

Healthcare AI and Automation: Good or Bad?

By John Lynn

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There are so many challenges that we are currently facing in the world of healthcare, that possibly adding another one is overwhelming to think about. [AI automation](#) is still so new that it's hard to tell what the exact impact will be. On one hand the automation will solve a lot of problems. It can stop a lot of human error and take mundane tasks off of healthcare's shoulders. Thus helping lift the burden that so quickly leads to burnout. However, where does the automation end? The thought that a computer can do your job for you makes a lot of people worried that it lead to them being replaced.

So let's talk this out: is AI automation a good thing that will help or will it cause more problems? We reached out to the beautiful Healthcare IT Today Community to hear the different lines of thinking on automation. Check out what they had to say down below!

Lois Hester, Vice President of Customer Solutions at [PerfectServe](#)

The word 'automation' is going to trigger different thoughts for different people, but the work we do with our partners revolves quite a bit around automating manual communication workflows that often led to frustrating and potentially dangerous care delays in the past.

I'll give one of my favorite examples to demonstrate. One long-time customer—a forward-thinking specialty hospital—came to us a few years ago to inquire about automating the delivery of critical lab results with our clinical communication system. Previously, a lab tech would send a secure message to a provider requesting a call, as policy dictated that a live phone conversation between tech and provider was required. After the call, the provider would then check the medical record and take action accordingly. You can imagine how delays would surface, as providers are often preoccupied and may not be able to call the lab right away. It took a lot of scoping, but we worked closely with this partner to build a sophisticated workflow that automatically ingests critical results from the LIS into our communication platform and delivers them to the appropriate provider based on a wide range of predetermined variables.

Fail safes are built into the pathway to ensure nothing falls between the cracks, and the lab even has two tracking screens to monitor the progress of each result. This project transformed a time-consuming process that required a lot of handholding into an automated workflow that has seen delivery and acknowledgement of new results in as little as seven seconds. That's a boon for both patient safety and clinician satisfaction.

We've been doing this kind of work for a long time, so automation isn't a new concept, but as healthcare organizations look for ways to uncover efficiencies and offload some of the burden from their hardworking staff during challenging times, this kind of project—one that tapped an existing technology solution to completely streamline and modernize a very dated process—is a worthy blueprint for achieving tangible and repeatable success with automation.

Lyle Berkowitz, MD, CEO at [KeyCare](#)

Physicians are overwhelmed with the “triple-R threat”, that is routine, repeatable, and rules-based activities which can and should be automated. Examples include many types of medication refills, pre-authorization requests, preventive maintenance screenings, remote monitoring, and even management of mild urgent and chronic conditions. Appropriate use of rules-based automation tools for these situations could free up valuable physician time, speed up access to care for patients, and ensure more consistent high quality care. Meanwhile, AI should be used to look for abnormal outliers within these rules that should be stopped and escalated to physicians.

Kali Durgampudi, Chief Technology Officer at [Zelis](#)

Healthcare has many repeatable tasks that can benefit from being automated, freeing up hours so employees can focus on higher cognitive projects and providers can spend more time caring for patients. For example, administrative responsibilities such as patient onboarding are areas prime for automation. These tedious tasks take up significant employee time that could be better spent elsewhere. Additionally, automating processes such as this help to relieve employee burnout and simultaneously improve the patient experience.

Sandy Still, Pharm.D., Director of Clinical Strategy at [Bluesight](#)

AI is helping automate workflows and healthcare in general, especially in areas like drug diversion monitoring and prevention. Unsupervised machine learning, a type of AI, is automating tasks that would otherwise have to be manually performed by analyzing large quantities of data across patients, locations, and time. Hospitals and health systems can then determine anomalous behavior in workflows, patient care, or patient outcomes. This type of software is continuously learning unusual and ever-changing patterns of behaviors, “evolving” to detect the patterns and outliers in data without the need for a large dataset of confirmed cases of diversion.

