



Frictionless healthcare

Why it matters, how to get there

A thought leadership paper on "Achieving operational excellence"
co-authored with ECG Management Consultants

Preface

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Executive summary

There seems to be little dispute that the quality of healthcare available today is high in developed countries compared to ten years ago.^{1,2} Patient surveys confirm this.³ But surveys also indicate that there remain points of frustration in interactions between patients and the healthcare system, and these are numerous enough and serious enough that they can influence patients' choice of their healthcare provider.

These points of frustration can also be thought of as points of friction, because they have the effect of acting as obstacles that slow a patient on his or her journey to obtaining care. Friction can occur in the booking of an initial appointment, while checking in, before a follow-up test, while filling prescriptions, waiting for referrals, interacting with healthcare teams, perhaps due to language barriers, and myriad other points along the way where patients want to make rapid forward process, and circumstances prevent them from doing so.

Interestingly, healthcare providers feel the effects of friction as well. The inefficiencies that result in patient frustration tend to increase provider workload, which over time can result in burnout among team members. And indirectly, of course, providers feel the effects of friction when it erodes their patients' loyalty and trust in them.

This paper outlines some approaches that organizations can take if they want to reduce or even eliminate these points of friction. These include ways of improving care access, care navigation and care delivery – all of which would result in a more frictionless experience for patients. To eliminate friction for providers, there are proposals for eliminating waste, reducing non-value adding activities through automation mindfully, and enhancing value-added activities.

At the heart of almost all of these proposals is the necessity for healthcare organizations to build better relationships with their patients by thinking of them as individuals, with individual needs and desires that need to be understood, respected, and acted upon. Once that is understood, selecting the right technologies, processes and frameworks to eliminate those frictions becomes easier.

Introduction

There was a time not long ago when discussions about healthcare centered on the quality of care being delivered. Decisions about providers were made based on how patients felt about the care they received, and the outcomes they experienced. Today, discussions tend to revolve around something loosely referred to as patient experience.

This is because times are changing. High-quality care is obviously still important, but it is in fact so important that it is basically taken for granted. It is the minimum requirement in selecting a provider, because low-quality care is simply no longer an option. Studies have shown that 85% of consumers from developed countries report having a high level of satisfaction with their clinicians.³ Which raises the question, if patients are happy with the quality of care they are receiving, how do decisions get made about which providers to use?

The beginnings of an answer to that question can be found in a NRC study. It has shown that however happy patients might be with the quality of care they are receiving, nearly half of healthcare customers have some frustration with their current providers.⁴ Despite the high quality of care, they are not receiving the patient experience they want or expect. And when they are asked about the things that leave them dissatisfied, they raise issues that include check-in, wait times, or appointment availability. One NRC study puts it this way:

“These trends make it clear: healthcare customers are growing increasingly intolerant of the obstacles to care that they must navigate.”⁵

In healthcare, as it turns out, there are a great many points of friction. They make navigating the system more difficult for patients, and make delivering quality care more challenging and frustrating for providers. This paper explores these various points of friction and proposes steps that might be taken to eliminate them. In the process, it lays out a roadmap of sorts for frictionless healthcare.

“Convenience, autonomy, personalization, flexibility and respect is what tomorrow’s healthcare consumers are expecting, these are the cornerstones of a frictionless healthcare experience.”

Christina Triantafyllou, PhD

Vice President Head of Improving

Patient Experience at Siemens Healthineers

What is friction in healthcare, and is it necessarily a bad thing?

The first part of this question is easily answered. In the world of healthcare, friction is a term that has become synonymous with paperwork. It has less to do with clinical outcomes than it does with speed, convenience and access – or the lack thereof. In other words, friction can occur at every point where patients transition from one stage of healthcare to another – interactions such as an initial appointment, a follow-up test, receiving and filling a prescription, a referral to a specialist or other physician, a surgery or other procedure, and discharge.

The second part of the question is a bit more complicated. Because friction is actually not always a bad thing. And the simple reason for that is that speed is not always a good thing. For example, there are complex medical processes that involve a high number of clinically relevant medical decisions. This is the case, for example, with cancer treatment. In the case of multimorbid patients over the age of 65, there are more than 50 relevant clinical decisions along the typical lung, breast or prostate cancer journey, of which more than ten are critical decisions. These decisions take place during patient consultations and in tumor boards, and this number can grow to several hundred relevant clinical decisions when it involves issues such as adaptation of drug intake or interactions, consideration of the right imaging approach, and radiation therapy choices.

What is actually happening in cases such as these is that decisions are being consciously made about whether the friction of delay is necessary, and the verdict is sometimes that it is. While refilling a prescription should be as frictionless as possible, diagnosing and treating a disease may need some friction built in.

And so for the purpose of this paper, when we talk about frictionless healthcare, we mean creating healthcare systems where unnecessary points of friction have been eliminated. It is accepted that there are situations where the care process is slower to ensure desired outcomes while remaining mindful of the patient and relatives’ processing of the disease, but we also know that identifying and removing unnecessary and unwanted friction can create value for patients and providers alike.

