HYLAND HEALTHCARE | EBOOK

REVOLUTIONIZING HEALTHCARE WITH RPA

Leveraging robotic process automation for a better patient and healthcare worker experience

Hyland®

CONTENTS

(click to jump to a chapter)

RPA in healthcare: A precursor for future generations

The COVID-19 pandemic is a drastic reminder of how much our social and economic life depends on a well-functioning healthcare system. Despite its importance, the healthcare industry faces enormous financial pressures, combined with labor shortages and labor-intensive processes requiring a specially-trained workforce.

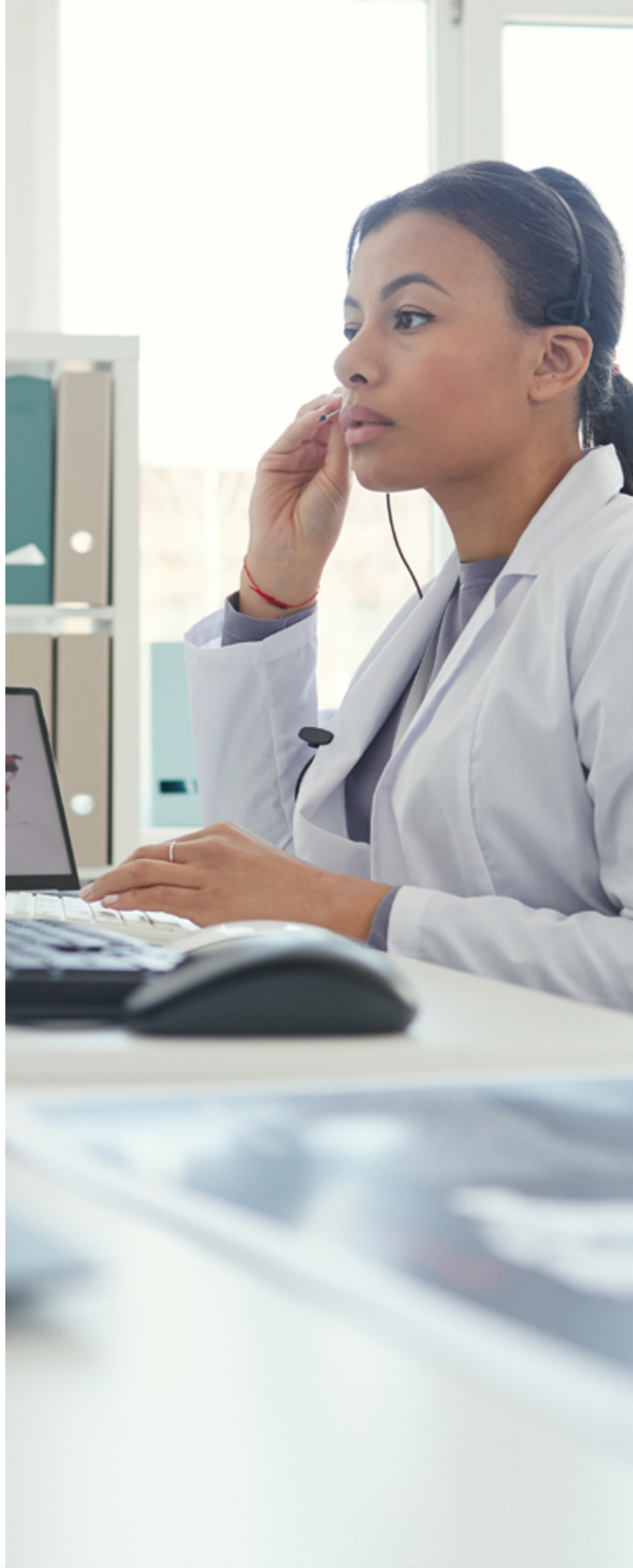
The shortage of doctors, nurses, medical professionals, equipment and supplies has left a hole in the entire system. Countries worldwide are struggling to cope with the current healthcare crisis.

