



INTELLIGENT AUTOMATION IN HEALTHCARE: ADDRESSING COVID-19 SCENARIOS



Introduction

Healthcare Providers and Payers around the globe have embarked upon various digital transformation initiatives over the last few years. Technologies such as cloud, analytics, AI/ML, automation, etc. are being leveraged to enhance various functions such as patient-related data management, providing patient services, carrying out billing & regulatory management, etc. That said, the success of these digital transformation initiatives has been impeded by challenges such as interoperability, data privacy, hardcoded legacy technologies present in health plans, hospitals, labs, PBMs, Pharma etc. Among the technology investments made in the recent years, automation has seen relatively higher traction among payers and providers. The healthcare industry is been at the forefront of RPA adoption and RPA initiatives have been implemented across various processes leading to benefits of reduced cost, increased productivity, higher accuracy, enhanced revenue management and improved patient and employee experience.

However, the onset of COVID-19 has led to the rise of unprecedented challenges for the healthcare providers. Large hospitals and clinical centres around the world are currently reeling under the impact of COVID-19. The healthcare capacities are being fully utilized or being earmarked to handle the constant stream of COVID-19 patients. This has also meant that they can no longer run their daily operations as earlier including some of the high-revenue streams such as Outpatient departments (OPD), elective surgeries, walk-in health check-ups, etc. which has led to significant stress on their revenues. Processes involved in patient admissions triage, COVID-19 testing, keeping providers safe from getting infected, supply chain (quarantined beds, masks, ventilators, oxygen cylinders), procurement of experimental drugs, claims management etc have been under tremendous pressure to keep up with the heightened demand and the need for maintaining quality of service. Additionally, they are also faced with the prospect of increasing operational costs through hiring of additional medical staff and investments made in increasing the number of ICU beds & ventilators. Along with the frontline healthcare workers which are working under highly stressful conditions, the administrative staff at hospitals are also overwhelmed through the increased volume of work across HR, Finance & Billing workstreams.

As a fall-out of the hospital facilities being stressed and the confidence among the public to visit hospitals being very low, telehealth has risen as an optimal tool for consultations among both doctors and patients. Earlier telehealth was a tool restricted to being used by patients who did not have access to healthcare or needed special consultations which was not available in the near vicinity. However, in the current context telehealth is emerging as a valuable tool across various applications such as non-emergency care, COVID-19 related triage procedures, mental health support etc. Governments across the world also relaxing regulations related to telehealth in an attempt to avoid the risk of crowding in hospitals.

While the providers are taking initiatives to address the implications of COVID-19, they are also drawing up plans to comply with changing regulations around interoperability. The new CMS data interoperability rule focuses on driving seamless data exchange between providers and payers as well as providing patients, access to their health information, which is expected to reduce administrative costs for the payers and providers as well as improve coordinated care for patients. To comply with the new rule, providers are tasked with maintaining and updating high volumes of the EMR/ EHR records as per Health Level 7 (HL7) Fast Healthcare Interoperability Resources (FHIR) standards and sharing it with payers' systems. Going forward, digital transformation across the healthcare ecosystem will get a much-needed push and automation will be at the centre of it playing a critical role in the new normal of healthcare. Automation will not only lead to making the processes more efficient and cost-effective but also help in generating insights to support patient care and related care procedures around remote patient monitoring and telehealth. In this paper we examine some of the critical use-cases for healthcare providers where RPA can help in mitigating challenges associated with facing the pandemic along with use-cases which will be continue to be highly critical even as the first wave of COVID-19 subsides.

Automation – The panacea for Healthcare Providers

As healthcare providers look for different levers to optimize cost and boost revenues, automation is emerging as a critical tool that can help them achieve these goals. While automation has already demonstrated tangible benefits across different use cases such as Claims Processing, Revenue Cycle Management, etc. it can offer a multitude of additional benefits in the current context. Decreasing response time for critical use cases, reducing errors in highly burdened healthcare systems, and enabling efficient functioning of the entire hospital value chain are the benefits that can be enabled by automation in a short time frame.

