Nine Digital Health Trends the C-Suite Should Watch

Considerations for 2022 and Beyond

In this article, we highlight nine digital health considerations affecting the healthcare ecosystem. They impact specific organizations to a differing degree. They require strategic prioritization and resource allocation. Timing is a challenge given the rate of technology evolution.

The Healthcare Information and Management Systems Society (HIMSS) defines digital health as follows: "Digital health connects and empowers people and populations to manage health and wellness, augmented by accessible and supportive provider teams working within flexible, integrated, interoperable and digitally-enabled care environments that strategically leverage digital tools, technologies and services to transform care delivery."[1] The broad HIMSS definition potentially encompasses many areas of healthcare delivery.

Healthcare delivery is undergoing a long-term transformation enabled by digital technology. The transformation not only entails a business model transition from volume (fee-for-service) to value-based payment, but also an increasing focus on patient-centered (personalized) care, proactive (preventive) intervention, objective (outcomes) data, care coordination, non-facility care and the total cost of care. Operational efficiencies are also integral to the transformation.

Digital health investment has skyrocketed from $8.2 billion in 2019 to $29.1 billion in 2021; the number of deals increased from 411 to 729.[2] Many point solutions are being developed targeting similar markets and/or applications; infrastructure and interoperability investments are also being made.

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[1] Anne Snowdon. HIMSS Defines Digital Health for the Global Healthcare Industry. HIMSS (March 2, 2020).
https://www.himss.org/news/himss-defines-digital-health-global-healthcare-industry.
[2] Adriana Krasniansky, et al. 2021 year-end digital health funding: Seismic shifts beneath the surface. Rock Health (January 10, 2022).
https://rockhealth.com/insights/2021-year-end-digital-health-funding-seismic-shifts-beneath-the-surface/.

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1. Patient Experience (Consumerism)

Patient experience is based on a journey of touchpoints (interactions) across the continuum of care. It includes "getting timely appointments, easy access to information, and good communication with health care providers."[3] Patient experience is a metric of quality, along with safety and effectiveness.[4]

As technology evolves and patients pay a higher proportion of out-of-pocket costs, their experiences increasingly parallel those of retail consumers. Patient access increasingly matters to patient choice; dissatisfaction may lead to an alternative provider and loss of market share. An omnichannel "digital front door" is being implemented in contact centers that utilizes technology to maximize self-service capabilities, generate insights via customer relationship management systems and optimize use of staff resources.

2. Usability (and Interoperability) of Electronic Medical Records

Electronic medical records (EMRs), also referred to as electronic health records or EHRs, facilitate physician documentation, computerized physician order entry and closed-loop medication administration; provide clinical decision support; and create a central repository for input by multiple providers. A problem list is clearly identified; quantitative test results are recorded. Health information exchange within and across health systems and stand-alone providers, clinical labs, pharmacies, community organizations, patients and their caregivers has been somewhat limited.[5]

EMRs have been perceived as contributing to physician burnout primarily because of "identified challenges around the intuitiveness and usability of the technology as well as workflow issues."[6] Responses to a large survey of physicians suggest a "negative impact on the patient-provider relationship, clinical workflows, and clinical productivity."[7] U.S. physicians "spend an average of 16 minutes and 14 seconds per patient encounter using EHRs, with chart review (33%), documentation (24%) and ordering (17%) accounting for most of the time."[8]

Custom dashboards (standardized templates) have been created by various health systems (within EPIC) to improve documentation and enhance retrieval.[9] A leading technology company has partnered with a couple of health systems to enhance chart navigation (search) via desktop and mobile interfaces; the technology company is also generating data on patient access preferences.[10,11] Advanced voice activation technology is also being used to transcribe patient and physician input into the EMR.[12]

[3]What Is Patient Experience? Agency for Healthcare Research & Quality (AHRQ) (Last visited April 2, 2022). https://www.ahrq.gov/cahps/about-cahps/patient-experience/index.html#:.

[4]Ibid.

