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Digital transformation and health care delivery model convergence

Health care delivery has been under intensifying pressure and scrutiny during the COVID-19 pandemic, as health systems around the globe struggle with skyrocketing patient numbers, employee burnout and workforce shortages, supply chain disruptions and equipment scarcities, and insufficient and/or outdated facilities. Travel bans are making it difficult to recruit foreign staff, so governments have been enlisting retired doctors and nurses and medical students to assist with patient care. Infrastructure concerns include the availability of intensive care beds, ventilators, and personal protective equipment (PPE). Paradoxically, the pandemic's economic recession and health systems' increasing costs provide the perfect storm to force health care systems to change their workforce, infrastructure models and care delivery models to continue to meet quality and access targets but achieve this from a reduced cost base.

One solution lies in digital transformation and health care delivery model (HCDM) convergence—a trend that has accelerated during the pandemic. Social distancing measures have already forced many providers to employ virtual care technology for scheduled outpatient appointments. Hospitals and health systems are turning to cloud computing, 5G telecommunications, artificial intelligence (AI), and interoperable data and analytics to address current challenges and build digitally powered care delivery models for the Future of Health™.

Discussion participants

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Deloitte health care leaders recently shared their perspectives on the challenges and opportunities arising from digital transformation and HCDM convergence.

What factors are accelerating convergence of digital technologies and health care delivery models?

Tina Wheeler: The rise of consumerism is driving health care digital technology use. Providers, health plans and other stakeholders are turning to digital to meet consumers' evolving needs and expectations, improve patient engagement and experience, and drive loyalty. Digital transformation is an essential step in preparing for a consumer-centric Future of Health™.

Dr. Rohan Hammett: The Future of Health™ describes what care will look like going forward. Digital transformation and delivery model convergence is how we deliver that future. These intertwined elements provide the infrastructure that brings everything together; that makes everything work. And while convergence is moving forward, there are still a lot of questions to address: What funding and business models do we need to make this work? How do we use new digital capabilities to reimagine care delivery to make it more value- and outcome-focused? How do we introduce change management across the enterprise and incentivize our workforce to adopt digital technologies? What metrics do we use to determine the success of our transformation efforts?

Marc Perlman: Accelerating digital/care model convergence comes down to demand, access, and cost efficiency. If you're a patient in a small town or rural area you may not have access to the specialists or facilities you need. And, in many parts of the world, health care funding is limited and, as a result, health systems need to maximize limited resources. The best care is integrated care, with the right resource being applied at the right time by a care giver who is practicing at top of license with technology as an enabler to that care. Digital transformation creates an interoperable superhighway to providing care everywhere.

Neal Batra: It's about meeting patients where they are; using digital technologies to construct, staff, and equip a "hospital without walls" that blends inpatient care with alternative models including community- and home-based care. In the future, patients and their families are going to assume responsibility for more of their care; they are going to need advanced digital tools that empower them to do that. What will be necessary and possible in the future is radically different than what is available today.

Dr. Bruce Green: The health ecosystem is on the right track to digital transformation and delivery model convergence, but organization leaders and technology innovators will have to reassure regulators, physicians, nurses, and patients that new digital health products and services are safe and effective. Can we get there? Yes. Will stakeholders' ability to collect, analyze, and share data widely and securely accelerate convergence? Yes. Will we need tools and education to improve health literacy and patient ownership? Yes. Convergence will happen but it will take time.

Which technologies are or should be leading digital transformation-health care convergence?

Tina Wheeler: If we truly intend to move to consumer-centric care, it's time for providers and the wider health ecosystem to position virtual health care as an integral delivery channel—one that can increase access and convenience and reduce total cost of care—rather than a temporary, substitutive channel in response to COVID-19 restrictions. This will require operating and financial mindset shifts such as: expanding credentialization of the clinical and non-clinical workforce to empower virtual care teams to conduct high-touch work in a virtual setting; investing in platforms and solutions that can be leveraged across parties—insurers, providers, retailers—to drive patients to appropriate sites of care, enable care delivery, and produce continuity of care; engaging with patients to not only encourage them to seek virtual options when possible, but to also engage more actively in the management of their health by using trackers, monitors, and other tools; and optimizing revenue for virtual health through consistent reimbursement models and risk-sharing arrangements with health plans.

Dr. Bruce Green: COVID-19 illuminated care model deficiencies that technologies could help solve. In addition to shortening the pathways to care, virtual health can stabilize the supply of physicians and increase the overall capacity of the health care system by multiplying the reach of each physician through digital pathways. Most hospitals have integrated telehealth to provide convenient access to their specialists. Some hospital groups are expanding their telehealth services to create new revenue streams. Executives and technologists are also preparing for how high-speed connectivity, including 5G telecommunications, will transform virtual health usage, with wide-scale deployments expected in the next three-to-five years.

Stephanie Allen: 5G is mobilizing and weaponizing nontraditional points of care. Advanced wireless technologies will continuously monitor our well-being, delivering real-time insights and personalized behavioral nudges on the go. Say, for example, you're driving to work and your ambient AI assistant notifies you that you took the last of your remaining blood pressure and statin pills this morning. The AI assistant also says that there's a pharmacy in three exits and it took the liberty of calling your scripts in there. You exit the highway, stop at the pharmacy drive-through, and pick up your pills. A convenient, five-minute detour prevents an interruption of your medication. It's that level of ambient intelligence that will enable us to proactively manage our well-being in the future.