Financial impact of superior patient experience



+50%

Increase in margin as a result of superior patient experience.

The challenge

In addition to striving for better patient outcomes, there is very high incentive to differentiate by delivering excellent patient experience. Accenture research reports that hospitals and providers who deliver a superior patient experience tend to have 50% higher margins than their peers.⁶ The pattern holds true for hospitals of all sizes and categories, from stand-alone to systems-owned, nonprofit or for profit, urban or rural. And there is growing realization amongst provider organizations that the road to better patient experience is a smooth, frictionless one. There is also an emerging understanding in healthcare circles that it is not just patients who benefit from reduced friction – providers do as well.

How patients experience friction

To understand the ways in which patients are frustrated by friction in healthcare, one needs to consider three basic expectations that all consumers have when entering into commercial transactions: speed, access and convenience. In that context, none of the following frequently expressed patient complaints are a surprise:⁷

- Wasted time – patients frequently feel that everything just takes too long
- Repetition – forms frequently need to be filled in more than once, and unnecessary tasks must often be repeated
- Unnecessary delays in communications – test results are not available nearly as quickly as they could be
- Tortuous system – it is difficult to find, access and navigate different providers, services, and insurance coverage
- Access to the facility – providers may not contemplate access for patients who are bed-bound or dependent on a wheelchair, or help to take them to the facility⁸
- Experience is not consistent – different providers treat patients differently
- Lack of personalization – Providers and staff don't see patients as individuals and anticipate their needs

How healthcare providers experience friction

For providers, the effects of friction are usually felt in one of two ways.

The first is a loss of patient loyalty. Increasingly, patients are acting as consumers when it comes to the healthcare they receive, and what consumers want is convenience, flexibility and acknowledgement of their needs and individuality. If they don't get these from one provider, they switch to another.

The second effect of friction on healthcare providers is reflected in the high rate of physician burnout, which the World Health Organization has recognized as a symptom that results from the chronic distress associated with the job. One survey from Medscape with over 15,000 respondents concluded that across 29 medical specialties, the overall rate of burnout in 2019 stood at 42%.⁹

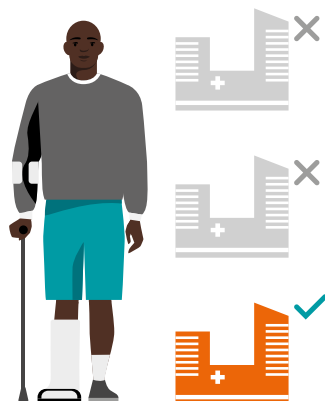
The factors contributing to clinician burnout include:

- Excessive workload
- Unmanageable work schedules
- Inadequate staffing
- Poorly designed work systems
- Inadequate technology usability

It is all too easy to understand how these factors also contribute to the friction points that are so frustrating to patients.



Lack of speed, access, and convenience could influence patients to switch to another provider.



Physician burnout rate could be as high as 42%.



The solution

How do we achieve frictionless healthcare for patients?

There are a number of steps that providers can take to reduce or eliminate friction for their patients. They all begin with a better understanding.

A personalized experience: understand your patients

Not all patients are the same. If you want them to leave your hospital feeling positive about their appointment, you need to understand who they are and what they need when they engage with your health system. A way to start doing that is to assess your patients according to their generational cohort – baby boomers, millennials generation Z, etc. This will tell you a great deal about their world view, their preferences and their expectations. On top of that, however, you need to understand the particulars of each patient's life situation. What is their family situation? Are they retired? What do they do for living? What is their level of health literacy? What is their level of digital familiarity? The better you understand your patients, the better you can prioritize the types of frictions in their care experience that need to be removed. On top of which, everybody likes being understood as an individual rather than just a name or a number on a patient chart.



Case study – Bon Secours Mercy Health CRM

Bon Secours Mercy Health is a health system serving patients across seven states in the U.S. and in Ireland. Like many healthcare providers, Bon Secours Mercy Health had to hit pause on elective care procedures to divert resources during the COVID-19 pandemic. However, elective care can make a huge difference in a patient's quality of life. As soon as the cases dropped and it was ready to receive other patients, Bon Secours needed to schedule postponed treatments and procedures.

Providers needed to avoid being overwhelmed by the huge patient backlog. To tackle this, Bon Secours utilizes its customer relationship management (CRM) system, which enabled them to prioritize patients who needed rescheduling immediately, factoring in patient safety and providers, as well as facilities with capacity. They grouped patients based on the prioritization and sent appropriate communications around scheduling, virtual care capabilities, and next steps. In two weeks, Bon Secours Mercy Health saw close to 25% growth in people registering with and activating their patient portal, a hundred-fold growth in virtual visits, and successfully rescheduled approximately 60% of patients with previously canceled procedures.¹⁰ Its CRM system helps them to keep track of their patients' needs and understand their patient population.

