcount. Process improvement gains were realized as a by-product of automation and external pressures. The company reports that, while it had not assigned any value in advance, its gains in **Effectiveness** are 150% – double its **Efficiency** gains.

Significant gains from automation also came in the **Enablement** category, from its capability and resilience to respond to a massive, unanticipated event. The company operated 130 residential care homes – each of them a potential transmission “hotspot” when the COVID-19 pandemic suddenly hit. Intelligent automation enabled development and deployment of a robust, end-to-end testing regime and response at speed and scale, proportionate to the rapid spread of infections. With tens of thousands of tests required for patients and caregivers every month, the company developed automations to collect, process and triage the tests within seconds on a 24-hour basis; digital workers also instantly sent text message alerts to front line managers to isolate identified cases for treatment. Moreover, having collected over three million data points from this activity by March 2021, the company gained a valuable overview of events in real time using analytics.

In practice, **Enablement** gains were unplanned. However the company estimates value gained as 300% by April 2021, rising to 450% by late-2021. The head of automation stressed that, most often, **Enablement** value from automation was not initially easy to identify, but it emerged powerfully once the right direction had been established and investments made.

Intelligent automations collect, process and triage Covid-19 tests within seconds on a 24/7 basis, sending instant text message alerts to isolate identified cases – resulting in **300% Enablement** gains rising to **450%**.



CONCLUSION

Healthcare organizations are awash with massive amounts of potentially valuable data that continuously grows. The COVID-19 experience has helped to showcase the importance of accelerating the shift to digital transformation. Leaders demonstrate that:

- 1 In addition to internal administrative processes, healthcare needs to apply intelligent automation to interconnectedness between providers, related agencies, government departments and patients.
- 2 Intelligent automation plays a valuable role in transforming how patient data is collected, organized, accessed and used in order to greatly improve the patient experience.
- 3 Competitiveness amongst not-for-profit and profit-making healthcare organizations can spur further automation and performance improvements.
- 4 While data and technology legacies, as well as pressures on healthcare organizations, may make automation integration seem challenging, they also highlight its urgency. The growth in demand for healthcare is projected to be massive, and the pressure on limited resources will increase accordingly. As in other sectors, intelligent automation has become a vital coping set of technologies in the current environment and for the long run.

ABOUT KNOWLEDGE CAPITAL PARTNERS

Knowledge Capital Partners is a global knowledge resource for organizations seeking expert advice and best practice in the sourcing and operation of technology, business services and public services. Offering empirically based research, executive education, and advisory services to businesses and governments worldwide, we provide an independent perspective through a global network of senior business professionals, academics and consultants. We help organizations design and implement sustainable sourcing and operations strategies that are ethical, socially responsible, commercially effective, and professionally managed. www.knowledgecapitalpartners.com

John Hindle is Managing Partner, and Leslie Willcocks is Research Director at KCP.

RESEARCH BASE

Our research draws upon a KCP/LSE proprietary data base of 500-plus RPA and cognitive automation cases studies taken from multiple sectors and economies. These were studied over time (from 2015-2021) and included 'leader,' 'follower,' and 'laggard' users of the technologies. We gained additional insight from four annual surveys during this period. Earlier findings appear in four books (see note 1 below) and in the Blue Prism series "Keys to RPA Success" and "Just Add Imagination," as well as published articles in Sloan Management Review, Harvard Business Review, LSE Business Review, Forbes and MISQ Executive. Building on these foundations, in 2021, we researched an additional 15 advanced user organizations taken from the banking and finance, insurance, health, telecommunications, and utilities sectors in the USA, Europe and Asia Pacific. We used interviews, documents, and survey questionnaires. We also reviewed more than 350 award submissions covering innovatory and effective automation practices. The objective was to gain further insight into the technologies used and the business value being planned for and achieved, to guide existing and potential adopters. This research series will include focused analyses and reports on 5 key industries: banking, insurance, telecoms, healthcare, and utilities.