Advancing Your Digital Health Strategy

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The complete case studies showcasing lessons learned from these national leaders in digital health solutions are available [here](#).

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Table of Contents

Introduction

Healthcare boards must be involved in the digital transformation of their organizations. The quality, safety, and efficiency of care is increasingly being determined by how well an organization's technology works. Much of the chronic disease care that currently involves hospitalizations and visits to doctors' offices or ERs is being conducted increasingly through virtual care at home.[1] Digital interaction is becoming the norm as consumers engage in online searches to obtain health information before engaging with healthcare organizations.[2] Furthermore, COVID-19 has proven the critical need for virtual care (and reimbursement for this type of care) on a mass scale. Essentially, digital health will be a key aspect of any organization's outpatient growth strategy.

Hospitals and health systems are facing competitive digital health threats from three domains:
1. Healthcare delivery (both legacy and new providers)
2. Healthcare financing (payers)
3. Consumer health (via major technology companies, including Amazon, Apple, Google, and Microsoft)

In NRC Health's *Consumer Trends Reports* from 2019 and 2020, 80 percent of patients reported that they would switch providers for "convenience factors" alone. The 2019 study found that 51 percent of patients say that convenient, easy access to care is the most important factor in their decision making. Convenience matters more than brand reputation (40 percent), more than quality of care (35 percent), more than the interpersonal conduct of doctors and nurses (44 percent), and more than insurance coverage (46 percent). The 2020 report indicated that 62 percent of consumers are open to digital channels of care delivery if it means more expedient access to care.[3] Further, virtual care can lower costs and increase value. One pre-COVID study showed that health systems, under value-based care arrangements, demonstrated 17 percent savings when they provided virtual care with their existing healthcare professionals instead of using an outsourced provider.[4]

As the healthcare industry increasingly feels the effects of digital industrialization, hospitals and health systems must consider their current position and how to respond or accelerate. They must proactively define and advance the organization toward a viable position in the future. A robust combination of strategic planning and strategic visioning is needed to survive and ultimately thrive in the digital healthcare landscape.[5]

This toolbook combines thought leadership and front-line experience from five provider organizations that are leaders in the digital health arena to provide an actionable framework for boards and senior leaders to assess their digital health strategy and capabilities in order to further the journey towards seamless integration of digital health solutions with care delivery.

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1   Robert M. Wachter, M.D., "How Information Technology Will Change Everything in Healthcare" (special section), *BoardRoom Press,* The Governance Institute, April 2015.
2   Thomas Kiesau and Brian Silverstein, M.D., "Health System Planning in a Disrupted Future" (special section), *BoardRoom Press,* The Governance Institute, April 2019.
3   NRC Health Market Insights, *Healthcare Consumer Trends Report,* 2019 and 2020.
4   McKinsey Healthcare Value Digital Opportunity Assessment, 2019.
5   Kiesau and Silverstein, 2019.

What Is Digital Health?

While telehealth or "virtual care" tends to dominate much of the digital discussion, it represents only one of five key care delivery capabilities that must be considered collectively when developing impactful digital solutions:

- **Virtual care** (communications-enabled care delivery at a distance, like e-visits, video consultations, and telehealth)
- **Patient self-service** (technology that empowers patients to manage their own health and treatment, such as direct scheduling, virtual triage, and patient-directed referrals)
- **Connected solutions** (smart devices that drive decision support, remote patient monitoring, and interventions, including wearables, smart diagnostics, and care environment sensors)
- **Personalized care** (tailored, effective treatments and customized experiences, like genomic data and patient interaction preferences)
- **Automation, artificial intelligence, predictive analytics, and machine learning** (technology that automates entire processes and/or business functions)[6]

Exhibit 1: Virtual Health Applications

Category	Subcategory	Definition
Telehealth	Synchronous (telemedicine)	Live, two-way audiovisual interaction between patients and providers (eg, video conference visits)
		Live, two-way interaction between providers and providers (eg, video conference review of pharmacy prescriptions)
	Asynchronous (store and forward)	Provider-to-provider transmission of recorded health history (eg, sending a lab test, X-ray, MRI, to a specialist to request a clinical opinion)
		Provider-to-patient transmission of patient information (eg, a provider emailing/texting a patient to check on them in post-visit follow-up, a patient sharing photos of a skin rash for review and diagnosis)
	Remote patient monitoring	Collection of electronic personal health/medical data which is transmitted for review by a remote provider
Digital therapeutics	Replacement therapies	Evidenced-based therapeutic interventions which leverage software to prevent, manage, or treat a medical condition, in lieu of conventional treatments (eg, pharmaceuticals)
	Treatment optimization	Optimizes medication, extending the value of pharmaceutical treatments (eg, improving medication adherence, monitoring side effects of medication)
Care navigation	Patient self-directed care	Patients accessing their own information (eg, website with secure, 24-hour access to personal health information)
	E-triage	Tools that provide support in searching for and scheduling appropriate care based on symptoms/conditions as well as price and quality of providers