[5]Michael Gagnon. The barriers to health data exchange that are exacerbating the coronavirus pandemic. Healthcare IT News (May 22, 2020) https://www.healthcareitnews.com/blog/barriers-health-data-exchange-are-exacerbating-coronavirus-pandemic

[6]Tania Tajirian, et al. The Influence of Electronic Health Record Use on Physician Burnout: Cross-Sectional Survey. J Med Internet Res. 2020 Jul 15;22(7). https://pubmed.ncbi.nlm.nih.gov/32673234/.

[7]Kate Monica. 61% of Physicians Say EHR Systems Reduce Clinical Efficiency. EHR Intelligence (October 2, 2018). https://ehrintelligence.com/news/61-of-physicians-say-ehr-systems-reduce-clinical-efficiency.

[8]Joanne Finnegan. For Each Patient Visit, Physicians Spend About 16 Minutes on EHRs, Study Finds. Fierce Healthcare (January 14, 2020). https://www.fiercehealthcare.com/practices/for-each-patient-visit-physicians-spend-about-16-minutes-ehrs-study-finds#.

[9]David Raths. Oschsner Applies Digital Tools to Chronic Conditions. Healthcare Innovation (April 1, 2022). https://www.hcinnovationgroup.com/clinical-it/digital-health-innovation/article/21262603/ochsner-execs-describe-digital-medicine-transformation.

[10]Stephanie Stephens. Google Circles Back to Electronic Health Records. Health eCareers (June 22, 2021). https://www.healthecareers.com/articles/healthcare-news/google-circles-back-to-electronic-health-records.

[11]Laura Lovett. Google rolls out mobile app version of Care Studio. Mobile Health News (October 18, 2021). https://www.mobihealthnews.com/news/google-rolls-out-mobile-app-version-care-studio.

[12]Kate Monica. Epic EHR Now Includes Nuance Voice-Enabled Clinical Workflows. EHR Intelligence (September 7, 2018). https://ehrintelligence.com/news/epic-ehr-now-includes-nuance-voice-enabled-clinical-workflows.

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3. Revenue Cycle Automation

An early and important AI application is revenue cycle management (RCM), where specific tasks are often of low complexity, manual, repetitive and transactional. AI solutions are being deployed to enhance efficiency, improve accuracy and reduce revenue leakage and cost-to-collect. Examples include AI solutions that perform medical coding and billing, enhance charge capture, conduct insurance verification, prevent and manage denials, prioritize appeals, prioritize clinical documentation integrity and coder chart reviews, and enhance patient access through smart scheduling, AI chatbots to assist patients with billing and payment questions, and automation of various other A/R related workflows and tasks.

RCM practitioners and related parties are presented not only with a growing array of AI tools and opportunities but also novel challenges and risks. Implemented well, an AI solution can be a boon to operations, boosting efficiency, increasing profitability, enhancing patient care and improving regulatory compliance. In contrast, an AI solution implemented poorly can introduce widespread systemic errors, bias and unanticipated risks.

4. Predictive and Prescriptive Algorithms (AI/ML) and RPA

Technological advancements in artificial intelligence (AI) and machine learning (ML) have allowed healthcare organizations to identify needs and solutions faster and with more accuracy, using data patterns to make informed medical or business decisions quickly. The implementation of AI/ML solutions enhances preventative and patient care by leveraging large amounts of data from disparate data sources to learn about a patient population's historical

diagnoses and treatment plans, which leads to better patient outcomes overall. With the amount of manual intervention in patient care directly from the provider side and indirectly from the office-centric business operations, robotic process automation (RPA) allows clearly identified functional processes and documented workflows to be automated, providing increased performance accuracy and speed and minimizing the level of manual labor an organization needs.[13]

Clinical predictive and prescriptive analytics will have an increasing role in the evolution of healthcare delivery from volume (fee-for-service) to value. Successful chronic-care delivery system redesign requires a focus on secondary prevention (early detection and intervention) and tertiary prevention (treating established disease to prevent deterioration), as well as closing gaps in care, managing care transitions (e.g., from hospital to home), treating behavioral health issues, facilitating self-management and, if appropriate, offering palliative care. Diagnostic applications using machine learning are also being developed in radiology, e.g., CT-scan stroke detection.[14,15]