Improve your service experience at potential friction points

Based on the understanding you have gained about the preferences and needs of your patients, you can prioritize which service experience to focus on in removing friction:

1 Care access

Online scheduling

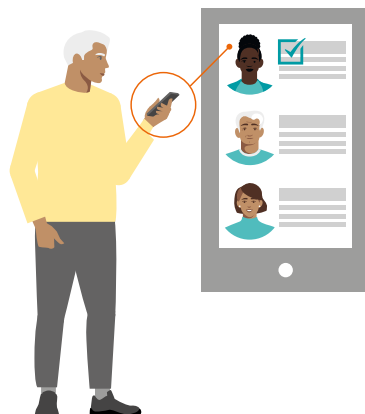
Friction for patients often starts the moment they begin seeking help. Simply booking an appointment can mean repeat phone calls, long delays waiting on hold, only to find that there is no time available on the day you have free. One solution may be online scheduling.

Ascension, a Missouri-based health system that operates in 21 states, offers a Click-to-Schedule service which allows patients to see appointment availability and schedule online easily. This simple scheduling process is important not only for retaining current patients, but making it easier to attract new patients. Since the rollout, Ascension has seen a 779% increase in primary care online visits scheduled, and approximately 100,000 additional visits over the previous year.¹¹



Imagine

What if after online search, an instant chat function can help patients find the right clinician and book an appointment?



Low-friction website

A survey of more than 1,700 U.S. adults found that nearly two thirds (63%) of respondents will choose one provider over another because of a strong online presence.¹² Which is to say, a low-friction website, where patients are able to find the information they need, perform the functions they want to perform, without confusion or delay.

Medical websites must consider factors that other businesses may not. They must be accessible for visitors of all ages and literacy levels. They must account for various health conditions that may affect their ability to use the website, such as poor or altered vision. This could be a potential friction point and should inform your design.

Finally, and this is of ever-increasing importance as the number of smartphone-dependent people continues to grow around the world, patients must be able to get the same quality of online experience while browsing the site from a mobile device.



Imagine

What if caregivers no longer have to set their schedule weeks or months ahead, and AI can optimize the booking schedule for both patients and caregivers?



Technologies that can help remove friction



Strong online presence



Contactless and self-service options



Location services



Price estimation tool



Patient-friendly technology



Telehealth and remote patient monitoring

2 Care navigation

Contactless and self-service options

The longer the wait time, the greater the decrease in patient satisfaction, and inefficiencies related to patient check-in are the prime culprit. An intuitive online self-service check-in platform not only gives patients the feeling of managing their experience, but also reduces the need for staffing in patient registration. It also ensures that fewer data input errors are made with regard to personal information. Contactless options such as providing an easy way to pay for parking may seem like a small thing, but it is a real convenience, and that is the name of the game. Other, more advanced kiosks can even perform basic diagnostic tests on patients.¹³

Geo-mapping

Hospitals can be extremely difficult to navigate, with literally kilometers of near-identical corridors leading to door after door of similarly named wards and treatment rooms. Roughly 40%-to-50% of people visiting a large healthcare facility say they have trouble finding their destination.

UCHealth University of Colorado Hospital has dealt with this problem head-on, with an app called “Find your way” that displays a map of the entire UCHealth complex floor-by-floor. The app is also connected to UCHealth’s Epic electronic medical record, so it will show patients their appointment on a map. They need only press “Go” and it will guide them all the way from home to the parking lot, to the doors of the clinic.¹⁴

“Digitalization is one of the most important enablers to meet consumer health expectations and achieve frictionless healthcare.”

Ralph Wiegner, PhD

Global Head of Digitalizing Healthcare
at Siemens Healthineers

Price transparency

Eighty percent of patients have at one time or other been surprised by a medical bill.¹⁵ Many patients also skip recommended medical tests or treatments due to affordability.¹⁶ One way to avoid unpleasant surprises and at least support planning for future bills is to take the mystery out of healthcare prices.

Cleveland Clinic, a major academic medical centers in the U.S., identified that billing is a source of frustrations for many patients years ago. To help address this, the finance teams engaged with the patients and together they designed a single unified bill for patients, instead of sending patients a different bill from every single hospital.¹⁷

Baylor Scott & White Health (BSWH), one of the largest non-profit healthcare systems in the U.S. based in Dallas, Texas, with more than 50 hospitals in its network, eliminated a very manual process of price estimates by implementing an automated, machine learning-based price estimation tool which generates estimates of patients' out-of-pocket costs before they receive care. Since implementing the tool, BSWH has received positive feedback and a 60-100% improvement in point-of-service collections across various clinics and hospital departments.¹⁸

3 Care delivery

Patient-friendly technology

Frictionless care involves removing emotional frictions as well. Patients should feel comfortable and secure while accessing, navigating and receiving care. Medical equipment designed with patient-friendly technology avoids the chance of patients experiencing anxiety and fear during diagnosis and examinations. This could range from technologies that give patients a regular update on what is happening, to MRI scanners with wider bores, to the use of Virtual Reality (VR) to help patients relax during the examination.