Greg Miller, Chief Growth Officer at [Lumeon](#)

When people think about automation in care delivery, they either get scared, or think of robots or RPA – or all of the above. Clinical workflow and process automation is very different. For healthcare providers that adopt clinical workflow and process automation, they realize a direct, measurable and positive impact on workforce productivity, while also dramatically reducing costs and eliminating manual tasks and interventions. Clinical workflow and process automation also delivers reliably consistent quality outcomes – at scale – thereby reducing or eliminating unwarranted clinical variation and waste. This is the next frontier for ensuring efficient, cost effective and safe delivery of healthcare.

Gregg Church, President at [4medica](#)

Advances in AI and machine learning allow automation technology to reduce human intervention and error in patient matching. One way healthcare stakeholders are automating is by eliminating duplicate patient records by using a multilayered process that first runs data through a Master Patient Index (MPI) to identify and merge obvious duplicates, while a second layer uses machine learning to correct errors. Referential matching and data enrichment then further reduce duplication rates. Lastly, data analytics resolves remaining duplicates and checks for overlays. Previous steps are then rerun. From there, staff can address any unresolved questions. Using intelligent automation to improve health data produces better results faster than manually performing the tasks. It’s possible to reduce patient record duplication rates to less than 1%.

David Stern, CEO at [Experity](#)

Automation is never a silver bullet to efficiency. Companies need to implement tools to automate processes that they already do well. Otherwise, the company risks automating an inefficient process to make it even more inefficient. For example, our software allows patients to get in line to be seen at urgent care clinics. Clinics use our tool to even outpatient flow by providing a steady stream of patients. However, if the clinic is not already attentive to factors that can impair clinic velocities (such as a slower physician, an extended procedure, or a rush of walk-in patients) and if they do not factor these in via preset automations or manual intervention, this steady stream of patients can quickly overwhelm the capacity of the clinic. Avoid automation until you have already fine-tuned the manual process. Otherwise, you will simply automate inefficiency.

Jonathan Wiik, Vice President Healthcare Insights at [FinThrive](#)

Given significant and escalating labor shortages, automation of tasks is being reevaluated more than ever. In the revenue cycle, this has a double-edge sword effect on staffing and productivity – 1) can do more with less and yield more cash through robotic process automation (RPA), and 2) enhances staff retention as mundane tasks are minimized. The market will see increased asks/attention for bots as they are critically needed in RCM to offset staff shortage, enhance staff retention, and accelerate tasks (ultimately cash flow).

Dr. Adrienne Boissy, Chief Medical Officer at [Qualtrics](#)

No matter what industry you are in, automation is key for organizations to transform the experience of everyone who touches the brand. Moments of delight and joy have been created for all of us when it comes to consumer applications like ordering, scheduling, and paying bills. For healthcare, the technology is foundational to operationalizing empathy, as patient experience evolves from traditional design and healthcare entities look to retain patients, streamline operations, and deliver value and financial return. By thoughtfully harnessing structured and unstructured data, artificial (or better said, augmented) intelligence (AI) and machine learning (ML) allow a deeper emotional understanding of our patients, their families, our employees, and communities – and operations – in real time and prioritizes actions for maximal impact.

The credibility of these models depends on high quality data, which is representative and minimizes bias, protects privacy, and has human oversight. Traditionally, patient experience has been defined by a paper survey at the end of a visit and employee experience as an annual engagement survey with a myriad of questions. Taking the human experience to scale with speed is possible with the AI of today, and we must embrace the full potential of these tools to automate what we can and to humanize always.

Derek Streat, Co-Founder & CEO at [DexCare](#)

In today's market, health system leaders and decision-makers are looking to identify areas that could be improved with automation, especially in areas where there's an opportunity to augment resource availability and staff capabilities to enable top-of-license care. However, they face near-term challenges in how to operationalize this change. Automation has numerous use cases within healthcare, but decision-makers must analyze the current market pressures, understand what changes need to be made, and shift their thinking from 'what can be automated' to 'what should be.'

Solutions that automate clinician workflows are a critical component to alleviate administrative burden, but health systems will need to look beyond the workflow for opportunities where automation can drive

efficiency on the backend. Backend solutions optimize health system capacity and resource management, and intelligently match patient demands with provider capabilities for greater load-balancing and patient access. This combination of workflow and backend automation optimizes operations, maximizes the abilities and bandwidth of the workforce, improves patient outcomes, and bolsters overall organizational success.