Source: J. Fowkes, C. Fross, G. Gilbert, and A. Harris, "Virtual health: A look at the next frontier of care delivery," McKinsey & Company, June 11, 2020.

6   NRC Health, 2019 and 2020.

Removing Barriers to Expansion of Virtual Care

All of the leaders we interviewed for this toolbook and accompanying case studies agreed that the key constituents for digital health, which historically served as barriers to widespread adoption, are:

- **Patients,** who in the past weren't comfortable with virtual health.
- **Providers,** who were concerned about what clues they might miss without seeing the patient in person and too busy to receive the necessary training.
- **Payers,** who were unwilling to reimburse this type of care in the past, in part due to lack of profitability.
- **Technology** was a barrier when building out telehealth carts and upgrading broadband for clinic-to-clinic care in the 1990s required significant up-front costs.

These constituents were not previously aligned to enable widespread adoption of virtual care. Almost overnight, due to COVID-19, all of these barriers dissolved. Technology for virtual care no longer requires significant financial investment and the other three came into alignment: providers had time on their hands and were eager to see patients, when they could no longer conduct in-person visits; patients who needed to be seen but couldn't go to the clinic and became interested in accessing the technology; and payers willing to reimburse at fair rates for care provision (along with government regulations relaxing to allow it to happen on a much wider scale).

Telehealth delivery platforms historically were limited to *provider-to-provider models,* enabling primary care and rural practices access to specialists that were located far away or due to physician shortages, using specialized secure computer access points that could only be used inside clinics and connected directly with or part of the EHR. Now telehealth has expanded to *provider-to-consumer models,* which include virtual care (phone, video, etc.) and remote patient monitoring. For the purposes of this toolbook, we are relying on the term virtual care to encompass all forms of telehealth.

Operationalizing Rapid Virtual Care Expansion

The organizations we profiled were able to pivot quickly (within a month) to expand virtual care due to COVID-19, using existing virtual care platforms or easy-to-acquire software applications such as Cisco WebEx and Zoom. This allowed providers to give patients needed care in a safe environment, and also to help recover lost volume from the ban on elective procedures (all of them experienced at least a 50 percent reduction in volume during the pandemic; virtual care visits recovered 20–30 percent or more of that lost volume).

For example, UC Davis Health expanded virtual care to 100 percent of patients in psychiatry and 30–40 percent in other specialties. In order to do so, a permanent, 10-person EHR training team that normally helps physicians with the EHR (as it is constantly being updated) was converted to provide training to physicians for virtual visits. Training took about one hour per physician on average, but was conducted in groups whenever possible, supported by written materials. "Training was not a significant barrier to telemedicine for us," said Dr. Peter Yellowlees, Chief Wellness Officer. "The barrier we encountered was attitude-related—some people didn't want to invest the time or were reluctant to change what they were already doing."

> "Every health system must now have a video-visit strategy as part of their longer-term approach to providing care. COVID has led us past a tipping point."
>
> *—Peter Yellowlees, M.D., Chief Wellness Officer, UC Davis Health*

Most healthcare leaders now believe patients and providers alike will not be willing to go back to pre-COVID restrictions on virtual care and are cautiously optimistic that payers will continue to work with them to reimburse virtual care at appropriate levels. Dr. Yellowlees believes that long-term virtual expansion will bring the most change to primary care, enabling triage assessments to be done at home. Other areas that have natural translation to virtual in the long term include mental health, dermatology, ophthalmology, cardiology, and pathology.

Some "traditional" clinic-to-clinic telehealth will need to continue post-COVID. For example, many Native American reservations don't have broadband, so patients must come to the clinic. In rural areas, this type of telehealth is helpful when needed specialists are located far away.