Some of the key use cases that can be enabled by automation in the current context are listed below

Accelerating COVID-19 Testing Results

- Accelerating the sharing of COVID-19 testing results across multiple applications to concerned medical personnel, health department as well as to patients, and thus reducing TAT (Turn Around Time) for the tests
- Integrating COVID-19 testing results to a patient's Electronic Medical Record (EMR) record maintained by hospitals and clinics

Accelerating Patient On-boarding

- Automating real-time alert creation and notification about patient's admission, discharge, and transfer (ADT) from hospitals to community care centres, case managers, physicians, and other inpatient facilities to track and address patient's healthcare needs
- Using bots to check patient's medical history in EMR records and flag potential health risks associated with COVID-19
- Automating the data capturing from physical and digital forms to enable quick and accurate processing of patient data
- Accelerating bed allotment for incoming patients by creating automated notification to nursing, housekeeping, and administrative staff about the outgoing patient's discharge as well as occupancy availability

Supporting Customer Care

- Aiding customer care agents in pulling out patient's medical history to assess COVID-19 risks and thereby reducing call handling times
- Helping people by using chatbots for addressing queries related to COVID-19 such as symptoms check, near-by testing centers, the status of test results, eligible coverage plans, etc.

Scheduling Remote Patient Consultations

- Helping patients with scheduling, confirming, and cancellation of appointments, and ensuring 24/7 availability to meet the growing demand for telehealth services
- Making new member registrations on telehealth platform more efficient by automating username and password generation process

Improving procurement of medical supplies

- Tracking the status of purchase orders for the increased volume of critical medicals supplies, and thereby helping the procurement team in enhancing their purchasing efficiency
- Monitoring inventory levels of medical supplies to avoid stock-outs and wastages, and enabling in better inventory planning

Managing medical workforce

- Helping in speeding up the hiring process of temporary staff by processing the candidate's documents quickly & efficiently for background check and employment history
- Tracking and flagging health status of medical staff in case of high body temperatures, and helping providers to mitigate the risk of virus spreading

Accelerating RCM Activities

- Automating data capturing and medical record processing provided by practitioners for initial claim submission for payment approvals
- Tracking hospital and clinic's claims payment status from payers and updating the same in system as well as flag any large pending claims

Accelerating Data Migration

- Automating data migration of patient data in existing EMR/ EHR systems into FHIR standard data



Approach to Automation – The Devil is in the Detail

Owing to the multitudes of benefits offered by automation, it can be overwhelming to prioritise the business functions to be selected for automation. It is critical to assess the business functions objectively to gain a clear understanding of the current processes and dependent variables to make the right decisions. Some of the areas that have proven to provide the most benefits for healthcare providers are:

- **Revenue Cycle Management**
- **Diagnostics**
- **Patient Data Management**
- **Interoperability**
- **Procurement and Inventory Management**

After selecting the business functions best suited for automation, it is imperative that providers prioritise and implement use cases within these functions that will offer the most benefits in the short-term.

The parameters that providers need to consider while prioritizing process are:

- **Cost Reduction:** Estimated cost benefits that can be realised per process, thus improving overall margins
- **Productivity:** Optimization of time and effort on mundane tasks for physicians and administrative staff to increase focus on providing critical services
- **Time to Value:** Time required to recover the additional investments made on automation, enabling faster scaling up of organization-wide automation
- **Risk Reduction:** Mitigation of risks across various hospital functions
- **Patient & Employee Experience:** Enhanced experience for employees as well as patients through reduction of repetitive administrative tasks for employees and reduced response times for patient diagnosis and treatment



How ITC Infotech Could Help?

At ITC Infotech, we look at the challenges faced by businesses today and bring in solutions based on line-of-sight consulting that cater to the need of the hour and are future ready. Our engagement models have been designed to be extremely nimble, bearing in mind the various requirements that different clients may have. Drawing from our extensive study on the impact of COVID-19 on the healthcare industry, we have evolved a Special Task Force consisting of individuals who are focussed on identifying the critical pain-points for businesses and providing cost optimal, high yielding solutions.