Brooke LeVasseur, CEO at [AristaMD](#)

Today, millions of patients will require specialty care but won't receive it in a timely manner due to barriers related to insurance status, location, or logistical and bureaucratic hurdles. In a high-functioning healthcare system, PCPs are the quarterbacks of care and are responsible for coordinating care transitions for their patients. However, they often do not have the data and tools needed to make these transitions effectively. The result is delays in care for the patient and hundreds of wasted administrative hours at the clinic.

Without automation tools, clinics may rely on sticky notes and excel spreadsheets documenting their own (often limited) personal networks for referrals and often use inefficient methods, like phone or fax, to place referrals. This manual process results in delays in care, inappropriate referrals and improper patient/provider matching. To address this need, referral management solutions are now available that automate many routine referral tasks and ingest data on the reason for the referral, location, patient insurance and other quality metrics to recommend the best provider for the patient to be referred to. Automating the referral process removes hours of clinic time and can ensure patients get the care they need from the right provider as fast as possible.

David Lareau, CEO at [Medicomp Systems](#)

The automated monitoring of key clinical indicators for chronic conditions using a combination of diagnostically connected data analytics, wearable medical devices, and other forms of home monitoring continues to grow. Several EHRs now provide a longitudinal view of a diagnosis' key indicators with just a single click/voice command and display hallmark indicators of the condition's status, e.g., blood pressure trends for hypertension or blood sugar levels for diabetes. Clinical systems receive information from patient-wearable devices such as smart watches, heart monitors, or glucose monitoring devices, and notify providers when changes are significant enough to require a clinician's attention. In the future we will see even more connected devices sharing data and fueling diagnostically focused EHRs.

Frank Stevens, Chief Growth Officer at [Strata Decision Technology](#)

There is a huge opportunity in healthcare to automate analysis and back-office workflows, rather than just automating care delivery itself. Many technologies are available that can take on tasks like managing and analyzing financial and patient/procedure data, giving healthcare teams the opportunity to prioritize higher value tasks and focus more on utilizing the data insights to improve their care delivery. As the healthcare ecosystem continues to evolve with complexities in billing, regulations, and labor supply, it is crucial to continue prioritizing investing in technologies that will improve the experience for both the provider organizations and patients.

Mudit Garg, CEO at [Qventus](#)

Hospitals are counting on growth in their surgical services to help sustain their overall operations. The problem is that typical growth strategies using manual processes can improve top-line growth — but require additional staff and investments in ORs. Now, AI-powered automation software enables

hospitals to improve efficiency of their existing resources and strategically grow case volume, resulting in significant margin improvement.

Bill Grana, Chief Executive Officer at [HCTec](#)

For health system leaders, the decision to automate specific workflows can save valuable resources and keep efforts focused on patient care. Examples of current opportunities for automation fall primarily into what I would describe as an administrative category, including appointment scheduling, appointment reminders, pre-visit paperwork, preventative care reminders, payment reminders, prescription refill notifications, and using chatbots to answer simple administrative patient questions. True clinical care automation is still in its early stages, and requires much more validation before becoming mainstream. While many providers have adopted a range of these applications, in many cases because they are embedded in systems already in use, there are many that have not. Choosing which workflows to automate and which to continue to manage manually is ultimately determined based on each health system's unique needs and infrastructure.

Bobby Sherwood, Senior Director of Product Management, GuidingCare at [HealthEdge](#)

Automation is the ideal mechanism for driving user efficiency, especially for common, repetitive tasks such as data entry, workflow management, and decision making. Take prior authorizations as an example, where for many requests the workflow can be completely automated from end-to-end. Submission requirements, data validations, determinations, and notifications can easily be automated using basic rules engines. Improving the user efficiency of our care management application, GuidingCare, is a primary focus for HealthEdge and our health plan customers. Exploring automation opportunities to achieve this is always the first option because it completely removes work from the system. As we introduce more automation capabilities into GuidingCare, we focus on ensuring that customers can adopt them to meet their specific needs and workflows.