But how did this situation come about? Some of the drivers that have led to long waiting times for-patient care and overstretched healthcare personnel include:

- Rising healthcare costs
- Reduced reimbursement margins
- Lack of transparency for healthcare information, given many content silos
- Lost time to administrative work that takes away from clinical care
- Outdated healthcare technology systems
- Lack of data interoperability between systems internal and external to the healthcare system

Regardless of the global pandemic, the entire industry will continue to face major challenges in the coming decades due to an aging society.

Robotic process automation, or RPA, can help counteract these developments. Read on to learn how the healthcare sector can benefit from this technology to pave the way for the medical care of future generations.



Developments in healthcare: New fuel for technological innovations

The healthcare industry is always evolving and adjusting to developments that require new approaches and solutions. Advances in technology improve both the clinical experience for both healthcare workers and the patients they serve. Patient engagement through technology is also gaining momentum, enabling an unprecedented value chain.

According to Deloitte*, investments in health-related innovations in 2019 exceeded $7.4 billion dollars, and the trend is rising. Investors are now focusing primarily on innovations that deliver high-quality care, reduce costs and provide faster access.

Deloitte, *Health tech investment trends: How are investors positioning for the future of health*, 2020.

The trend predicted by Deloitte Insights will shift the market from "healthcare" to "health" in general by 2040, opening up a whole range of new business models. Driven by new and emerging technologies, increased consumer awareness and data connectivity, the future of the healthcare industry can be divided into several categories:

SECURE DATA PLATFORMS

These platforms form a strong infrastructure for a health ecosystem of the future. They provide valuable data analysis and insights for improved decision-making.

CARE INSTITUTIONS

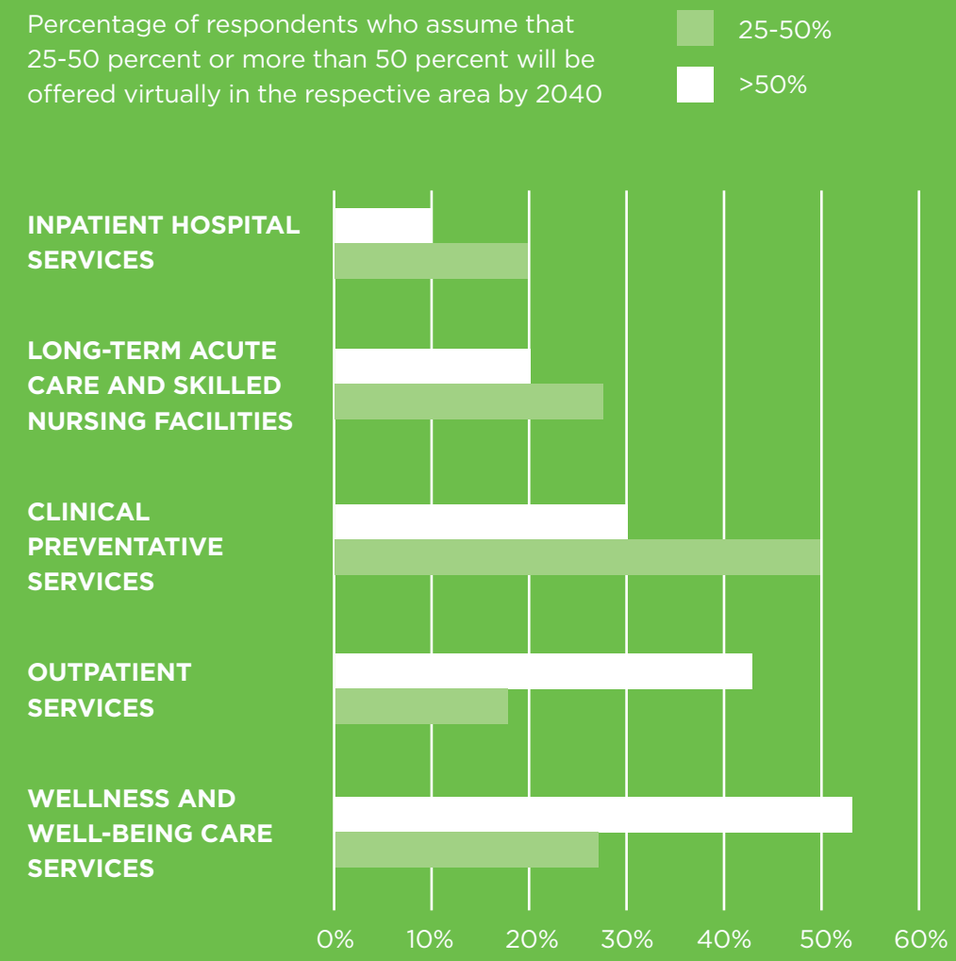
WIth a strong focus on health and wellness, both physical and virtual care systems and communities will evolve to provide targeted and tailored care.