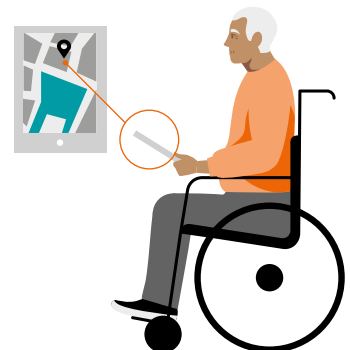
Telehealth and remote patient monitoring

Telehealth removes many friction points, a fact that has been strongly reinforced during the COVID-19 pandemic. It can decrease wait times, eliminate travel costs, and remove the possibility of contracting an infection at the hospital. Remote patient monitoring tools can give patients better access and quality of care, while giving them peace of mind through improved support, education, and feedback.



Imagine

What if transportation is automatically scheduled for patients who need it, or an app guides patients directly to their destination in the hospital and checks them in?



"Imagine a future where care has been fine-tuned and optimized to be as frictionless as possible. It is not only satisfying the patients; it satisfies the economics making care more accessible and breaking down the inequities and barriers pervasive in our current systems."

Nick Van Terheyden, MD
ECG Management Consultant

Imagine a future of frictionless healthcare

For patients:

Decision support augmented by AI

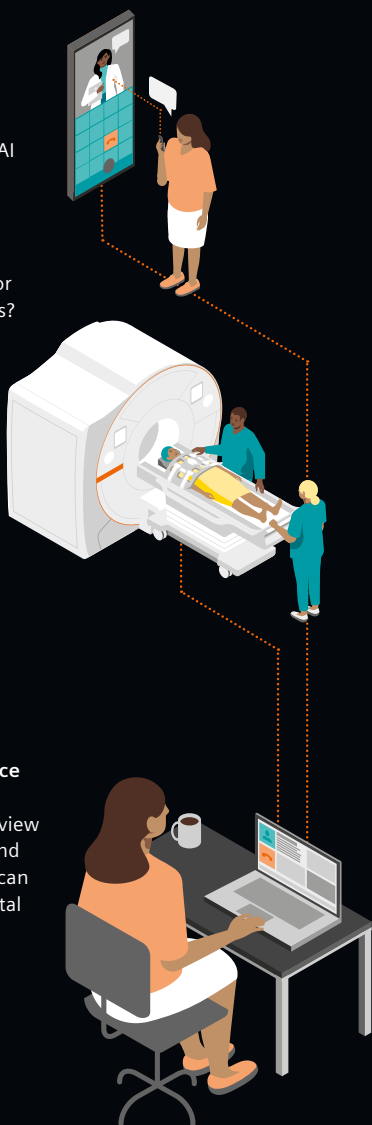
What if patients' wearable data is automatically uploaded and an AI home health agent in an app checks in with the patients, identifies needs for escalation, and sends reminders for follow-up consultations?

Experience

What if patients' emotional friction is removed by using patient-friendly designed equipment so that anxiety is minimized?

Everything in one place

What if patients can review their medical history and information, and they can share it with any hospital with their permission?



For caregivers:

Decision support augmented by AI

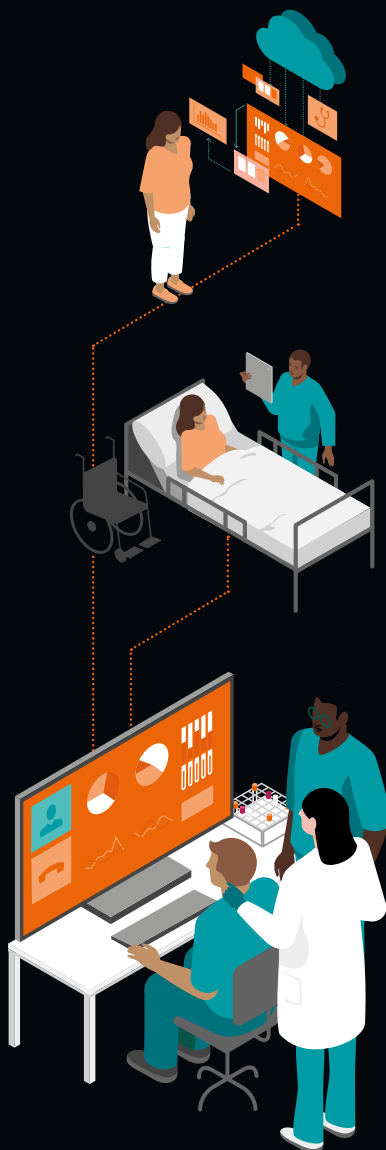
What if AI helps to support clinical decisions, and searches for rare medical diagnoses that are unusual and often forgotten or overlooked, but important to rule out?