The long-term view is that patients will be seen in a hybrid manner, and will still need to see doctors in person as well as via video. Maintaining interpersonal connections will be important. Providers will determine the decision criteria for when patients will have virtual versus when they need to have in-person visits. HIPAA compliance is necessary, and cybersecurity will become a larger concern as virtual care is more widespread. But ultimately, virtual care will be a seamless piece of the overall care delivery experience.

Key Issues for Consideration

1. Begin with the Patient/Consumer and Provider Perspective

"Digital is not a strategy; it's an enabler of the strategy," said Eduardo Conrado, Executive Vice President and Chief Strategy Innovations Officer at Ascension Health System. As the board participates in the strategic planning and future vision, its job is to find the right places and ways for digital solutions to enable that strategy, not hinder or distract from it. Consumer-centric problem solving is at the core—is technology a solution for the problem or not? That answer will enable the design of an optimal experience.

Jefferson Health's leaders and board also began with questions around how to improve the consumer's experience—how they access and navigate care at Jefferson, and the barriers or bumps in the road that hinder their experience. So, rather than starting with digital solutions (e.g., digital for the sake of digital) and trying to fit the problems to those solutions, they identified the problems from the ground up, and then sought vendor partners who would build solutions together.

Boards must evaluate how investments in digital health technology support the organization's long-term growth goals through:

- Improved consumer access
- Enhancing consumer experience
- Making care more affordable
- Extending geographic reach and new sectors[7]

> "The state of care must advance in step with health system innovations. Consumer intelligence and technological strides will only bring value to organizations if they improve how patients are served."
> —2019 Consumer Trends Report, *NRC Health*

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7   Dan Clarin, CFA and Paul Crnkovich, "Going Digital with the Connected Consumer: Five Considerations for Governance Teams" (special section), *BoardRoom Press,* The Governance Institute, June 2017.

Basic digital offerings include:
- Online scheduling and secure messaging with providers
- Telehealth/virtual care platform to include primary care, specialty consults, and post-operative/follow-up visits
- Preventive/screening appointment reminders via the telehealth/virtual visit app
- Price transparency tool

Organizations further along their digital journey are also offering:
- Home health tools and apps for chronic disease management
- Doctor-matching services
- Virtual inpatient rounds
- Digitally powered transportation services
- Computer simulations for medical students and physician training
- AI/machine learning-powered data analytics and reporting mechanisms to support digital health platforms and strategic decision making[8]

The following are examples of providers partnering to create new access, such as in rural markets, to benefit local patients and local hospitals by extending services:
- A regional health system is providing virtual specialist visits and tele-ICU coverage in partnership with local rural health systems.
- A regional health system is partnering with a third-party virtual primary care provider to extend primary care capacity and create linkages to its specialty practices.
- An academic medical center (AMC) is providing virtual specialty care that consumers access directly from different geographies, with some consumers choosing to travel for care.
- A regional health system is partnering with an AMC to access virtual sub-specialty care.[9]

Key Questions for the Board and Senior Leaders[10]
1. What is the organization currently doing to better understand consumer needs and how they want to access services related to those needs, whether in-person or virtually?
2. Does the organization offer online medical appointment scheduling and secure online messaging? If so, what proportion of patients use these tools and how effective are they? If not, why not, and is there a plan to offer these services?
3. What consumer research techniques does the organization use to learn about aspects of the patient experience that could be improved through digital tools?
4. Has the organization evaluated and prioritized consumer pain points in order to inform high-impact investment in digital solutions?
5. What price information is made available to consumers via the Web or a mobile app, in advance of and following their in-person or virtual visits? How does that price compare competitively?
6. How is the organization using mobile and digital tools to reduce the cost of delivering care?
7. How well is the implementation of mobile health technology supporting patient care and the workforce?
8. How is the organization protecting patient care data on mobile devices?

8   Stephen K. Klasko, M.D., M.B.A., *Is There an Avatar in the House? Changing the DNA of Healthcare in the Age of Artificial Intelligence* (conference presentation), System Forum, The Governance Institute, March 2019.
9   McKinsey 2019 surveys of 60 chief executive officers of mid- to large-sized healthcare companies.
10 Dan Clarin, CFA and Paul Crnkovich, 2017.

2. Integrate Apps with Databases and Analytics Capabilities

Virtual care platforms should ultimately connect to the organization's EHR and other databases to enable comprehensive data analyses, which, in turn, help to make smarter patient care decisions and also continuously improve patients' virtual experience. For example, COVID dramatically increased Ascension's need for ensuring providers have robust data engineering to create enterprise-wide platforms and to allow data scientists the ability to create actionable datasets within those platforms.

