Leading the Digital Health Transformation: Defining Five Key Domains in the Provider Digital Health Landscape

Interest in digital health has grown to unprecedented proportions.

Forty-six percent of consumers surveyed in 2016 were active adopters of multiple types of digital health tools (including wearables and telemedicine), up from 19% in 2015.1 Similarly, 48% of large employers offered telehealth services to their employees in 2015. By 2018, that figure will double to 96% of large employers planning to offer telehealth services.2 Digital health technology investments worldwide exceeded $11B in 2017, signaling the ongoing interest and emerging opportunities for patients, care providers, and others in the healthcare ecosystem.3

The universe of digital health is vast — and the terms and definitions in this space are constantly evolving. Yet, for healthcare providers, the following five interconnected domains of digital health offer the lion’s share of opportunities for enabling and transforming enterprise strategy. Developing a shared understanding of these dimensions, along with their interaction and interdependencies, can be a useful endeavor for organizations seeking to navigate this complex landscape.
FIVE KEY DOMAINS  
IN THE PROVIDER DIGITAL HEALTH LANDSCAPE

VIRTUAL CARE
Care delivery at a distance, enabled by communication technologies

FOR EXAMPLE
- E-visits
- Video consults
- Telediagnostics
- Telemonitoring

PATIENT SELF-SERVICE
Technology-enabled service model enhancements that empower patients to manage their health and treatment

FOR EXAMPLE
- Patient-directed referrals
- Direct scheduling
- Self-triage
- Online communities

CONNECTED SOLUTIONS
Smart devices connected to communication hubs driving decision support, monitoring and interventions

FOR EXAMPLE
- Care environment sensors
- Real-time location systems
- Wearables
- Smart diagnostics

PERSONALIZED CARE
Augmented patient profiles supporting the design and delivery of more tailored, effective treatments and customized experiences

FOR EXAMPLE
- Patient-reported outcomes
- Customer preferences
- Customer relationship management
- Genomic data

OPERATIONAL AUTOMATION
Re-engineering operations using data, analytics and artificial intelligence to drive quality and efficiency

FOR EXAMPLE
- Clinical capacity management
- Revenue cycle automation
- Enhanced workforce planning
- Supply chain optimization

INCREASING VALUE OF DATA AGGREGATION AND ADVANCED ANALYTICS

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VIRTUAL CARE
Digitizing Access to Care

The growing capability to digitize clinical interactions traditionally constrained to a face-to-face physical presence has grabbed the attention of healthcare leaders and patients. Virtual care is now often used interchangeably with the term digital health. As a result, organizations are scrambling to establish a virtual presence to serve their traditional populations and also access new populations. Not only have video visits, eVisits eConsults, and other virtual care modalities improved provider access and patient convenience, they have also demonstrated success at improving outcomes and reducing unnecessary patient utilization of higher cost settings. Furthermore, the maturation of connected solutions described below promises to accelerate what is possible virtually. With the prospect of streamlining access to clinicians while eliminating physical costs and geographic limitations, virtual care represents an alluring first step in an organization’s digital transformation. To that end, 71% of health systems have adopted some form of virtual care as an alternative to an in-person interaction with a provider.

Yet, even among early adopters, the clinical interactions that are channeled to digital platforms are a tiny fraction of “virtualizable” clinical care. Many health systems’ virtual care capabilities remain nascent—with a limited set of offerings often disassociated from the in-person care delivery model—and without clarity of how to strategically integrate or scale these new options. For example, organizations may roll out video visits and promote uptake, without a clear perspective on the conditions and circumstances under which providers should more proactively channel care virtually. Oftentimes, the potential to improve clinician experience through virtual care modalities (e.g., by reducing travel time or streamlining consults) is similarly not realized. There remains a tremendous opportunity for expanding the scope and impact of virtual care across specialties and settings.
PATIENT SELF-SERVICE
Empowering Patients to Do More

Healthcare has always been a “high-touch” business, typically drawing on personal interactions with a wide range of skilled individuals for even the most foundational tasks. Confirming provider instructions, securing prescription refills, accessing basic clinical information, or even knowing what to expect next in one’s treatment have historically been the domain of ad hoc, two-way personal interaction. While some argue this “high-touch” is synonymous with a “high-service” model, numerous other industries (e.g., banking, travel, entertainment) have dramatically shifted to self-service tools over the past two decades, enabling their consumers to do more, while remaining available to personally assist as needed.

In healthcare, patient portals, mobile apps and health information content suppliers are enabling patients to better engage in and manage their health themselves. Many of these resources are designed to help patients with the administrative aspects of their care, such as provider lookup, appointment scheduling and medical record access. Additionally, there is an emerging universe of services, powered by artificial intelligence and connected solutions, that also enable patients to play a larger role in diagnosis and treatment, including everything from simple primary care symptom checkers to diabetes, asthma, depression, cancer and other chronic condition self-management programs. Many providers are adopting or already using tools to support this type of activity, and yet many organizations have only scratched the surface for how these capabilities can be harnessed to to meaningfully transform how they engage and empower patients. When thoughtfully implemented, patient self-service solutions foster shared responsibility for communication and intake, expand access to information beyond the care team, provide welcomed improvements to patient and provider experience, and drive customer satisfaction and loyalty.