Experience

What if passive ambient listening tracks details of the consultation and captures all relevant clinical details and information?

Everything in one place

What if all patient consented data is in one place, including their social and personal information, which provides a complete picture of the care that has been offered, accessed, and delivered?



How do we achieve frictionless healthcare for providers?

A frictionless environment for caregivers is one where the workforce is highly productive. A productive workforce enables better patient experiences, and eases the stress and strain on providers, thereby reducing healthcare team burnout. What follows are three proposals for reducing friction by increasing productivity.

1 Eliminate waste and rethink workflows

The first step in reducing friction for providers is to eliminate wasteful activities. These are activities that do not add any value for the caregivers and should be eliminated immediately without any impact on the patient outcome. They include:

Errors: Any mistake or process step taken out of order that requires staff to do more work in order to correct the issue. Examples include incomplete or erroneous medical records, the entering of incorrect codes, the ordering of unnecessary or duplicate diagnostic tests, improperly filled medications at a pharmacy, and voluminous notes that are filled with duplicate information, or repeating errors, that make searching difficult.

One way to avoid searching through duplicate information is a dynamic record that captures everything in a succinct format much like a Wikipedia page. All the changes are still preserved, and caregivers can still search through archives for previous versions, but the record is dynamically updated and presents the latest data.

Unwanted travel: Staff members having to physically travel too far to complete a step in a process. This might occur when office or hospital layout is not consistent with workflow, requiring more walking than ought to be necessary. Examples of this would be supplies not being stored where patient care occurs, and equipment not being conveniently located.

University of Missouri (MU) Health Care in the U.S. offers a full range of advanced diagnostic imaging services. Appointment availability, however, is limited to only the sites where expert technologists are present. Senior technologists have to constantly travel between locations to align protocols and perform advanced examinations. To overcome this inefficiency, the radiology network employs a solution for remote scanning that allows medical staff to connect remotely to scanner workplaces, allowing expert technologists to support complex procedures remotely and eliminate the need to travel to different locations.¹⁹



Imagine

What if when clinicians seek consultations from colleagues in other specializations? What if they had an overview of who is available and can “conference video chat” to organize a plan? All while the patient is present and participating, and any further testing or procedures are scheduled immediately.

Unnecessary waiting: Caregivers being required to stand-by for longer than necessary. An example of this would be waiting too long for test results from the lab.

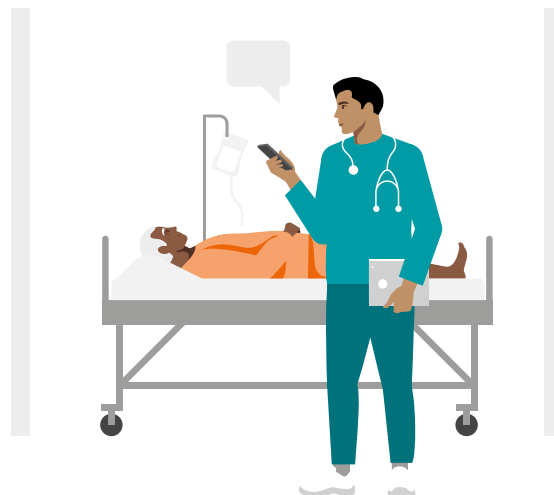
One way to minimize waiting time for laboratory result is to adopt remote data management software. It reviews results based on user-defined verification rules and automatically releases results so that senior laboratorians only have to attend when exceptions occur or abnormal results require manual review. This is how Turner Laboratories in Sante Fe, Argentina, who serves the city with over one million inhabitants, accommodates the growing demand for testing while improving turnaround time.¹⁹

2 Replace non value-adding activity with automation

Non value-adding activities are necessary activities but do not provide a direct value to the patient. Examples include patient registration, copying and filing of documents, device maintenance and compliance with regulating requirements. These activities are carried out within an organization's Electronic Health Record (EHR). The EHR is the main source of friction for caregivers, causing them stress and burnout. According to the American Medical Association, physicians can spend up to two hours in an EHR system for every hour they spend with their patients. First-year residents, or interns, spend nearly 90% of their work time away from patients, half of which is spent interacting with electronic health records and documentation instead of providing care or developing their essential clinical skills.²⁰



Imagine
What if a patients' family receive regular updates from the clinical team through the communication channel they prefer?



“Today’s patients expect to be more involved in their own care pathway, decision making and their well-being and for that, their interactions with healthcare to be frictionless.”

Christina Triantafyllou, PhD

Vice President Head of Improving
Patient Experience at Siemens Healthineers

The solution is to move these types of activities away from staff by automating physical and mental tasks. Self-service registration and check-in, which was discussed in the previous section, can not only reduce friction on the patient side but also for caregivers as well.