Dr. Judd Hollander, Senior Vice President for Healthcare Delivery Innovation at Jefferson Health, advocates that vendor contracts should include a requirement that the vendor will integrate its platform with the organization's EHR within six months and, if this goal is not reached, the licensing fee should be cut in half. "Money drives all business decisions. Vendors should be contractually held to it. The time it takes to switch vendors is complicated and time consuming," said Dr. Hollander.

3. Consider How, Where, Why, and When to Implement Artificial Intelligence

Artificial intelligence/machine learning (AI) is relatively new in its application to healthcare. Some predict that within a decade, most virtual healthcare interactions will involve AI applications. The immediate concern for legacy health system leadership is to keep up to date on AI developments in private industry being applied to healthcare, determine how and when those companies' activities will disrupt care delivery, and begin now to build infrastructure to incorporate AI into the organization's digital capabilities in order to remain competitive.[11]

AI can enhance patient interfaces (digital health apps) as well as data analytics capabilities. One example of using AI for patient interfaces is automated nurse triage. "When COVID hit, our nurse line was getting hundreds more calls than normal, so we put in a digital nurse triage service to help point our patients in the right direction without having to interact with a human first," said Melissa Breen, Chief of Staff at Marshfield Clinic Health System. Similarly, Ascension is deploying bots to guide people to the right care setting. "I think that is where we will see a lot of the [AI] traction initially on the consumer front," said Conrado.

On the data analytics side, Geisinger has used its AI capabilities to analyze gaps in care for heart failure patients. It is also using deep learning models to analyze data from electro- and echocardiograms to build neural networks to predict future cardiac events. It has a deep learning model that reads all head CT scans and automatically re-prioritizes the radiology worklist within seconds, moving potential acute cases up on a radiologist's list.[12]

This analytic capability allows clinical leaders to focus on the highest-impact gaps in care that can be closed right away, prioritizing outreach, rather than trying to solve every problem at the same time, according to Matt Walsh, Executive Vice President & COO at Geisinger. This also helps with resource allocation, ensuring that resources

11 Jonathan Lewin and Jeffrey Balser, "Commentary: Healthcare Leaders Must Embrace, Advance AI," *Modern Healthcare,* April 27, 2019.
12 Isha Salian, "How an Early Bet on Digital Enables a Healthcare Network's Suite of AI Applications," NVIDIA blog, March 19, 2019. Available at https://bit.ly/3hdmQ3W.

go where they are needed most and can make the biggest impact on outcomes and patient success.

Beyond maintaining expanded virtual care, Marshfield's digital health strategic focus post-COVID will be on AI. "We like to say 'augmented intelligence,'" Breen explained. "It really needs to be part of who we are and what we do." Marshfield's Chief Transformation Officer and Chief Information Officer are spearheading this initiative.

> "The past is application architecture; the future is enterprise architecture."
> —*Eduardo Conrado, Executive Vice President and Chief Strategy Innovations Officer, Ascension Health System*

4. Work towards a Single, Integrated Platform

Avoid creating multiple, one-off apps or solutions that do one or two things, but rather work towards developing a single app that can serve as a patient access point for most or all of the digital care offerings, and integrates with the organization's EHR and other databases. This is the ideal aim…most organizations are not there yet but this is now the end goal.

For Ascension, one of the largest multi-state systems in the U.S., fragmentation hampered their process when working to rapidly expand virtual care due to COVID-19. "We really felt the fragmentation during this time if we were using anything that couldn't be used enterprise-wide," said Conrado. This will be an area of focus for Ascension's digital teams going forward.

Today, Ascension is shifting its point of view away from building apps towards building digital architecture across the enterprise. "We want to be able to use our app[s] across the system, end to end," said Conrado. For enterprise architecture, Conrado's team considers the clinical or consumer journey—data needs to flow along the journey and the apps need to talk to each other.