Petr Baudis, Founder, CTO, and Chief AI Architect at [Rossum](#)

Documentation has become a major sticking point for healthcare organizations grappling with legacy electronic health records (EHR) systems that are prone to dragging out simple processes and making administrative errors. The World Health Organization estimates that up to 50% of all medical documentation mistakes result from administrative errors. Such inefficiencies can lead to misdiagnoses with severe consequences for patients with their health on the line. As a result, we'll see the industry further turn to automated solutions in 2023 such as intelligent document processing (IDP) to streamline workflows.

When also paired with modern healthcare document management software (DMS) systems, IDP solutions can harness the power of AI to automate tedious workflows and accurately store sensitive patient information, reducing operational costs and eliminating bulky paperwork storage. There's a lot of excitement about the ambitious AI possibilities of tomorrow, but some of this technology's best work can be used behind the scenes today, to effectively empower healthcare professionals to better serve those most in need.

Josh Budman, SVP of Research & Incubation at [Net Health](#)

When it comes to automation in healthcare, the risk-reward calculation is front and center – more so than in other industries. A general area of healthcare that makes a lot of sense to automate from a risk-reward perspective is the act of clinical documentation. Physicians spend almost two hours per day documenting their patient interactions; automating components of these clinical documentation workflows could create a high-reward scenario. Moreover, clinicians are able to correct potential errors in documentation stemming from an automation tool and this simple feedback loop lowers the risk associated with any proposed automation solutions. On the other hand, automating diagnostic tasks might create immense value for patients and providers but the risk of misdiagnosis associated with such diagnostic tools renders the overarching risk-reward calculation non-obvious.

Sulabh Agarwal, Chief Technology Officer at [KeyCare](#)

Burnout is a pressing issue in healthcare that also impacts access to care for patients. Workflow automation can be used to ease the burden on staff and that's where we see the best use of AI in healthcare. For example, AI-based virtual assistants can do patient triage, appointment scheduling, post-discharge follow up, care gap closures, etc. and staff are pulled in to handle only the complex scenarios. AI can also be used to save valuable time for physicians. A promising example of this is ambient voice technology that tees up documentation after a visit to review and accept.

Susan Taylor, VP, Industry Market Leader, Healthcare and Lifesciences at [Pegasystems](#)

Automation is a critical strategy for organizations to manage the staffing crisis. Simple automated interoperability across the ecosystem is starting to alleviate a significant fraction of the “administrative waste” in the US healthcare system and create better experiences for employees needed to address emotional exhaustion and burnout among critical front-line staff. The effort towards meaningful technology user experiences for teams that deploys automation will make a significant impact.

Matt Seefeld, Executive Vice President at [MedEvolve](#)

One thing healthcare organizations need to realize is that the real staffing problem is not a shortage of staff —it's that they do not have insight into the daily work effort and outcomes of existing staff in order to recognize, reward and retain top performers. Common software applications like PMs and EHRs are not capable of measuring employees in an objective way. Workforce automation solutions that track every unit of work and associated staff effectiveness are the only way to achieve this level of visibility. Once healthcare leaders have insight into their top performers, they can offer structured incentive programs that motivate staff towards continued improvement. With lean, effective staff, provider organizations can reduce labor costs which will improve ever-declining margins.

Razvan Atanasiu, Chief Technology Officer, Healthcare at [Hyland](#)

To work smarter and adapt faster in today's digital-first world, automation is essential in healthcare. Investing in automation is investing in your workforce by removing repetitive tasks and focusing your human resources capital on areas that require business domain knowledge and expertise. A key area automation is making a big difference in is employee productivity retention. By removing the risk of human error from manual, tedious work, employees can focus on and perform more high-value tasks.

Case in point, intelligent classification technology can accurately index medical records from external providers to speed clinician access within the electronic health records for care decisions. A famous academic medical center reduced staffing by 15 people, achieved a 20 month payback on technology and an 87% ROI over 5 years by deploying intelligent classification of medical records. Patient experiences are another key area automation is providing major value. With the rise of telemedicine and

similar technologies, patients want faster electronic forms collection and simpler access to their medical records, such as seeing medical images in their patient portal.