Natural language processing (NLP), for example, has real potential to change the way documentation is carried out in hospitals and clinics. Natural language processing is a specialized branch of AI that allows computers to understand unstructured written or spoken data. In other words, instead of entering medical records into the right fields in the EHR system, NLP through ambient listening can extract the right information from the patient visit and automatically record to the EHR. Reducing friction points such as these allows providers to have more focused time with their patients.

CommonSpirit Health, a nonprofit health system serving 21 states, uses NLP to improve patient and provider experience by automating health information collection and making clinical record systems interoperable. During appointments, physicians can dictate notes directly into the electronic medical record (EMR) and order tests. The digital assistant uses NLP to generate notes into the patient’s record, while simultaneously assigning the appropriate codes to streamline the billing process. The sophisticated algorithms also learn physicians’ behaviors and work patterns to proactively assist them with related administrative tasks. Early results show that physicians who use the digital assistant for dictation and charting save between 30 minutes to two hours a day.²¹



Imagine a personalized future

What if there is no more testing to see if a drug works for an individual because patients’ individual genomic makeup will help select the right therapy right away?

3 Enhance value-added activities

If the first two steps in reducing friction for providers involve eliminating what is not desirable, the third is all about emphasizing what is. Value-added activities refer to any work activity that contributes in a meaningful way to the care patients receive, or information about that care. For example, early recognition of a patients’ most urgent needs, timely test results, time spent talking with patients – all these support clinicians’ decision-making and contribute to patient care. Therefore, anything that helps clinicians focus on their patients’ needs would enhance the quality of care.

“To achieve a truly frictionless experience will require intelligent augmentation of clinicians expanding their capability and guiding care with the latest up-to-date data, insights and sciences applied at the point of care, automatically.”

Nick Van Terheyden, MD
ECG Management Consultant

Knowledge and resilience training for healthcare professionals

At the same time, many providers have experienced that external factor such as caring for children or relatives magnify the need for flexibility and resilience on both sides - the employee and the employer - to avoid frictions in the service provided. Helping healthcare professionals find value and well-being in their work also ensures that they work towards a frictionless experience for patients. Northwell Health, New York State's largest healthcare provider and private employer, recognizes the importance of healthcare professionals' well-being. It provided a special bank of time off to frontline workers and other staff members to use as needed. Tranquility spaces were also created at hospitals so staff could rest and temporarily recharge in a serene environment outside the clinical setting. The care team clearly appreciates it, as Northwell received the Glassdoor Employees' Choice Award in 2021, while the workforce was still fighting the COVID-19 pandemic. Stony Brook Medicine also creates a similar "resilience room", which is a permanent, peaceful area featuring plants, calming wall art, privacy areas and meditation materials to ease the spirits of employees.²³

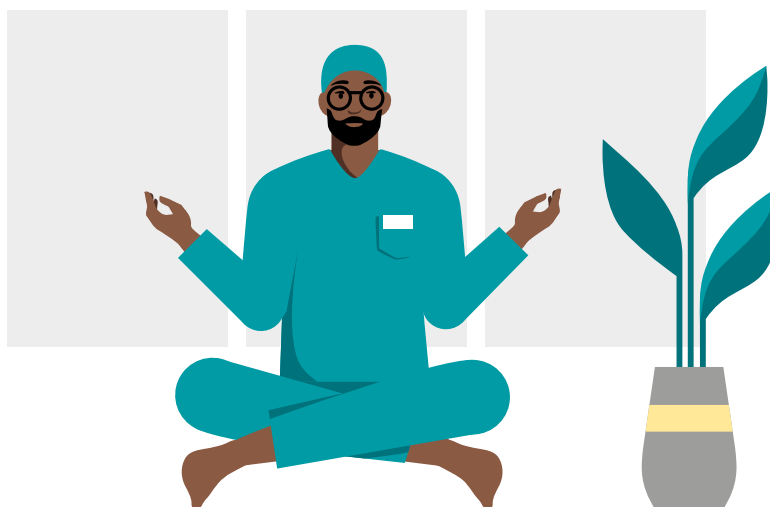
There are several ways that digitalization tools such as AI can augment caregivers value-added activities:

Clinical decision support tools – The more accurate and relevant information clinicians have, the better their decisions will be. Johns Hopkins promotes best practices across its health system through a clinical decision application called Evidence-based (EB)-Guidelines. This application allows medical providers to build and share their own guidelines in the Epic electronic medical records system and include institution-specific information. The goal is to promote best-practice decision-making by giving clinicians seamless access to the information and documents they need. It doesn't eliminate individual decision-making, but it makes it easier for clinicians to know what the best practices are and tailor those to their particular patient context.



Imagine

What if caregivers have ample time to recharge and tranquility spaces to rest?