Operational use cases include supply chain management, and facilities, materials and inventory management— more specifically, forecasting demand, evaluating performance, deploying prescriptive forecasts, ensuring forecast accuracy and optimal inventories, and reducing out-of-stocks.[16]

5. Telehealth Is Here to Stay

Among Medicare beneficiaries, telehealth visits increased 63-fold in 2020 from 840,000 visits in 2019 to 52.7 million visits in 2020.[17] Telehealth visits "comprised a third of total visits to behavioral health specialists, compared to 8 percent of visits to primary care providers and 3 percent

[13]AI, automation and RPA in the revenue cycle. HFMA (February 1, 2021)
https://www.ahrq.gov/cahps/about-cahps/patient-experience/index.html#:.

[14]Bill Siwicki. Mass General Brigham and the future of AI in radiology. Healthcare IT News (May 10, 2021).
https://www.healthcareitnews.com/news/mass-general-brigham-and-future-ai-radiology.

[15]Laura Lovett. Stroke care coordination company Viz.ai lands $100M. Mobile Health News (April 7, 2022).
https://www.mobihealthnews.com/news/stroke-care-coordination-company-vizai-lands-100m.

[16]Surveying the AI Healthcare Landscape. AHA Center for Health Innovations (2021).
https://www.aha.org/aha-center-health-innovation-market-scan/2019-10-14-surveying-ai-health-care-landscape.

[17]New HHS Study Shows 63-Fold Increase in Medicare Telehealth Utilization During the Pandemic. Health and Human Services (December 3, 2021).
https://www.hhs.gov/about/news/2021/12/03/new-hhs-study-shows-63-fold-increase-in-medicare-telehealth-utilization-during-pandemic.html.

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of visits to other specialists."[18] A recent survey reported 23.1% of respondents as having utilized telehealth services within the previous four weeks.[19] Telehealth has emerged as a workable alternative to in-person care, particularly for behavioral health.

Moving forward, telehealth should focus on continuing to optimize IT platforms that can improve the care experience, enhance operational efficiency, build out revenue codes to ensure proper billing, and break barriers within voice and video conferencing. Concerns exist about the "telehealth cliff" applied to Medicare beneficiaries if the public health emergency is not extended or a permanent "fix" not generated.[20]

6. Digital Transformation with System Modernization and the Cloud

For healthcare organizations, digital transformation can provide several benefits at an enterprise scale. When done properly, it can help boost patient experience, power innovation, increase flexibility and speed, reduce operating costs and improve data-driven decision-making.

An effective digital transformation requires coordination and will depend on modernization requirements for infrastructures, platforms, applications, and business processes, as well as advancements in cloud and related technologies.

7. Cybersecurity

Since the start of the pandemic, healthcare organizations have been subject to a dramatic increase in ransomware attacks: 148 attacks were reported by the Federal Bureau of Investigation from June to December 2021.[21] In addition, 45 million people were affected by data breaches during all of 2021.[22] Healthcare organizations typically spend about 5% of their IT budgets on cybersecurity, with the rest of the budget devoted to optimizing and modernizing technology platforms (EMR, CRM).[23] The expectation is for cybersecurity spending, focused on enhancing protections and improving incident response capabilities, to rise during the next few years.

8. Operational Efficiencies (Cost Reduction)

High-quality patient outcomes are becoming increasingly difficult to manage, with inflationary cost-creep and diminishing reimbursements. Hospital operations remain under pressure to reduce costs while continuing to provide the highest levels of patient care. Operational fluidity is essential to becoming a world-class organization. Seamless integration between multi-variable resources and technology systems is step one to enabling high-efficiency operations.

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[18]Ibid.

[19]Madjid Karimi, et al. National Survey Trends in Telehealth Use in 2021: Disparities in Utilization and Audio vs. Video Services. ASPE Office of Health Policy. Issue Brief (February 1, 2022). https://aspe.hhs.gov/sites/default/files/documents/4e1853c0b4885112b2994680a58af9ed/telehealth-hps-ib.pdf.

[20]Mike Miliard. As 'telehealth cliff' looms, hundreds of healthcare orgs urge Congress to act. Healthcare IT News (July 27, 2021). https://www.healthcareitnews.com/news/telehealth-cliff-looms-hundreds-healthcare-orgs-urge-congress-act.