Steps to Take

Senior leaders and the board need to:
- Start with a list of considerations around digital health strategy connected to patient needs
- Connect these considerations to the board's strategy and future vision
- Take into consideration budget and compliance (including payer contracts) and security/privacy concerns
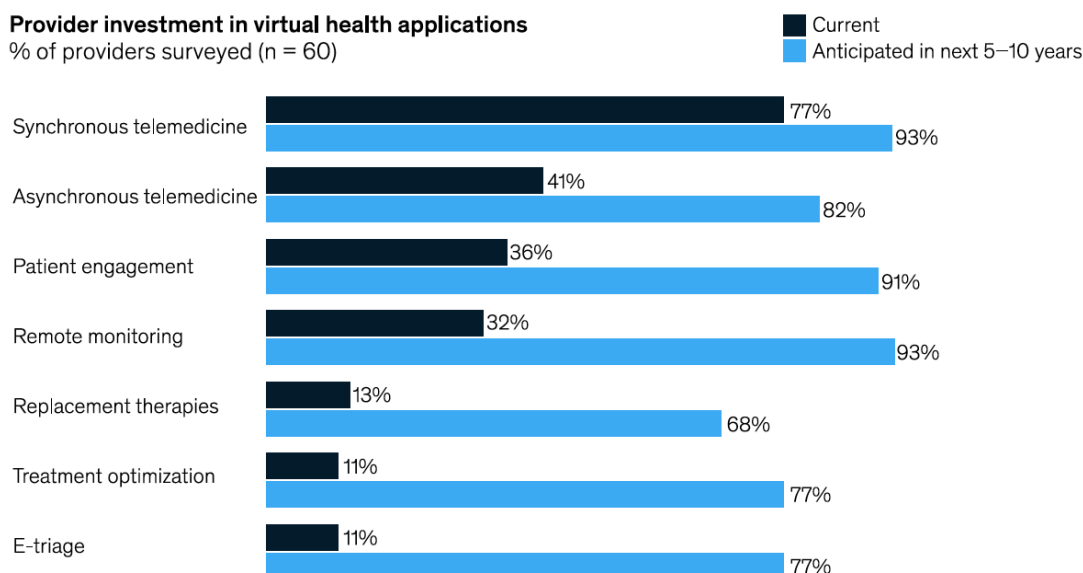
Questions to answer include what goals will be accomplished via digital solutions, how to accomplish those goals, and then once there, how to sustain the vision. Once the board and senior leaders decide how, why, and which digital solutions will better enable the organization's strategy and improve access, outcomes, value, and experience for patients, the following are steps the board should oversee management in implementing.

1. Determine whether to Build or Partner

Today, health systems do not need to invest nearly as much to build out virtual care infrastructure because the technology is more readily available at a much lower cost, depending on the scope of services and how many access points are needed. For physician-to-patient virtual care, providers can get up and running very inexpensively. Most organizations will be better off partnering with the right vendors to enable their digital strategy, rather than trying to build digital solutions internally.

Exhibit 2: Provider Adoption

Provider adoption: Pre-COVID-19, most also reported that they would be making substantial future investments.

Provider investment in virtual health applications
% of providers surveyed (n = 60)

Legend: ■ Current ■ Anticipated in next 5–10 years

Category	Current	Anticipated in next 5–10 years
Synchronous telemedicine	77%	93%
Asynchronous telemedicine	41%	82%
Patient engagement	36%	91%
Remote monitoring	32%	93%
Replacement therapies	13%	68%
Treatment optimization	11%	77%
E-triage	11%	77%

Source: 2020 McKinsey Virtual Health Provider Survey, n = 60 health system executives, published in J. Fowkes, C. Fross, G. Gilbert, and A. Harris, "Virtual health: A look at the next frontier of care delivery," McKinsey & Company, June 11, 2020.

Early on, Jefferson Health leaders determined that they didn't have the option to build digital health platforms from the ground up because they lacked the experience. Another downside to creating the technology in-house is that it becomes dated over time. "You effectively are funding an internal company that will need to devote time [to constantly updating the technology], which is difficult," said Dr. Hollander. "Companies you are contracting with need to hit the points important to you."

But, "when you're buying, you need to know first what you want to accomplish," cautioned Dr. Hollander. "[The digital health technology vendors] are really good at selling you stuff you might not need."

Dr. Hollander advises against shopping on vendors' terms, demonstrating their platforms on their own networks. Rather, he said, "Make them come into your hospital and get behind your firewall, on your devices and browsers, to show you how well their technology works with your devices on your network. Get as deep into the weeds with the vendors as you can, but make sure you are the one specifying what you want to see."

Dr. Hollander has seen vendor demonstrations in which the vendor is driving, showing screenshots and pictures from their own devices. In his experience, often after those types of demonstrations, when you begin to use the product, many of the features don't end up working the way they were expected to, or at all.

