

# AI and Automation for Improved Patient Staff and Patient Experience

A Thought Leadership Roundtable



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DrFirst hosted a roundtable of health system technology leaders to discuss these challenges, as well as the solutions and processes that may help. CHIME President and CEO Russell Branzell moderated the discussion between CHIME members:

**Zafar Chaudry, MD**  
MD, SVP, CDIO  
Seattle Children's

**Terri Coutts**  
RN, SVP, CIO  
Guthrie Clinic

**Cherodeep Goswami**  
CIO  
UW Health Care System

**Peter Marks, PhD**  
CIO, VP  
WakeMed Health

**Dustin Hufford**  
CIO  
Cooper University Healthcare

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## INTRODUCTION

The great resignation has impacted all roles within the healthcare organization: Physicians, advanced practice nurses, physician assistants, pharmacists, nurses, pharma techs, medical assistants and IT resources to name a few. Inefficient workflows driven by antiquated technology have a significant impact on staff productivity and job satisfaction, contributing to the industry's 6.4% and rising departure rate.

With reduced staff, IT is expected to manage numerous big-ticket technology projects leaving little time to implement high impact lighter lift projects. There are numerous AI solutions that improve patient safety and staff efficiency that only require light efforts to implement. How can organizations leverage the small wins to gain the great rewards?

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- Terri Coutts, RN, SVP and CIO, Guthrie Clinic
- Cherodeep Goswami, CIO, UW Health Care System
- Peter Marks, PhD, VP and CIO, WakeMed Health
- Dustin Hufford, CIO, Cooper University Healthcare

## SUMMARY

Few health systems are immune to pandemic-accelerated labor challenges, including retaining key staff and keeping them happy and motivated. The biggest complaints among personnel tend to focus on pay, workload and quality of life. The degree to which technology like automation and AI can help address these challenges depends on how health systems identify problems and evaluate results. There is a fine line between helping and harming, and the goal should be making clinicians' work lives easier and patient care more efficient.

## IDENTIFYING THE PROBLEM: BURNOUT

The pandemic was a nightmarish grind for many hospital and health system clinicians, but personnel dissatisfaction doesn't start and end with COVID. At the heart of the shortages are both

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physical and psychological exhaustion; being overwhelmed with COVID patients was an accelerant to burning issues with education and enrollment shortcomings, higher patient-to-clinician ratios, increased technology demands and the looming wave of Baby Boomer staff retirements.

The resignation and retirement trends are throughout the system, but the nursing shortage has become big news and a big problem for providers. The AACN noted that while the RN workforce is expected to expand about 7% through to 2029, shortages are projected through 2030. A reported 5% increase in nursing school enrollment falls short of meeting growing demand, and schools are turning away droves of applicants due to several logistical factors including lack of instructors, classroom space and budget. AACN further noted the average age of RNs is 50 years old, and the expected boom in worldwide 65 and older population by 2030 means more patients will need geriatric care and more nurses will hit retirement age. Squeezed on both ends of the age spectrum, nursing staffs are stretched thin, and dissatisfaction is spreading.

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CIO, UW Health Care System

One approach to keeping more nurses at the bedside, which improves patient outcomes, is to use contract nurses. This comes at a cost. “The labor rates are very high in healthcare right now and this is impacting the ability to provide care,” Marks noted. “I am very concerned about this impact on rural healthcare facilities that may not have the cash reserves.”

Guthrie Clinic is also feeling the hit of the nursing shortage and the cost of contract staff, but Coutts noted, “We pay a lot of money for contractors that don’t seem to be completely invested in our culture, so that’s a big challenge for us.”

Cooper Health has faced similar woes and “crazy rates,” said Hufford, who noted the system is paying large shift bonuses just to keep nurses on the job. Another way Cooper is meeting the challenge is by setting up a virtual nursing command center as an alternative workplace for otherwise retiring nurses. Hufford said the idea is, “If you are burnt out by bedside nursing, you could sit in the command center and see patients remotely.”

The burnout is real, and it isn’t just among clinicians. With tech at the center of most healthcare system solutions, a lot of the weight of this burnout problem can fall on the shoulders of IT leaders already churning away at major digital transformation projects.