Data-driven patient prioritization tool – Another way to support caregivers is with a tool that prioritizes patients based on urgency and severity of their condition. Mayo Clinic, the second-largest critical-care provider in the U.S. decided to, in effect, triage the deluge of data that is constantly pouring into hospitals. After conducting 1,500 interviews with clinicians from Mayo Clinic ICUs nationwide, the team identified that out of tens of thousands of pieces of data pouring through EHR, roughly only about 60 pieces are crucial patient information that clinicians need to access quickly and easily for effective care. With that in mind, an EHR interface for clinicians in the ICU called Ambient Warning and Response Evaluation (AWARE) was built. AWARE provides a real-time overview of every ICU in the Mayo Clinic system. It uses visual displays that make it simple to scan so that clinicians can easily identify patients in need of urgent interventions.



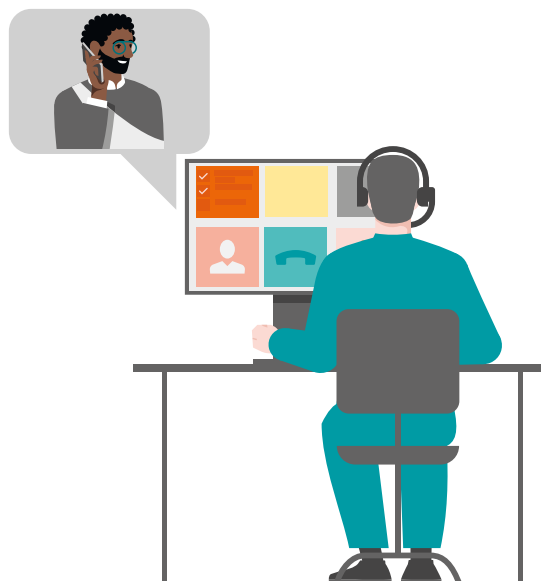
Real-time dashboard

What if a typical day for caregivers starts with a dashboard view of the whole population, and AI prioritizes patients who require immediate intervention?



Imagine

What if caregivers knew if patients did not (re)fill their prescription or took the medication that was prescribed so they can intervene before patients' health declines further?



“Virtual care, remote patient monitoring, decision-support tools, these technologies can make an enormous difference in achieving a frictionless healthcare experience.”

Ralph Wiegner, PhD

Global Head of Digitalizing Healthcare
at Siemens Healthineers

Operational decision support for staff – Other industries such as airlines, hotels, theme parks, restaurant chains and banks are using sophisticated data analytics to grow their businesses and more precisely match capacity and staffing levels to meet customer demand and experience expectations. The time has come for hospitals to do the same.

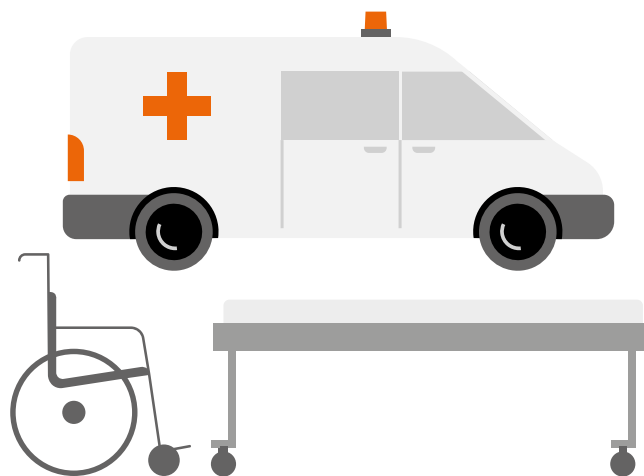
For example, airlines are adept at using AI and prediction models to help with dynamic staffing, ticket pricing and scheduling. Through advanced analytics, hospitals can also integrate and synthesize datasets from disparate IT systems, gain a comprehensive view of hospital-wide operations, and use this information to support staff and operation decision-making.

A group of researchers at UC San Diego demonstrated how this can be done when, in response to the resource strain posed by the COVID-19 pandemic, they developed an open web-accessible simulation-based decision support tool to detect a shortage of finite resources such as staff, medication and medical equipment early on. This has proven to be very useful when making decisions about resource provision and allocation as well as contingency planning.



Imagine

What if data allowed for planning of future services based on historical usage so there is no more purchasing of equipment that becomes under-utilized and a financial burden?



Conclusion

Achieving frictionless healthcare will require organizations and their healthcare professionals to build better relationships with their patients. If healthcare providers want to deliver not only great care but a great patient experience – and they should want to, because they risk losing customers if they don't – then they must think about patients as people, not transactions. Healthcare providers need to understand patients' needs, their desires and their preferences, and identify the points of friction that frustrate those needs, desires, and preferences. And the next step is to eliminate those points of friction.

Digital tools, education, and process improvement based on frictionless design can help remove much of the friction experienced by patients. Leveraging analytics and using data is the best way to achieve personalization, which is one of the best ways to reduce friction, improve the patient experience, and retain loyal customers.