Jefferson's vendor partners were selected because they match up with the strategic goals the organization wants to accomplish. During the selection process, Dr. Hollander's team goes through each of their goals with the vendors to assess what they will agree to in the contract, and then they choose the best product for the dollar based on those internal goals, purpose, and intent.

Specific things to look out for:
- Many vendors charge a per-use fee over and above the base, up-front fee. In these kinds of arrangements, more utilization could mean more cost, so providers may need to adjust their vendor contracts going forward to enable long-term expanded virtual care without adding to the cost structure.
- Does the app utilize open API architecture (e.g., a software interface that exposes back-end data and application functionality for use in new applications)?
- Is the vendor interested in building a business focused on long-term relationships with customers, rather than making a quick exit or IPO?

Dr. Hollander recommends prioritizing companies in the customer retention phase of their business rather than customer acquisition phase (generally avoiding start-ups unless there is a symbiotic development deal). Vendor selection should center around long-term customer retention, rather than the minimal viable product (MVP). "The fruitful relationships are where they are doing real development. They will listen to what we want to develop, or we know they are trying to be the long-term player in the market and develop the best possible product," said Dr. Hollander. "If I want to change the splash page to Jefferson colors, charge me for that because I'm customizing. But if you need to build a workflow to bill Medicare, you shouldn't

charge me for that because every customer would be using that. Stable, long-haul vendors will approach things this way."

Ascension has created the capacity to build many of its solutions in-house, using a "Digital Studios Team" which essentially is a software start-up company within the health system. This team is tasked with speed to action and is under a separate budget from the rest of IT so it doesn't have to compete for funding. It focuses on creating new applications for patients/consumers as well as new clinical technology. Staff includes ethnographic researchers, designers, product/journey managers, and front-end development staff dedicated to mobile and Web-based app development. They run biweekly sprints on product development.

2. Dedicate Team and Leadership for Digital Strategy Implementation

Management and the board need to ensure that the technology team in place will be able to implement the digital health strategy, through a combination of the necessary skillsets and an effective leadership structure.

Several of the leaders we spoke with recommended having one senior-level executive who reports directly to the CEO to oversee all technology and data efforts (having a separate Chief Digital Officer and CIO can create friction). "Then it becomes a three-legged stool of management—operations, clinical, and technology—who all talk to each other about how best to work together and maintain the same view of the future," said Conrado.

All organizations have dedicated staff to develop and support digital health solutions. They have different skillsets than the IT staff, including software and database development (coding and design), computational and mathematics backgrounds, and digital analytics. Patients often need technical support for virtual care, so if the vendors do not provide it, internal digital health or IT staff should be made available for this purpose.

Having a visionary CEO who keeps sight of the future helps too. Marshfield's CEO, Dr. Susan Turney, has placed a particular focus on innovation, seeing it as her personal responsibility to invest time in researching new technologies and vendors and learning from other health systems, to discover all of the possible options and then bring recommendations to the board. "She has always kept a firm vision on what the future will hold and brings back the possibilities for tomorrow," said Melissa Breen, Chief of Staff. "The board follows her with that vision as well."
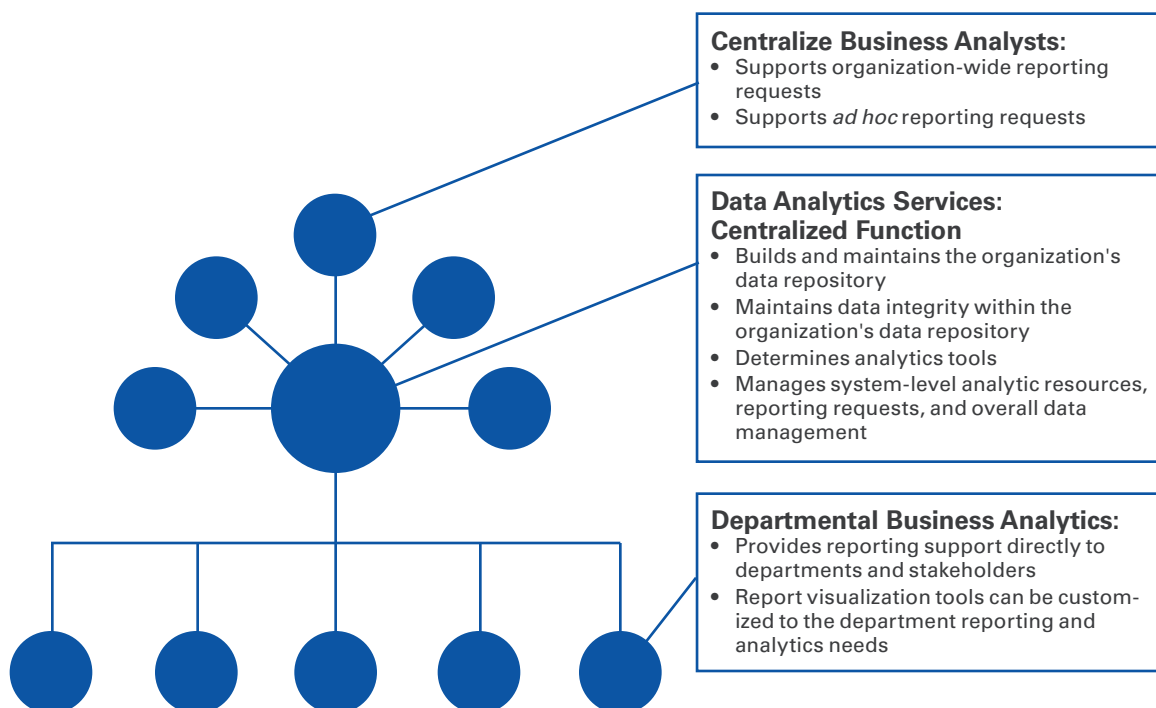
3. Transform Data into a Strategic Asset[13]