“Probably the most common phone call I get right now from a CHIME member is almost like a therapy session,” Branzell said, adding

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VP and CIO,  
WakeMed Health



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these leaders are tired, stressed out and facing much higher than normal workloads. “Some reach a breaking point and leave the business and industry entirely.”

## DEATH BY A THOUSAND CUTS, SUCCESS BY A THOUSAND SMALL IMPROVEMENTS

The fix isn't always a big idea. Goswami argued shaving time and costs at many steps throughout the patient journey in a hospital or health system and helping staff with various tasks throughout their shifts can pay huge dividends.

“Innovation isn't a \$1 million idea, it's a \$100 idea that you can do 10,000 times that will get you a million dollars,” he explained. For UW Health, saving five to six minutes from a patient-RN encounter for a patient having surgery by using technology/automation and making appropriate workflow changes led to saving valuable clinician time and increasing patient experience. This is how value gets created.

“Will that change overnight? Absolutely not, but you have to start chipping away at those areas,” Goswami advised. “There is no magic pill, so to speak, but you have to take a different mindset.”

Chaudry added, “The smallest tweaks in process ... can change some of these outcomes.”

AI and automation tech, such as Guthrie's camera-based monitoring system or Seattle Children's voice recognition and mobile technologies, can take tasks away from nurses and physicians, but adoption is not automatic.

“We do use AI in regulation operations,” Chaudry said. “But the challenge is, people still don't do anything with it.” He noted that in addition to moving to a zero-transcription model, Seattle Children's uses AI for revenue cycle and process automation.

## CUSTOMIZED, HUMANIZED AI FOR THE WIN

Branzell reported on CHIME survey results showing anywhere between 50 and 75% of the work done in healthcare is either repetitive or waste. If AI and automation are going to help lighten the load on nurses and other staff by lightening the loads on repeatable documentation and monitoring tasks, the technologies need user buy in. The panelists agreed getting early input from staff and patient (parents in the case of Seattle Children's) is crucial to designing and implementing a program that works.

Couts said the focus is patient experience with quality. “The patient has to be at the center,” she stated. “For instance, while chat bots are interesting to me, they're not necessarily interesting to our patients.” As a result, she reported Guthrie has undergone a big transition from “What can IT do for us?” to “What is the problem we're solving and what are we trying to do here?” with technology as the

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**Cherodeep Goswami**  
CIO, UW Health Care System



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enhancement, not the foundation.

“If we’re not careful, technology actually becomes a distraction in our business,” Goswami cautioned. He said UW Health is started to invest more in technology with incentive design. Chaudry said the right data analysis in the hands of doctors and other staff has had a great impact on getting kids off opioids for pain. “We have created a tool with our own R&D that allow you to slice and dice the data,” he said. “It’s really interesting to watch physicians change their practices, once they have access to the data.”

The group of CIOs agreed vendors often market the latest and greatest panacea technology (or tech devices), but these often don’t bring the expected value.

Often vendors will approach providers and ask what problems need to be solved and then promise they can provide the solution. However, when asked if they’ve ever successfully provided such a solution, the respond that they haven’t. Instead, they offer to deploy a team of people to develop something, usually over a period of 18 months or more and at a high hourly rate.

Also, many vendors will promote a technology, and eager providers will spend millions in hopes they can use the technology to solve problems and improve processes. However, the best tech solutions have ownership from stakeholders within the system, working together with vendors and developers to create a program that serves the provider’s specific needs. This can take longer, but it avoids taking a big financial risk on unproven tech.

“We don’t want to be on the cutting edge with an AI offering unless it involves solid state technology and will work all the time,” Marks said. “We asked ourselves a lot, ‘Why doesn’t it work?’ Some of it is because it’s the technology approach to a people and process problem.”

Marks highlighted WakeMed’s skateboard approach to AI. “Before you get to a Ferrari, you’ve got to get on the skateboard, and then you got to get on the scooter and then you get on a bicycle ... and it all has to be related to a patient outcome,” he explained. “It has to be measured because we’re not going to do things based on hope—Hope is not a strategy.” His team will ask vendors if they are willing to share a percentage of the risk, and their responses are telling.