[21]FBI: At Least 148 Healthcare Organizations Suffered Ransomware Attacks in 2021. HIPAA Journal (March 24, 2022). https://www.hipaajournal.com/fbi-at-least-148-healthcare-organizations-suffered-ransomware-attacks-in-2021.

[22]Heather Landi. Healthcare Data Breaches Hit All-time High in 2021, Impacting 45M People. Fierce Healthcare (February 1, 2022). https://www.fiercehealthcare.com/health-tech/healthcare-data-breaches-hit-all-time-high-2021-impacting-45m-people.

[23]Healthcare Providers Need to Increase Budgets for Cybersecurity. Tripwire (March 13, 2022). https://www.tripwire.com/state-of-security/healthcare/healthcare-providers-need-to-increase-budgets-for-cybersecurity.

9. Technology-enabled Care at Home

The Acute Hospital Care at Home (AHCaH) initiative, launched by the Centers for Medicare & Medicaid Services in November 2020, allows hospitals to treat selected patients in their homes at an inpatient-level of care.[24] Patients eligible for AHCaH had to be seen in the emergency department or already admitted to a hospital.[25] The initiative is based on extensive experience generated in Europe and elsewhere (for example, at two large academic medical centers fewer complications and lower costs have been reported).[26,27] Nearly 1,900 patients have been treated under the AHCaH initiative at 186 hospitals as of October 27, 2021.[28]

Remote monitoring technologies are currently being used to monitor vital signs (heart rate, respiratory rate, temperature and blood pressure), blood oxygen levels (pulse oximetry), atrial fibrillation, activity (steps taken, distance traveled, calories) and sleep.[29] Emerging technologies target seizure disorders, neuromuscular conditions, COPD and pneumonia, and other conditions.[30] These technologies enable care at-home.

Bottom Line

Chief Information Officers (CIOs) and, where present, Chief Digital Officers (CDOs) are being challenged by myriad strategic issues broadly focused on patient engagement, care management, operational efficiencies and data security. These issues are compounded by an array of technological advances that pose a risk of obsolescence in the not-too-distant future. A strategic vision inclusive of capital requirements needs to be combined with a tactical plan for successful execution.

FTI Consulting's Digital Health practice is focused on addressing complex challenges relating to health information technology and data strategy. With an emphasis on benefits realization, our Digital Health team assists clients from across the healthcare ecosystem with defining and reaching their goals using enabling technologies.

[24]CMS announces Acute Hospital Care At Home program. American Hospital Association (November 25, 2020).
https://www.aha.org/news/headline/2020-11-25-cms-announces-acute-hospital-care-home-program.

[25]Douglas V. Clarke et al. Acute Hospital Care at Home: The CMS Waiver Experience. NEJM Catalyst (December 7, 2021)
https://catalyst.nejm.org/doi/full/10.1056/CAT.21.0338#:~:text=Requirements%20for%20Hospital%20Waiver%20Approval&text=Immediate%2C%20on%2Ddemand%20remote%20audio,within%2030%20minutes%2C%20if%20needed.

[26]Sarah Klein. "'Hospital at Home' Programs Improve Outcomes, Lower Costs but Face Resistance from Providers and Payers." The Commonwealth Fund (last visited March 10, 2022).
https://www.commonwealthfund.org/publications/newsletter-article/hospital-home-programs-improve-outcomes-lower-costs-face-resistance.

[27]Edmond C.Y.U., Glyn A. Pryor, and Martyn J. Parker. Hospital at Home – A Review of Our Experience. SICOT J. 2017; 3: 60.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5646172/.

[28]Douglas V. Clarke, MD, et al. "Acute Hospital Care at Home: The CMS Waiver Experience." NEJM Catalyst (December 7, 2021).
https://catalyst.nejm.org/doi/full/10.1056/CAT.21.0338.

[29]Digital Health Trends 2021: Innovation, Evidence, Regulation and Adoption. IQVIA Institute for Human Data Science (July 22, 2021).
https://www.iqvia.com/insights/the-iqvia-institute/reports/digital-health-trends-2021.

[30]Ibid.

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