IntelliTek Health

A SmarTek Company

Quadruple aim:

How getting the digital experience right will naturally bring efficiency and effectiveness

Right at the center of the Quadruple aim is a shared experience between the patient and the care-giver. It coincides with the reason that the caregiver signed up - to help people who need their expertise at that very moment in time. It also has the ability to change the patient's life - and that of their family. Even when there is tough news for a patient, if the experience and engagement of the Caregiver helps them understand, accept and take positive steps forward then it is an interaction that the patient will always remember and be grateful for. But the economics and accountability in the healthcare industry requires that these critical encounters are achieved within an efficient and effective framework of metrics and ROI. Our belief at IntelliTek Health is that if you enable a high quality interaction between the patient and their caregiver - then the results will also follow.

The medical field is in the midst of a major transformation, fueled by a combination of legislation and rapid adaptation. This trend has been most apparent in the rapid expansion of telehealth. A review of 16.7 million medical visits conducted from January to June 2020 revealed a staggering 2,000% increase in telemedicine visits. For some patients, the ability to conduct a visit through their computer or smartphone has been life changing.

It is clear that the Covid-19 pandemic, despite providing some of the toughest challenges, has also brought out some of the best traits in healthcare organizations: agility, adaptability, and innovativeness.

What does telehealth enable in terms of the Quadruple Aim? It's first big outcome is to create access to care that would otherwise be impossible because of limited transportation, excessive distance, and other prohibitive costs. This can be efficient in terms of seeing patients earlier in their symptoms, seeing more patients as barriers are reduced and also maximizing caregiver up-time through scheduling and enhanced reminders etc But the risks, including potential for missed diagnoses and physical exam findings, remain a concern and can diminish effectiveness. Will it be good for providers? For some, it will mean the convenience of not commuting into the office or being able to avoid rush hour commuting delays and crowds - and that brings the peace of mind of working remotely during a pandemic. But a study over a million e-visits revealed that the adoption of telehealth nearly doubles the number of work hours per week, with the bulk of work occurring on nights and weekends. This has created a phenomena called Click Fatigue - where caregivers have now transferred their unreasonable workloads from the ward to the laptop. Shifting the theatre of operations from one difficult environment to another is not a sustainable solution for the industry. Although the telehealth explosion was born out of extreme necessity - and it has undoubtedly created some patient goodwill, there is some sense that it is not yet at a place where the experience is really mutually rewarding to the patient and caregiver at this scale.

Another technological tension that looked like it would score high in both efficiency and effectiveness was the evolution of the electronic health record (EHR). Despite their promise, early adoption of EHRs was limited due to the technology's high costs and low usability. The Health Information Technology for Economic and Clinical Health (HITECH) Act set out to fix low utilization through legislation. And, it succeeded — by 2017, 96% of U.S. Hospitals had adopted certified EHRs. But an unintended consequence of this rapid adoption was that EHRs, which were originally conceived as catalysts for improved patient care and physician wellness, instead became a major source of physician distress. This phenomenon was described in a recent study assessing the usability of EHRs through the System Usability Scale (SUS) — a validated instrument designed to measure the effectiveness, efficiency, and satisfaction with an electronic system. Google's search engine has an A rating; a microwave or an ATM has a B rating. But 10 years after the passing of HITECH, EHRs are still being given an F grade by the primary end users — physicians.

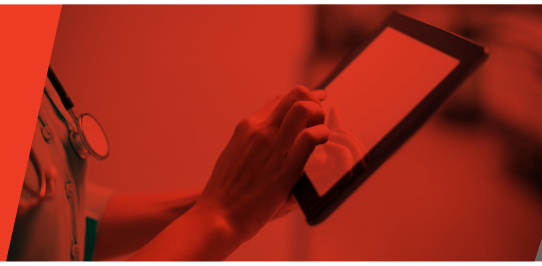
More importantly, EHR usability is highly correlated with physician burnout. The HITECH Act incentivized rapid adoption of EHRs so the vendors rushed products to market. There was no time for health IT to organically address usability and the user experience. It created a powerful yet clunky system that has digitized healthcare at the expense of the clinician-patient relationship.

The problem has deepened as EHRs have become increasingly complex. With each additional need (e.g., compliance with billing requirements, increased patient access), the EHRs have expanded to include new capabilities. These enhancements were treated as functionality - but product design never considered how this might affect the humans in healthcare and the impact that would have on their experience.

Ten years after the passage of the HITECH act, work at home and on the weekends — dubbed "pajama time" — has become an industry standard while physician burnout associated with EHRs is the industry's worst-kept secret. Indeed, 70% of physicians who use EHRs report health information technology (HIT)-related distress. Time motions studies reveal that physicians spend twice as much time with their screens as with their patients. This has heavy emotional costs - as perceptions and observations are marred when patients and their families are left feeling that nurses spend more time at their computers than with patients.

This is where AI enabled technology can step in. By linking the workflows and making the data collection interoperable, standard emails, medication approvals, traffic of outcomes and reporting are all examples of process steps that can be automated and routed to the right destination. In fact, IntelliTek Health's product suite does all these things with the added benefit of JCI compliance - relieving the care workers and administration staff from the burden of tracking, monitoring and reporting daily activity to demonstrate and audit compliance.