PAVING THE WAY FOR HEALTH AND CARE

This includes a solid integration of cost bearers, providers and regulators to enable faster processing of insurance claims and reduce critical waiting times. A more holistic view of healthcare delivery will be accompanied by a change in the delivery model, to accomodate increased virtual visits.

By 2040, several health services will migrate toward virtual settings

Percentage of respondents who assume that 25-50 percent or more than 50 percent will be offered virtually in the respective area by 2040



Challenges for companies in healthcare

RISING HEALTHCARE EXPENDITURES

Rising medical costs are a main concern for the healthcare industry. Payers and providers, employers, the pharmaceutical industry and healthcare equipment manufacturers are all involved. Increasing population growth, demographic change, more frequent and new types of diseases, rising health insurance costs and premiums and expensive drugs or treatments all contribute to increased costs.

Developing a consistent consensus plan is difficult and takes time. Rising costs also directly impact revenues. A poor treatment outcome is another possible negative "side effect."

Investments in IT improve revenue in the healthcare system as it can reduce operating costs for hospitals and healthcare systems. According to the JAMA network, IT healthcare could save about $175 billion in healthcare spending or administrative costs.*

DISRUPTION IN THE HEALTH SECTOR

Many external factors have a disruptive impact on the healthcare sector, and in return, also influence its innovations. Among the most important disruptive factors are the "Amazon effect," the digital revolution (smartphones, e-commerce platforms, etc.), increasing consumer expectiations for healthcare, the demand for tailor-made medicine and regulatory changes.

As a result, many new players are entering the healthcare sector, which has led to fierce competition in the industry, as well as new challenges. Companies such as Amazon, JP Morgan and Chase now offer medical care directly to their employees. This is a wake-up call for the existing healthcare industry to invest more in the digital transformation and use of cutting-edge technologies, such as artifical intelligence (AI) and machine learning (ML) — which includes robotic process automation (RPA).

The "Amazon Effect" is the term used to describe the change in purchasing behavior brought about by digital commerce, which seems to have a negative impact on traditional stationary commerce. Customer expectations have changed as a result of the digital shopping experience and are reflected in declining sales figures for offline retail. New expectations of in-store service offerings also play a role here.

JAMA Network, *COVID-19 and the Financial Health of US Hospitals*, 2020

INTEGRATION OF HEALTH DATA

Since there are often numerous parties involved in treating a single patient, all relevant information must be recorded. Content from doctors, nurses, specialty care and all the associated notes and results leads to a veritable explosion of information.

According to a research paper titled “Challenges and opportunities for medical education,” the amount of medical information is expected to double every 73 days.* This is a major challenge for the healthcare industry as these medical records are completely unstructured, because they include written, oral and transcribed data.

Changes in the regulation of the healthcare industry are characterized by a large number of regulations and standards, such as the Health Insurance Portability and Accountability Act (HIPAA); the Centers for Medicare and Medicaid Services (CMS) in the USA; and the General Data Protection Regulation (GDPR) in the EU. These regulations have a direct impact on the cost of healthcare, while at the same time, can confuse the general public with countless directives. Providers and cost bearers find it difficult to cope with and remain compliant with regulatory or political changes.

LENGTHY APPROVAL AND LICENSING PROCESSES

It often takes a long time before new clinical or medical discoveries are accepted. For example, developing a new drug involves many stages. It usually takes more than 13 years from the idea stage to the first approval, and further years pass until it is also available for all age groups. The current pandemic has once again highlighted the rigid regulations and non-digital structures in many areas, leading to slow reaction time.