Eric Foote: Health care cloud investment and adoption is on an upward trajectory. In this post-COVID, stability-focused environment, health system executives are looking, first and foremost, for cost efficiency—every clinical and business function is being asked to optimize wherever possible. Organizations are turning to cloud and its companions Platform as a Service (PaaS), Infrastructure as a Service (IaaS), and Software as a Service (SaaS) to improve operations, smooth capital spend, and eliminate brick-and-mortar data centers. Many initially select cloud for disaster recovery because it is the least risky and most valuable capability from a cost-saving perspective. However, we also are seeing escalating interest by health systems outside of the United States in migrating mission-critical electronic health record (EHR) systems to the cloud, which can be completed inexpensively and quickly (often in minutes) using automation.

Tracey Aegerter: I would be hard-pressed to name a health care organization that's not using some cloud-related services. In addition to gains in cost efficiency, the data and insight an organization accrues from cloud computing can improve the patient flow process. The other piece that is extremely relevant right now—especially given the tremendous amount of Personally Identifiable Information (PII) and Protected Health Information (PHI) that health systems hold—is that cloud can help strengthen data security and cyber controls across an organization and its clinical and business partners, especially in areas such as data center takeout.

Marc Perlman: Capabilities that support remote or non-brick-and-mortar care are growing in use and importance, such as wearable AI and sensors that can passively monitor and collect clinically relevant data—a drop in blood glucose level or heart arrhythmia, for example—and alert contact center staff for follow-up. Clinicians are also leveraging mobile apps, virtual reality/augmented reality (VR/AR), customer relationship management (CRM) and data analytics to provide a 360-degree of patients with personalized omni-channel engagement. These technologies create a new safety net while extending the care a person receives from the most appropriate provider.

Eric Foote: Regulatory frameworks will be very important as we move to next-level digitization. For instance, putting your EHR on cloud provides flexibility and cost/operating efficiencies but can also create data ownership and security challenges: Who controls which data can be shared? Where is the data physically housed? In the United States it doesn't matter where the data resides as long as the cloud provider has the proper amount of latency and responsiveness. In other countries, by contrast, data cannot reside outside their borders so the cloud provider has to be either a local data center, an on-premises operator, or a hybrid, in-country public-private cloud.

Questions/actions health care leaders should consider for 2022

What are some 'no-regret moves' that health care systems can make to support the convergence of digital transformation and health care delivery models?

Bold plays in digital can help health systems solve a range of clinical and operational challenges and unwrap opportunities to move them along the path to the Future of Health. We suggest taking a three-prong approach: Use what you have, buy or partner for what you need, and automate repetitive processes. For instance, health systems can move non-core functions—training databases, testing environments, and disaster recovery backups—to the cloud; that way you learn how to work with the capability, and, over time, you'll be able to migrate mission-critical systems there. They also should look at automating routine processes; for example, EHR system testing, because doing so can provide cost-efficient scalability for the future. Among no-regret moves to consider:

Invest in 5G infrastructure, including in remote regions. Implementing and scaling roll-out of 5G infrastructure can enable more reliable and timely access to services, especially for remote populations. Consider setting up an independent 5G- and Edge computing-focused organization—one that sits outside of the primary business's controls and capital deployment processes—to test, apply, and grow these capabilities.

Move contact centers to the cloud. Moving legacy call center operations from old technology stacks to the cloud can improve customer engagement and streamline issue resolution. Traditional health system and health plan call centers often limit organizations' ability to deliver efficient and cost-effective care and retain patients/members. Moving operations to the cloud creates a secure and compliant omnichannel contact center platform with conversational AI and automation, complemented by an integrated ecosystem to deliver an enhanced customer experience.

Create a delivery system without walls. Shifting from inpatient visits to more outpatient and digital management can transform how care is delivered. Health systems' inability to integrate patient care inside and outside the hospital may result in disconnected care delivery and inefficient use of time, equipment, and resources. Creating an integrated platform connected by a digital control tower with proactive AI capabilities can optimize the flow of patient data and increase clinician and resource efficiency to enable care delivery across physical boundaries.

Strengthen interoperability and connectivity. Selecting interoperable, future-focused digital solutions and driving data collection, aggregation, and connectivity–across traditional (institutional) and non-traditional (wearables, retail) sources—can provide the capabilities and flexibility health systems need to deliver the right care at the right place at the right time.

Broaden the concept of partnering. Forming intra- and cross-industry partnerships and alliances can provide access to the expertise, data, capabilities, experience, investment, and scale a single organization might lack. No health system, public or private, possesses a complete set of digital transformation tools. Technology giants have the tools, but they lack deep health care industry knowledge. Broadening the concept of partnering beyond the traditional health care ecosystem to include disruptive startups, technology hyperscalers, and private equity/venture capital firms can open doors to cost savings, operational efficiencies, improved care access and affordability, strengthened data security and cyber controls, and clinical innovation to improve population health outcomes.

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