New digital health technologies offer tremendous potential. However, in order for these technologies to lead to the patient outcomes we all desire they have to be designed, developed, and implemented with patient and clinician needs in mind.

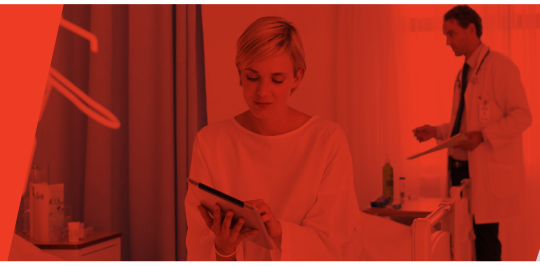


TIn healthcare, the coming years will be defined by ever-more sophisticated EHRs, increasing digital access by patients, the explosion of personalized medicine, and widespread adaptation of artificial intelligence. New interventions must involve deliberate design that considers the impact of innovation on all the main stakeholders, including providers. There are six core elements of Healthcare IT design that can help ensure its success:

- Put patient care first: ensure it remains safe, effective, and efficient.
- Assemble a team with the right skills: Successful design will require the input of a variety of perspectives and skill sets. A careful interplay of experts in human factors, finance, population health, and provider wellbeing, among others, will be needed to ensure that innovation is functional, sustainable, and supports various stakeholders.
- Relentlessly ask why: Asking why things are done a certain way can help ensure that HIT does not get stuck in a cycle of "we do it this way because that's how we've always done it."
- Keep it simple: Using human factors principles can help lead to intuitive and user-friendly design.
- Go for maximum viable product: Test innovation and only keep the best features at every stage.
- Don't snatch defeat from the jaws of victory: Assess the potential unintended consequences of human and technological interactions with each design modification.

Innovate to solve problems, not create solutions: Often, healthcare design fixates on bolstering solutions before identifying the real problems. At each step of process design, it is important to reassess what fundamental issues the proposed solutions aim to solve and be stringent that it gives a holistic answer to the problem.

Finally, it is essential to remember that healthcare technology does not exist in a vacuum. As such, it should look to other industries that have successfully implemented user-centered design, interoperable platforms and AI enabled technology . After all, with over 40% of physicians experiencing burnout, it is vital to get this right.



In a survey conducted by MIT Technology Review Insights, in association with GE Healthcare, more than 82% of health-care business leaders report that their AI deployments have already created workflow improvements in their operational and administrative activities—giving clinicians time back to work with their patients more closely, and with more insight.

For Matthias Merkel, professor of anesthesiology and perioperative medicine at the School of Medicine at Oregon Health & Science University, it's doing something big by doing something really small: noticing minute irregularities in patient information. That could be the difference between acting on a life-threatening issue—or missing it.

"In a lot of diagnostic uncertainties, a robust AI mechanism can alert us to abnormalities, which then prompts a physician's medical interpretation of whether that has clinical relevance," Merkel says. "If done right, that will help us not miss subtle differences."

And contrary to common, yet unproven, fears that machines will replace human workers, AI technologies may actually be "re-humanizing" health care, just as the system itself shifts to value-based care models that may favor the outcome patients receive instead of the number of patients seen. In a survey of more than 900 health-care professionals in the US and UK, conducted by MIT Technology Review Insights, in association with GE Healthcare, 57% of medical staffers report AI will let them focus more on preventive medicine as a result of better prediction capabilities, and almost half indicate it will enable more robust diagnoses.

86% of survey respondents who have adopted AI report that the technology has helped their institutions analyze and make use of data, and 79% indicate that it has helped avert health-care worker burnout

Health-care administrators and leaders see AI as an agent for positive change: 80% of business-facing and administrative health-care workers believe that AI is helping them, or will help them, improve revenue opportunities, and 81% believe AI will make them more competitive health-care providers.

What the industry is realizing is AI-enabled tools represent extension—not extinction—of professional capability in health care. Humans are not going away; they are just going to make smarter decisions, with fewer errors.

Handling growing workload volumes—and managing the backlog and staff fatigue that accompanies it—was cited by survey respondents as the top challenge that they were looking to mitigate through the use of AI.

One crucial way to face this challenge is to ensure that workflow processing is more efficient. AI in health care should not just be limited to diagnostic tools. Medical workflow processes, for example, are so complex, with many regulations to heed and lots of paperwork to fill out, that scheduling patients for appointments is slow, manual, and difficult. These are the ideal target for AI enabled technology - and when you add int Conversational products with Natural Language processing - you can literally talk the patient through the process, tell them where the bathroom is and ensure that all the data you have collected is used throughout their healthcare journey.

Thus, AI is helping to enable doctors to reconnect with their aspirations to go into medicine in the first place - it is the central concept of the Quadruple Aim - the patient and caregiver shared experience. It's transforming the healthcare model into collaborative care within a connected ecosystem.

"AI is changing the whole sociology of decision-making within health care, towards a more collaborative and change-making system."

—Michael Brady, Professor of Oncological Imaging, University of Oxford