CHALLENGES IN STAFFING

The lack of qualified medical and paramedical staff has an impact on the quality and timely medical care of patients. In addition to the actual staff shortage, doctors spend a significant amount of time writing reports, which leaves less time available for actual care. As the worldwide population continues to age, estimates predict that hundreds of thousands of additional doctors and nurses will be needed.

US Naional Library of Medicine, National Institutes of Health, *Challenges and Opportunities Facing Medical Education*, 2011.

Digital transformation in the healthcare industry

Digitization has also left its mark on the healthcare system. Robotic process automation can help build bridges between systems and make data quickly available.

According to Deloitte Insights, the healthcare sector will be shaped in the coming years primarily by scientific and technological advances, data interoperability and intelligent consumers. The trend is moving toward “virtual health” that accelerates care, improves prevention and is tailored to the patient. This virtual health model includes services such as video visits, telemedicine and remote monitoring that are provided with the help of digital technologies. Intelligent automation technologies also enable remote imaging, which leads to faster diagnoses.

According to a Deloitte survey, 58 percent of medical personnel assume that 25 percent of outpatient and long-term care will be provided virtually by 2040.* About 94 percent of those surveyed expect new solutions to be used in the future to process the huge amounts of data, integrate smart tools like wearables and tailor healthcare services to patients.

There is significant opportunity for automation and digital transformation in the healthcare space. Many key processes rely upon outdated systems, and the use of manual recording remains common practice. RPA is, therefore, a perfect solution as it can effectively address these issues and act as a translator between different systems.

According to a Deloitte survey, 58 percent of medical personnel assume that 25 percent of outpatient and long-term care will be provided virtually by 2040.

RPA IN HEALTHCARE

Healthcare systems can leverage RPA to optimize the value chain in a holistic way. Information resides in multiple different siloes, creating a serious problem for physicians who lack the visibility into medical records, test results, patient histories and diagnostic images that they need to make proper diagnoses. Data interoperability is of paramount important.

Electronic medical records, as they exist today, are not quite sufficient to accomodate the wide range of data. They are limited in scope and compatability. Governments and private entitites, including technology giants, recognize the need for interoperability standards that rely upon data reporting and transparency when using digital platforms.

Deloitte, *The future of virtual health, Executives see industrywide investments on the horizon*, 2020.

RPA, a specific form of business process automation, is a compelling solution for the needs of the healthcare industry. RPA can help healthcare organizations improve quality and efficiency by automating critical or repetitive functions while focusing on care, health and patient access. The healthcare industry estimates that $2.1 billion is spent each year on manual, repetitive tasks.* Similarly, insurers spend $6 million to $24 million each year to manage data or verify its accuracy. According to Deloitte, RPA not only provides a higher ROI because it is cost-effective but also enables compliance (92 percent), better quality and accuracy (90 percent), and increased productivity (86 percent), reducing operating costs by 45 percent and increasing customer satisfaction by 18 percent.**