Specifically, I recommend adopting a cloud-based architecture which will help enable health systems to bridge any interoperability gaps and quickly scale their IT infrastructure when adding new capabilities or workflows. Combining the power of automation with the cloud allows you to improve clinical decision-making and future-proof your organization.

David Sand, MD, MBA – Chief Medical Officer at [ZeOmega](#)

Coming out of the pandemic, healthcare organizations are facing some of the greatest challenges managing their workforces. Robotic Process Automation (RPA) presents an opportunity to make the most of the employed and contracted workforce. Using automation and AI/ML algorithms based on best-practice and the evidence basis provides efficiencies and eliminates unwanted variation in organizations and the patient journey; reducing patient and provider abrasion and improving the experience leading to greater business opportunities. These RPA opportunities abound in UM, CM, Quality and other resource-intensive tasks, with outcomes supporting the Quadruple Aim and the bottom line.

Julie Rezek, Chief Executive Officer at [Advata](#)

Automation is making a big difference across many areas of healthcare. Most patients today use an electronic health record system that automates the storage and sharing of patient information. But automation can be found in robotic surgery, medical imaging, and remote patient monitoring. Even chatbots that can triage and provide information are automated.

Automation is making a big difference in revenue cycle management (RCM). It can streamline many manual tasks involved in RCM, such as data entry, billing, and claims processing, reducing errors and increasing the speed of completing tasks. Automation tools can help reduce errors in billing and claims processing, leading to denied claims and delayed reimbursement. It can help ensure that healthcare providers receive the full reimbursement they are entitled to, leading to increased revenue. Automation can reduce the need for human labor in many RCM tasks, which can lead to significant labor cost savings. Automation can help with better tracking and reporting of claims, payments, and other revenue cycle data, enabling healthcare providers to identify and correct inefficiencies, making the revenue cycle more effective, and reducing costs.

Ultimately, automation can improve the patient experience by providing more accurate and timely information about their bills and insurance coverage. It can increase patient satisfaction and drive more repeat business and positive word-of-mouth. Automation can be a beneficial asset in tackling simplistic tasks, while AI tools enable more effective decision-making to help staff when faced with challenging and complex situations. By combining these two facets of technology, organizations can drive their productivity forward faster than ever before.

Justin Butler, Partner at [Eclipse Ventures](#)

One of the most urgent issues in healthcare is closing the gap between scientific development and clinical deployment so that more patients can access life-saving drugs. To bridge this gap, the industry must evolve the supply chain and manufacturing and apply automation. One area we see automation already making a positive shift is pharmaceutical manufacturing.

Companies like Cellares are evolving pharmaceutical manufacturing and applying automation to unite science and commercial production capabilities. As a life sciences technology company, Cellares

developed the Cell Shuttle to automate cell therapy manufacturing. With its walk-away end-to-end automation, Cellares can automate production capabilities, increase capacity, and accelerate efficiency allowing companies to improve quality control with less room for human error, benefiting manufacturers and pharmaceutical consumers. This has allowed more doses of life-saving cell therapies to reach patients —scaling to tens of thousands of patient doses per year — and accelerated market entry for cell therapy drugs by 1-2 years.

Christina Chen, Medical Director at [Bright.md](#)

Most, if not all, providers will tell you that they endured years of education and training to treat and connect with patients, NOT to spend hours upon hours doing paperwork and documentation in an EHR. Fortunately, with advances in technology, many of these administrative tasks currently assigned to providers can be automated.

One example of this is asynchronous care. Asynchronous care allows providers to treat patients for common, low-acuity conditions online without a real-time, face-to-face interaction. It automates both the patient interview and clinician documentation, and provides clinical decision support while maintaining provider autonomy, keeping the clinician in control of diagnosis and treatment. This means it automates the data collection and data reporting part of the clinical interaction without compromising medical decision making.

There is no reliable AI substitute for a provider's medical expertise, at least not yet. For the time being then, we should automate those administrative tasks that don't require a provider's education and background, allowing providers to get back to the task of practicing medicine, which is what they trained to do in the first place.