The piece of the puzzle that closes the digital loop is advanced data analytics. Avoid the common mistake of aggregating as much data as possible into a large data warehouse without creating the ability to extract meaningful information from it. This requires building organized data structures allowing for the creation of richer reports that lead to actionable information.

This includes:
- Creation of a centralized data analytics services department for data governance and data ingestion, which will create a data management structure for the organization.
- Development of an organization-wide data warehouse to support the information needs of the operational departments and the entire organization. (Individual departments will create their own reports based on their individual needs or information requirements.)

The key is that all department-generated information draws from a single "source of truth," which is managed, controlled, and maintained within data analytic services. (See **Exhibit 3** for a detailed look at a model analytics department.)

Exhibit 3: Model Analytics Department

Centralize Business Analysts:
- Supports organization-wide reporting requests
- Supports *ad hoc* reporting requests

Data Analytics Services: Centralized Function
- Builds and maintains the organization's data repository
- Maintains data integrity within the organization's data repository
- Determines analytics tools
- Manages system-level analytic resources, reporting requests, and overall data management

Departmental Business Analytics:
- Provides reporting support directly to departments and stakeholders
- Report visualization tools can be customized to the department reporting and analytics needs

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13 Daniel J. Marino, M.B.A., M.H.A., "Digital Health and Data as a Strategic Asset for High-Performing Organizations," *BoardRoom Press,* The Governance Institute, August 2017.

Data should be organized into two categories: retrospective and transactional. Transactional data—and the organization's ability to harness and incorporate it into real-time (or close to real-time) information or technology—allows organizations to more quickly drive performance.

One example of this is an organization's ability to receive "real- time" information on a patient's condition and incorporate it into their care management program. Providers with value-based contracts are focusing on identifying the most vulnerable, high-risk patients and identifying transactional data that will allow care managers to know more quickly if they present to the emergency department. The quicker care mangers receive this information, the quicker they can intervene in the care.

As transaction data and actionable information are identified, this data must be incorporated into technologies and electronic solutions so that staff can capitalize on the information. Rapid and evidence-based feedback will not only help identify the best drugs and procedures, but also help healthcare systems sort out the best ways to staff their institutions, educational institutions the best ways to teach future doctors and nurses, and patients and families the best ways to keep themselves safe and healthy.[14]

The data analytic services team should create an information management framework that incorporates a "problem-backed" approach to improving performance:

1. Understand the problem to solve
2. Determine what information is required to quickly influence performance and what data is required to produce actionable information
3. Determine the appropriate technology to enable results

> "This is now the cost of doing business going forward—not just choosing what business to add but to do this in order to stay in business."
> —*Matt Walsh, Executive Vice President & COO, Geisinger Health System*

4. Measure Digital Health Investments against the Value Equation

Building a value-based framework for digital health and big data initiatives allows healthcare organizations to optimally invest resources and dollars towards programs that generate outcomes and value in alignment with strategic goals. Best practices include:

- Begin with the end in mind and develop a clear understanding of goals to accomplish.
- Ensure that the data governance framework put in place includes measurement of value.
- Build a value-based information blueprint that vendor partners must deliver against.
- Think big, start small, and go fast—continually build for scalability and sustainability.[15]

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14 Wachter, 2015.
15 Shaillee Chopra, PMP and Daniel J. Marino, M.B.A., M.H.A., "Generating Value from Big Data and Digital Health Investments," *BoardRoom Press,* The Governance Institute, December 2016.