RPA AS DRIVER FOR DIGITAL INNOVATION

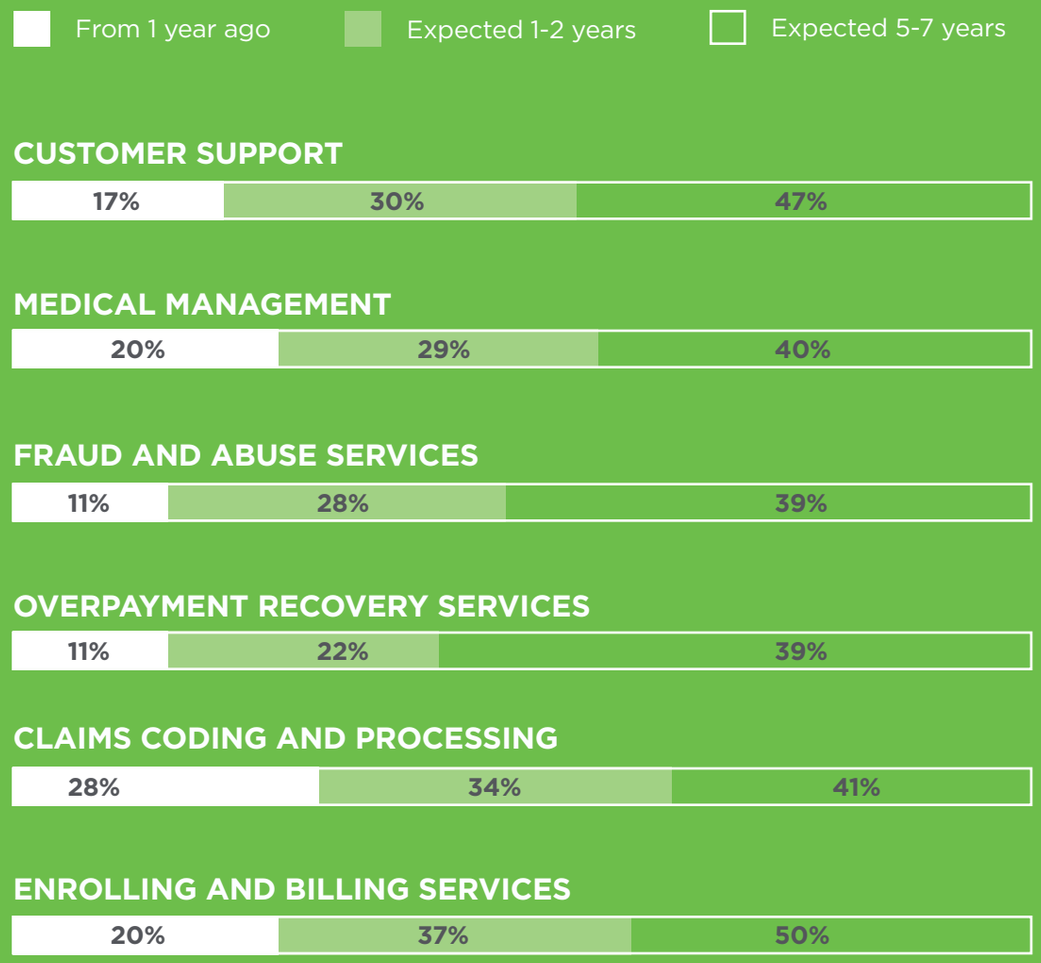
Automation in healthcare is crucial for patients, service providers (doctors, hospitals, etc.) and cost bearers (insurance companies). The amount of paperwork and documentation that accumulates in various systems, such as medical records, insurance portals, ERPs, HR files, clinical studies or patient information systems, is staggering.

RPA bots are capable of shortening clinical processes and streamlining the entire supply chain from provider to patient. For example, supported bots can integrate different systems, extract information distributed on different platforms and deliver the required answers within seconds. This enables innovations that use both old interfaces and new services.

*LexisNexis | Healthcare, *A Business Case for Fixing Provider Data Issues*.

**Deloitte, *Deloitte Global RPA Survey*, 2018.

Areas where RPA can offer benefits going forward in healthcare and specific functional areas



What benefits does RPA have for the healthcare industry?

The healthcare industry remains quite reliant on paper-based processes.Implementating RPA in the healthcare sector can bring significant benefits in many diverse areas areas, including:

ELECTRONIC PATIENT RECORDS

The backbone for patient care is the electronic medical record. Imagine the number of departments, institutions and stakeholders that need access to this record. Each record must be updated daily to stay current and accurate. In addition to digitally-created content, there is significant hand-written and other unpredictable content that must be digitized and appended to the record.

RPA uses software robots to help to integrate different systems and data sources. RPA ensures that reports are processed quickly and information is exchanged effortlessly between connected and disparate systems.

SIMPLIFIED AND STREAMLINED FRONT- AND BACK-OFFICE PROCESSES

RPA robots can extract patient data from inside the health system and from payer portals, schedule appointments and answer patient queries in half the time it takes human personnel. The result is a digital workforce that can work seamlessly and in tandem with humans to provide better care. According to McKinsey Quarterly, 36 percent of healthcare tasks, such as back-office and management tasks, can be easily automated.

> *RPA bridges the gap between disparate systems. The technology also automates existing systems.*

Improved system integration and compatibility RPA does not interfere with or disrupt existing legacy systems and infrastructures, but instead, complements them. RPA is platform-independent, easily portable and compatible with most existing infrastructures. RPA software robots act as a single user interface for multiple different systems, so there is no need for different interfaces for each of these systems.