- Industry focussed process catalogues aligned to 'best-in-breed' process frameworks catering to both IT and business needs
- A library of 'Ready Bots' built on the premise of the 'tune and deploy' model to achieve faster time to value
- Industry oriented automation playbooks which elaborate the industry value chains and clearly categorize automation opportunities that are quick to realize returns as well as those that could be incubated to yield value in the long run
- Proven expertise in process mining based on 'task-axis' (Process Driven Discovery) and 'people-axis' (Persona Driven Discovery)
- Centre of Excellence led governance to gain greater coverage and make automation an enterprise-wide phenomenon



Author Profile



Manish Jaiswal

Manish Jaiswal is currently VP & Head of HealthCare & Life Sciences at ITC Infotech. He is an MBA with 24+ years of global experience in Digital HealthCare. He has successfully built, sold, farmed, managed and delivered Digital Consulting, Digital Technology & Digital Operations solutions to Insurance, HealthCare, Life Sciences, ISVs & Outsourcing firms. Prior to joining ITC Infotech, he was responsible for building the Healthcare Practice ground-up for Cognizant North East & The New England Markets (PHS). He has successfully led Clinical, Commercial & Compliance Projects to Commercial Plans, Government Plans (Medicare, Medicaid, PACE, MLTC), Providers, IPAs, Health Systems, State Regulators & Medical Research Universities.



Sanjana Bhattacharya

Sanjana Bhattacharya is a Principal Consultant with ITC Infotech. Having 8+ years of extensive experience in IT Consulting, she has been closely associated with project management across middleware and automation projects. Previously, Sanjana has been associated with Tata Consultancy Services serving GE Healthcare as a client for Enterprise Application Integration & JK Technosoft in growing the RPA practice across multiple geos. She has a B.E in Information Technology from The University of Burdwan and an MBA in International Business from The Indian Institute of Management, Shillong.



Nikhil Kulkarni

Nikhil Kulkarni is a Principal with Zinnov. Having 12+ years of rich experience in management consulting, he has advised leadership teams of customers in formulation of business and operations strategy. He has spearheaded multiple client engagements in strategy, consulting, and sales enablement for global companies across different industry segments. Previously, Nikhil has been associated with Hewlett-Packard & Fujitsu Consulting. Nikhil has an MBA from Symbiosis Institute of Business Management Bengaluru and a Bachelor's degree in Electronics Engineering from University of Pune.



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About ITC Infotech

ITC Infotech is a leading global technology services and solutions provider, led by Business and Technology Consulting. ITC Infotech provides business-friendly solutions to help clients succeed and be future-ready, by seamlessly bringing together digital expertise, strong industry specific alliances and the unique ability to leverage deep domain expertise from ITC Group businesses. The company provides technology solutions and services to enterprises across industries such as Banking & Financial Services, Healthcare, Manufacturing, Consumer Goods, Travel and Hospitality, through a combination of traditional and newer business models, as a long-term sustainable partner.

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About Zinnov

Founded in 2002, Zinnov is a global management and strategy consulting firm, with presence in Santa Clara, Houston, Bangalore, Gurgaon, and Paris. Over the past 18 years, Zinnov has successfully consulted with over 250+ Fortune 500 enterprises and large and mid-market Private Equity funds to develop actionable insights that help them create value – across dimensions of both revenue and optimization. With core expertise in Product Engineering, Digital Transformation, Innovation, and Outsourcing Advisory, Zinnov assists clients by:

- Advising global PE firms in asset shortlisting & target evaluation commercial due diligence, and value creation;
- Helping global companies outline and drive/execute their open innovation programs, design and operate accelerator programs, and enable collaboration with start-ups across specific use – cases and predefined outcomes;
- Enabling global companies to develop and optimize a global engineering footprint through center set-ups, and technology and functional accelerators to achieve higher R&D efficiencies, innovation, and productivity;
- Growing revenue for companies' products and services in newer markets through account intelligence, market entry and market expansion advisory;
- Structuring and implementing Digital Transformation levers enabled by technologies like AI/ML, Cloud, IOT, and RPA.

With their team of experienced consultants, subject matter experts and research professionals, Zinnov serves clients from across multiple industry verticals including Enterprise Software, BFSI, Healthcare, Automotive, Retail, and Telecom in the US, Europe, Japan, and India. For more information, visit <http://zinnov.com>.