It doesn't stop with patients, however. Achieving frictionless healthcare will also require organizations to better support their healthcare teams, empowering them by eliminating the points of friction that interfere with their work, alienating their patients and causing them to burn out. This will require them to understand where the waste is, and use for example, digital tools such as automation to eliminate it. It will also require providers to enhance the way their healthcare teams are caring for their patients, and they could look to AI and machine learning in order to do this.

Healthcare organizations used to be in the business of delivering care, and this will never change. However, improving the patient experience is now a big differentiator. To win that particular competition, organizations must begin offering care that is not only good, but frictionless.



Suggested follow-up on

[siemens-healthineers.com/insights/
improving-patient-experience](https://www.siemens-healthineers.com/insights/improving-patient-experience)

[siemens-healthineers.com/insights/
digitalizing-healthcare](https://www.siemens-healthineers.com/insights/digitalizing-healthcare)

- Siemens Healthineers Insights paper issue 27: Reframing the patient experience; a thought leadership paper co-authored with Jason A. Wolf, Ph.D., CPXP
Available at: [siemens-healthineers.com/insights/news/reframing-patient-experience](https://www.siemens-healthineers.com/insights/news/reframing-patient-experience)
- Siemens Healthineers Insights paper issue 26: How are innovators driving digital transformation in healthcare?; A thought leadership paper with ECG Management Consultants.
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Information:

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Christina Triantafyllou, Ph.D. is Siemens Healthineers' Head of Improving Patient Experience, where she explores ways in which this field can be enhanced and made more accessible to healthcare providers. She develops strategic approaches to deliver high value care by providing patient experience focused solutions, best practices and thought leadership content. Christina began her healthcare career at Harvard Medical School, Boston, U.S., where she worked as a medical physicist and advanced to a faculty position focusing on developing innovative imaging technology and studying the human brain. Her scientific career continued at Massachusetts Institute of Technology (MIT), Boston, U.S., at the Brain and Cognitive Sciences department. At Siemens Healthineers, she served as the Director of Global Ultra High Field MR Solutions, focusing on business strategy, KOL-based collaborations in innovation/clinical translation, and product management for the first worldwide clinical 7TMR system. Christina studied Physics and holds a Ph.D. in Medical Physics from Kings College, University of London, U.K.



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Joanne Grau focuses on current trends and thought leadership content for Digitalizing healthcare. Prior to this role, Joanne has had ten years of marketing experience in Siemens Healthineers as marketing director for the diagnostics division based in New York and as Head of Marketing for ASEAN countries based in Singapore. Joanne graduated from UCLA with a degree in Molecular, Cell, and Developmental biology. Before joining Siemens Healthineers, Joanne was a research scientist in Quest Diagnostics (formerly Celera) and has authored multiple publications. Joanne is also currently a faculty member in Union University of California.



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Ralph Wiegner and his team engage in thought leadership and portfolio-related activities for Digitalizing healthcare. Earlier, he worked as head of Improving patient experience, head of Marketing Strategy and in global key account management. Prior to joining Siemens Healthineers, Ralph worked for several years in the Banking and Asset Management practice of McKinsey & Company on various European and international assignments. Ralph holds a Ph.D. in Theoretical Physics from University of Erlangen, Germany, with several research engagements at the Oklahoma State University, USA.



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Dr. Nick is a physician leader and business strategist who draws on his clinical experience, technological prowess, and relationship management capabilities to craft and implement transformative, patient-centered strategies aimed at improving operational performance and efficiency. He is an industry thought leader and a prominent healthcare IT influencer, having been featured in the top 5 of The #DigitalHealth Power 100 list of leading healthcare tech and AI influencers to follow. As such, Nick brings unparalleled expertise on the critical role digital innovation plays in improving patient outcomes and ensuring the long-term success and financial sustainability of organizations in the ever-evolving healthcare landscape. Having served as an executive leader at organizations such as Dell, Nuance, and Philips and led the implementation of digital transformation strategies for multiple national and international healthcare clients, Nick has grown to become one of the industry's most trusted advisers on executing groundbreaking technology solutions to drive remedial change.

At Siemens Healthineers, our purpose is to drive innovation to help humans live healthier and longer. Through our products, services and solutions we help physicians, medical staff, and healthcare providers prevent illnesses from occurring and to correctly diagnose and determine the right treatments for people who do become ill—resulting in fewer complications, shorter hospital stays, and faster patient recovery.

Our mission is to enable healthcare providers to increase value by expanding precision medicine, transforming care delivery, improving the patient experience, and digitalizing healthcare. With our comprehensive portfolio—from in-vitro diagnostics and imaging to therapy and follow-up care—we address the complete care continuum for many of the world's most threatening diseases.

Every hour, more than 240,000 patients are touched by technologies provided by Siemens Healthineers. We are at the center of clinical decision making with almost three-quarters of all critical clinical decisions influenced by our solutions. We are a leading medical technology company with over 120 years of experience and more than 66,000 highly dedicated employees around the globe who are innovating every day, truly shaping the future of healthcare.



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