REDUCED ERROR AND COSTS

Software robots are extremely precise and perform pre-set workflows, such as report writing, billing or processing patient requests — with greater accuracy than their human counterparts.

Also, RPA bots work 24 hours a day, seven days a week without fatigue or the need for a break. This increases efficiency as well as quality. Bots are also more cost-effective than traditional staff members.

RPA not only leads to considerable monetary savings but also provides medical staff with valuable time that can be used for essential patient care.

> *Software robots work around the clock, seven days a week. This gives medical staff more time for patient care.*

COMPLIANCE WITH DATA PROTECTION REGULATIONS

Data protection regulations require that electronic medical records must be secure and confidential. However, confidentialty becomes a challenge when documents require extensive handling. With the help of RPA, healthcare organizations can attain their goals for protecting the privacy and security of healthcare data.

RPA bots use role-based access and ensure that only those who require access are granted access. Access control and tracking are just the beginning. Leading RPA tools also generate an audit history for easy management, error detection and resolution. Documentation and reporting are clear, accurate and unambiguous, ensuring that healthcare organizations remain compliant as regulations change.

How does RPA benefit healthcare professionals?

Every medical procedure involves numerous forms and documents. This means that professionals have less time to care for their patients. RPA can simplify administrative processes and relieve valuable resources.

PROVIDING COMPREHENSIVE AND INTEGRAL HEALTH DATA

Integrated and seamless data is a key feature of RPA. For the healthcare industry, this means a shift from pure data management to data discovery and knowledge generation. Robust data sets can give physicians time to concentrate on the actual value-added care. Appropriate interfaces can also drastically reduce the time needed to access patient data.

IMPROVED PATIENT MANAGEMENT

The number of patients receiving care across departments and specialities continues to grow, and handling all the administration can be a daunting task. RPA can automate many simple tasks, such as processing patient registrations, checking eligibility and benefits from payer web portals and more.

Automation streamlines patient appointments and registration. RPA bots help automate data collection and processing while scheduling appointments based on physician and resource availability. Bots can also track physicians' schedules, submit patient data and send notifications to patients.

ACCELERATED EXCHANGE FOR PATIENT CARE

Interoperability and transfer solutions, like RPA, facilitate the rapid exchange of patient data between systems, thereby expediting the delivery of patient information needed for diagnosis. Software bots enable faster and more accurate processing. In this way, physicians can be provided with a single, holistic window with data from different systems, contributing to improved patient care and health.

How does RPA benefit patients?

Employees aren't the only ones who benefit from the use of RPA. Bots can also make visits to the doctor's office smoother for patients.

Software robots can help to recruit and retain patients around the world. For example, RPA bots can interact directly with patients to answer their questions and provide information in a fraction of the time it would take a human to do so.

RAPID TEST RESULTS

Notification of test results and related diagnoses usually take a relatively long time, as nursing staff spends about 50 percent of their time on administrative tasks such as data entry and reporting. Once the COVID-19 global health situation began, it quickly became necessary to report results daily. In this situation, software robots can be used to log into the system and enter test results. This reduces the time needed to log into the system by half, resulting in faster diagnoses and reports.

HANDS-FREE CHECK-IN TO REDUCE WAITING TIMES

Digital workers can help to set up patient portals, manage patient access and automatically give follow-up instructions. Facial recognition or biometric technology can enrich RPA. This allows digital bots to quickly check-in returning patients and retrieve their medical history immediately, significantly reducing paperwork or long waiting times.

IMPROVED INTEGRATION OF SERVICE PROVIDERS AND COST UNITS

A connected RPA solution can help reduce these costs and mitigate risk through improved data integration and management. Automation drives efficient application processing, invoice reconciliation, simplified pre-authorization checks and the capture of critical patient information. This reduces unnecessary delays while enabling patients to receive medical assistance and care quickly.

Software robots can process applications, invoices and other documents automatically. Thus, delays in treatment can be reduced.