WakeMed has been concentrating on the data, the consolidation of the data and doing outcomes-based analytics. “We are focused on the basics of data and analytics at WakeMed,” Marks said. “When we create analytics programs across the system, they are typically built with a repeatable process and technology.” For example, WakeMed created one of the only ERACS (enhanced recovery after cardiac surgery) programs in the country. The blood level cardiac ERACS program featured a dashboard that showed patient outcomes. The underpinnings of the program were similar to other departments, so WakeMed moved the tech to geriatrics, then neurology and women’s health jumped

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in line.

The band of CIOs unanimously agreed it's important for vendors to provide data in the way the system needs. "I do not want Excel spreadsheet," Marks said, noting it would take a mountain of data analytics people to put that into any kind of desirable format. "I want your data definitions, and I want it to come right into my data structures so we can focus on the outcomes."

## VALUE PROPOSITION: REPURPOSE, REASSESS, REFOCUS

The value of digital technology in healthcare cannot always be measured in dollars. Still, money matters. The CIOs on the panel held similar views on assessing value of technology programs. Goswami emphasized, "Tech is an investment, not an expense." He said UW Health's IT investment over the last 2.5 to 3 years hit 17%.

One way to maximize value is to find ways of using technology the system has already bought. Hufford noted Cooper Health is launching an application rationalization exercise to analyze all the programs already on the books.

Sound governance and development processes, including technical review team (TRT) input, can crunch numbers and require updates on implementation and goals, but the philosophy on value isn't always equivalent to a dollar figure.

"Sometimes technology doesn't bring in revenue, but revenues will follow if the tech improves patient experience and quality," Coutts said.

Chaudry agreed. "Everything we should be doing is focused on taking care of that patient the best way that you can based on the things we can measure," he reasoned. For example, he noted there is a difference between being the best cancer center because of improved outcomes and the best due to volume.

Another way of looking at it is to consider all the values. "If you can do a surgery with a robot and get them out healthy in 2.4 days versus six or eight days, that actually is going to save the health system money and resources and nurse's time," Chaudry explained, adding patients will be more likely to return for additional services based on the great experience and outcome. "I think that's what people need to start focusing on."

"There is too much discussion on ROI (return on investment)," Goswami echoed. "The discussion needs to focus on Value on Investment because in many current cases, the 'Waste and waits' within systems and processes are not captured."

Customer relationship management (CRM) is not measured in ROI, said Hufford. "It's all outcome-based." He offered a simple example of customers calling into the system only to be passed around to people who fail to help them to the point of frustration. It's easy to see the value in improving patient experience as well as staff experience, although a solution to this would also lower costs associated with time.

## ACCESSIBILITY LIMITATIONS HAMPERS TECHNOLOGY FOR PATIENT CARE



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It may come as surprise to many, but big percentages of the patient population do not have access to the technology needed for services like telehealth. Chaudry reminded many such patients do not have high speed internet or high-end mobile devices. “People can’t necessarily consume the cool tools that we create,” he lamented. Even for those who do have devices, they may have limited use during their workdays due to workplace rules and signal availability.

## TAKEAWAYS

Digital and virtual solutions to streamline workforce tasks and patient interactions require buy in from all stakeholders. Setting expectations—be they financial-, resource- or outcome-based—is crucial to successful implementation of new technology programs. Such careful planning and governance will help providers ensure that they are getting value for their investments. A careful and collaborative planning process will also often result in technology that can be applied to other departments in a health system and can enable providers to simply get more out of their existing technology. The task and solution also need not be huge scale, as solving smaller issues can add up to big value. This is true for larger issues as well, like medication management, where AI and automation show real promise in elevating patient care as well as improving workflows for staff, such as nurses, who often feel overwhelmed by repeated tasks. Such positive outcomes reveal the significant impact that these types of solutions and technology can bring to the industry resulting in increased stakeholder confidence and a bright promise for the future of AI and Automation in healthcare.



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