5. Address Privacy and Security

As the organization expands its digital health capabilities, the cyber component must stay top of mind with the board, especially as data moves to the cloud. The board needs to remain aware of what security and privacy controls are being put in place as the organization expands its acquiring and developing of apps, as data is being moved, and databases expanded.

While the HIPAA security and privacy rules do not require specific technology solutions, healthcare organizations do need to implement reasonable and appropriate controls to safeguard the protected health information (PHI) from any unauthorized access, use, or disclosure. The Joint Commission also recommends that unsecured mobile communication should be prohibited. To help facilitate compliance with the laws, it is necessary to understand how the workforce and patients will use mobile devices and how the security and privacy controls may limit or impede on the usability of the device. Technology alone will not solve the privacy and security risk. Executive support, education, and a culture of security and privacy is required.[16]

6. Engage the Board

"Innovation has always been a cornerstone of who we have been from the beginning" at Marshfield, said Breen. Digital health goals are integrated into the organization's strategic plan under the service excellence pillar, and progress is reviewed and discussed at every board meeting.

"You have to ignite [their] imagination," said Walsh. "About six months ago, we compared our current capabilities to other healthcare organizations. We looked broadly, including CVS, Pharma, plus other health systems, so that as those constituents started to move upstream and downstream, we knew that we would have to compete digitally, from a customer interaction standpoint, with all of those different vendors." The management team conducted a current state evaluation and then created a future state, "perfect world" scenario envisioning how patients would interact with the system, with the help of a consultant to help them build a digital roadmap.

They developed a video to demonstrate the digital strategy to the board. Then they built the roadmap, which went through each stage of how Geisinger would go about getting to the future state, including steps to take, foundational investments to make, and what to add on top of that to create real value for the organization and its patients. Presenting such a high-level business plan helped the board understand the vision and long-term thinking, but each individual project has to stand on its own, and they bring those to the board for approval.

The board was focused on ROI initially, which was part of the challenge. "In some ways this is now just the cost of doing business going forward—not just choosing what business to add but to do this in order to stay in business, to be able to deliver these kinds of capabilities," Walsh explained. "Some digital projects will have ROI, but some of it is just necessary to the future of how healthcare will be delivered. Helping the board understand that was essential to moving forward with a lot of this work."

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16   Cris V. Ewell, Ph.D., CIISP, CISM, "Use of Mobile Health Technology for Communication in Healthcare," *BoardRoom Press,* The Governance Institute, August 2018.

Conclusion

An aligned vision of creating data and information as a strategic asset for the organization will include a financial, operational, and full organization commitment in building digital health technology strategies. These strategies are not easy and require a commitment from leadership to instill a new cultural paradigm based on using data and actionable information—a true "tool" toward building the innovative healthcare organization for tomorrow.

Management must regularly keep the board informed regarding information management and digital strategy, as well as cybersecurity and compliance plans.[17]

Questions for the board and senior leadership include:

- What key objectives do you want to achieve from your digital health initiatives?
- Are there clearly defined use cases driving technology implementation and alignment?
- Is your organization aiming to capture market share by offering competitive services to consumers?
- Do you need to leverage data-driven insights to improve your agility to react quickly to changes in the market?
- How will you predict performance outcomes associated with high-risk patients and the associated resources and care management protocols?

To Dos: Management vs. Board[18]

Action Item	Management or Board?
1. Inventory your current digital platform and programmatic goals.	M
2. Assess the current healthcare market landscape in your market and define market requirements in your planning horizon.	M
3. Develop an organizational viewpoint and investment philosophy for the role of digital, and your vision for the organization in that emerging context.	B
4. Incorporate digital into your planning approach, through one of three ways: » Develop a discrete digital plan to augment existing enterprise strategy. » Refine your enterprise strategy to incorporate digital plans. » Develop a new integrated enterprise strategy oriented around digital.	Both
5. Explicitly define what success looks like, including specific metrics, timelines, and ROI, to track your digital efforts' progress and results.	M, with B approval

17 Chopra and Marino, 2016.
18 Kiesau and Silverstein, 2019.

For More Information

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