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Healthcare is a capital-intensive business that has long been dependent on its brick and mortar care settings to house the “tools” of diagnosis and treatment that are so essential to delivering exceptional care. As a result, patients are often flying blind between visits to a provider’s care setting, keeping an eye out for observable symptoms that indicate trouble, while hoping their personal situation remains on the typical track. This approach risks patients overusing care due to misinterpreted symptoms or missing signs that could be indicative of an important health issue.

Connected solutions, often referred to as the Internet of Things or IoT, offer a unique capability for health systems to begin to extend the clinical diagnostic tools outside traditional brick and mortar sites. This presents the opportunity to dramatically enhance patient access to care using “smart” versions of consumer-grade medical devices commonly found in the home (e.g., connected otoscope, stethoscope), or to more proactively monitor the health of patients with complex conditions using specialized connected medical devices (e.g., Holter monitors, smart pillboxes, insulin pumps) provided by healthcare professionals. These real-time diagnostic tools are immensely valuable for identifying interventional “trigger points”. Beyond responsive care, connected devices can also enable patients (especially those with diabetes, heart disease and other chronic diseases) to automatically and objectively log their health data, which can be shared to enhance decision-making at the point of care. Current iterations of connected devices commonly act as passive sensors, collecting new sets of data that inform greater insight into the patient’s health status. Greater value is likely to be realized, however, in next generation digital health tools that connect diagnostic and therapeutic technologies with patient data and predictive analytics to actively monitor and manage a patient’s health.
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PERSONALIZED CARE
Delivering Tailored Care Experiences based on Individual Needs and Preferences

Henry Ford is famous for his line: “a customer can have a car painted any color, so long as it is black,” in response to his salesforce’s insistence that customers desired more choice. In healthcare, there is often a very similar mindset where the individual’s preferences are overshadowed by an almost singular focus on the disease being treated. Increasingly, digital capabilities have the potential to truly personalize the patient care experience, in the context of both the clinical care they receive (e.g., precision medicine/genomics) and their individual preferences. Opportunities to personalize care present not only during the treatment episode, but also in the longitudinal relationship management outside the hospital and clinic.

Leading institutions are transforming cancer care, pain management and neurodegenerative care by investing in genomic sequencing programs, tools for capturing patient generated data and bioinformatics expertise. By analyzing large volumes of genetic, behavioral, environmental and demographic data, providers can more fully understand the context of disease and develop tailored therapies and care processes to achieve better outcomes. Additionally, providers are increasingly leveraging patient relationship management systems to track patient interactions and preferences, allowing them to customize their communications and enhance patient loyalty. Although the technology for capturing and applying individual patient data is still maturing, providers who can personalize care through digital technology will better attract and retain healthcare consumers, translating patient-centric care into a strategic advantage.
Despite significant advances in clinical technology, many of the core processes for care delivery remain largely manual, from clinical documentation and room blocking to staffing and revenue cycle management. The recent wave of EHR implementation has helped digitize clinical information; however, in many cases providers and care teams have been burdened with additional operational complexities and have not yet realized material efficiencies from real time analytics and automated processes.

Emerging analytics and management tools, often leveraging large volumes of data, advanced statistics and machine learning algorithms, are capitalizing on data-rich care environments to improve targeting of at-risk patients, implement complex care pathways, optimize staffing and capacity, and reduce administrative burden for providers and staff across clinical and back office settings. By leveraging digital tools to improve the consistency and efficiency of routine processes, clinicians and administrative staff can better focus their time on executing complex tasks that deliver value to their organizations and to patients.

With these five key domains in mind, leadership teams can take a first step to charting the broad expanse of digital health-related investments and activities that are emerging throughout their organizations. Unlocking the numerous opportunities embedded within digital health—and cutting through the noise and near-constant influx of new tools and technologies—will require moving beyond the definitional view of the broad landscape to understand what will make sense for your organization. After building a shared understanding of the domains of digital health, a logical next step is to address how digital health can advance your organization’s overall vision, strategy and care delivery model.
Sources


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About The Chartis Group

The Chartis Group (Chartis) provides comprehensive advisory services and analytics to the healthcare industry. With an unparalleled depth of expertise in strategic planning, performance excellence, informatics and technology, and health analytics, Chartis helps leading academic medical centers, integrated delivery networks, children’s hospitals and healthcare service organizations achieve transformative results. Chartis has offices in Atlanta, Boston, Chicago, New York, Minneapolis and San Francisco. For more information, visit www.chartis.com.