DIRECT-TO-PATIENT (DPT) SERVICES

The latest technologies enable providers to offer patients personalized healthcare. Innovations in care models are driving this change as patients actively participate in treatment. More and more hospitals are using virtual technologies because they are quite cost-effective compared to traditional systems and can aid in social distancing.

The demand for DTP services is growing as the pharmaceutical industry looks for new ways RPA bots can automatically track patients' discharge plans and provide accurate guidelines for the time after hospitalization. Bots can also be programmed to send notifications to the patients during follow-up consultations or treatments.

> *Direct-to-Patient (DtP) is an integrated supply chain system that enables patients to receive treatment in their own home or place of work — both clinical trial and licensed product applications can be supported. Services can include dispensing the therapeutic product, transporting it to the patient or even in-home storage in a temperature-controlled manner.*

RPA use cases in the healthcare industry

PLANNING PATIENT VISITS

Admitting and scheduling patients is not as easy as it sounds, as it involves a high level of staffing for front- and back-office processing. From entering patient data to checking doctors' schedules, verifying health insurance eligibility, confirming prior authorization for treatments and providing patient estimates, the entire process is tedious and time-consuming. However, RPA can help speed it up.

Whenever a patient requests an appointment, RPA bots can scan these requests, forward them to the appropriate parties and quickly offer an appointment based on the diagnosis, location and availability of doctors. They can also send automatic reminders for missed appointments, notify patients of upcoming appointments and generate patient reports.

SUPPORTING THE BILLING CYCLE

RPA can save staff time by automatically checking on claims status from payer portals, by automating payment posting and by making updates in patient accounts.

INFORMING THE PUBLIC ABOUT COVID-19

As the world adjusts to the current global situation, knowledge is not only power but also vital to public health.. Timely information, communication and collaboration are key to coping with and overcoming the pandemic.

To meet the challenges of information exchange, unattended RPA bots can be used to continuously collect and update information from various data sources. In this way, a free service website was set up as a central source of information — in less than five days!

EFFECTIVE HANDLING OF SUPPLY PROCESSES

Healthcare supply processes, such as pre-approval of patients, applications and billing are perfectly suited for automation. RPA is less prone to errors and is highly compliant with healthcare regulations, which is very important when processing claims. Managing such extensive data is cumbersome.

RPA bots can automate the billing of applications and validate them accurately and quickly.

PROCESSING OF PAYROLL AND HEALTH CERTIFICATES

RPA can process personnel data and payroll accounting. Corporations can easily automate data transfer for varied tasks, from data entry to background checks. For example, RPA bots can transfer images of employees from their mobile applications to the company's database for checking and processing payments.

REPORTING SHORTAGES OF MEDICINES

During the current gloabl health situation, there has been a shortage of necessary medicines used in intensive care units to treat COVID-19 patients in the EU. Working with various authorities, such as the pharmaceutical industry and EU Member States, to report shortages and rationalize distribution is a demanding and lengthy task.

To overcome this, software robots send a fillable resource template to any pharmaceutical industry. This information is updated together with the missing parts reports in a master file. Since the robot interface is the only point of contact, it is easy for the European Medicines Agency to track the medicines and their distribution, while at the same time, obtain the necessary authorizations to increase production.

Revolutionizing the healthcare system with RPA

RPA is not only here to stay but to develop and thrive. The sooner healthcare companies adapt to this new technology, the better their opportunity to dramatically reduce costs and improve the bottom line. Crucially: the results for patients will improve, as well.

RPA, combined with content service and other digital technologies such as AI, blockchain and big data analytics is the future of IT in medical care and public health management. As healthcare continues to focus on preventive medicine, the need for more cost-effective treatment alternatives is growing, which in turn, is driving the demand for digital transformation in healthcare.

Robotic process automation allows menial and repetitive human tasks to be supplemented and seamlessly integrated into existing processes, procedures and workflows. Design and implement RPA tools to improve the healthcare cycle and bridge gaps in care for a sustainable future.

98%
automation rate achieved by Hyland robots

1000 robots
from Hyland run the biggest bot-farm worldwide

6 weeks
average duration of the implementation of a process

$0
costs for your first enquiry and consultation with us

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HEALTHCARE

Kiriworks™