

AN HFMA REPORT

Health Care 2020

A series of reports examining how to prepare for major healthcare market trends over the coming years

REPORT 4 of 4

Transformative Innovation



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Report 4 Transformative Innovation

Previously Released:

- Transition to Value
- Consumerism
- Consolidation

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Contents

From the Chair	1
Executive Summary	2
A New Era of Innovation	4
Gauging the Pace of Innovation	6
Interacting With New Consumers in New Ways.	8
Creating New Avenues to Access Care	10
Testing New Structures for Innovation	12
Innovating for Future Success	14
Action Steps to Innovation for:	
Health Systems and Physicians, Part I.	6
Health Systems and Physicians, Part II	8
Health Plans	10
All Stakeholders	12
Health Systems	14
Footnotes	15
Interviewed for This Report.	15

Dear Colleagues

This final edition of HFMA's *Health Care 2020* series turns its focus to an issue that is near and dear to my heart: transformative innovation. I wholeheartedly believe that the extent to which we foster—and embrace—innovative approaches to our traditional clinical and business processes directly impacts our ability to deliver a better patient experience and improve clinical results. It's also key to ensuring our industry thrives, both in the current environment and well into the future.

To that end, this report explores such important issues as gauging the pace of innovation, fresh approaches to interacting with consumers, new avenues for accessing care, and strategies for building an infrastructure that supports innovation. Included throughout are key takeaways and spotlights on organizations that are successfully incorporating innovations that improve value for stakeholders into their care delivery models and business processes. There also are specific action steps you can take now to help your own organization become more innovative.

HFMA greatly appreciates the contributions of the following individuals who served as resources in the development of this report: Luis Bellmas, vice president, outpatient services, Baptist Health South Florida; Lisa Bower, director of innovation consulting, Healthbox; Michelle Conger, chief strategy officer, OSF Healthcare; Aaron Martin, executive vice president and chief digital officer, Providence St. Joseph Health, and managing general partner, Providence Ventures; Tom Miller, senior vice president and chief information officer, Anthem Inc.; Mike Pacetti, CFO, DuPage Medical Group; Glenn D. Steele, Jr., MD, PhD, chair, xG Health Solutions; and Robert M. Wachter, MD, author, futurist, professor, and chairman, Department of Medicine, University of California, San Francisco.

The Health Care 2020 series, which also addresses the transition to value, consumerism, and consolidation, is designed to provide strategic guidance to help healthcare organizations prepare for major healthcare market trends over the coming years. We hope you will find the series both helpful and inspiring.

Best regards,



MARY MIRABELLI, HFMA
2016-17 CHAIR, HFMA

Executive Summary

In conjunction with the release of this *Health Care 2020* report on transformative innovation in the healthcare industry, HFMA issues the following guidance for stakeholders:

The Impetus to Innovate

Over the next three to five years, innovations in clinical care delivery and healthcare business processes have the potential to reshape the competitive landscape in the industry. These innovations are enabled by the confluence of three trends: rapidly advancing technological capabilities, the increasing demand by purchasers for improved value from industry participants, and an influx of venture capital funding.

If incumbent health plans, health systems, and physician groups do not evolve their business and clinical care models to leverage innovations that improve value for purchasers, they will lose market share to those that do. To be successful in this endeavor, plans, systems, and practices will need to develop a culture and technical infrastructure that support these efforts.

The Pace Quickens

A range of emerging technological innovations will redefine the competitive healthcare landscape. Advances in fields as disparate as analytics, machine learning, artificial intelligence, mobile applications, biomedical engineering, and genomics have created new opportunities to deliver care more efficiently and improve the consumer-patient experience.

Within clinical care, these innovations create the opportunity to deliver care that is more targeted (such as cancer therapies tailored to an individual patient's tumor) and timely (such as remote monitoring of individuals with chronic conditions)—and that takes place in a more cost-effective setting (such as virtual visits or “hospital at home”) and engages consumers before they become patients to help them manage their health (such as mobile apps that support nutrition for pregnant women).

At the same time, technological innovations are supporting new, consumer-centric business processes such as online scheduling and mobile access to medical records.

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And these trends in technology are converging with trends in purchaser demands.

Pressure from Purchasers

As the cost of care has steadily climbed without an easily understood measurement of improvements in quality (either clinical outcomes or patient experience), purchasers have become focused on identifying health plans, health systems, and physician practices that can provide quality outcomes in a cost-effective manner. And as consumers and patients have gained more exposure to other industries that have embraced the “experience economy,” they are rapidly growing less willing to bear the inconveniences (for example, rigid physician-office hours, scheduling by phone) and transaction costs (such as opaque out-of-pocket pricing, the need to wait for an appointment, outdated provider directories) that the healthcare sector historically has foisted on them.

Someone will leverage innovations in clinical care and business processes to respond to purchasers' demands. The question is whether it will be incumbents or new entrants that disrupt the status quo.

Laying the Groundwork

Incumbent organizations that respond quickly not only will protect existing revenue streams from new entrants

but likely will be able to grow their share of both emerging and existing markets. However, to successfully leverage these innovations, health plans, hospitals, and physician practices will need to evolve existing business and clinical care models or develop new models. Taking such a step forward will require a strategic focus on nurturing an innovative culture and developing the technical infrastructure to support these efforts.

Establishing an innovative culture in a historically conservative organization will require the engagement of the senior leadership team. Leaders must actively encourage small experiments designed to fail fast, learn quickly from those failures, and feed a rapid-cycle innovation process that drives toward an optimal solution.

Incumbent organizations that respond quickly not only will protect existing revenue streams from new entrants but likely will be able to grow their share of both emerging and existing markets. Taking such a step forward will require a strategic focus on nurturing an innovative culture and developing the technical infrastructure to support these efforts.

The CEO or another senior leader must also “own” the innovation portfolio. That portfolio must be targeted at the “right” problems for the organization—those that clearly have the potential to improve patient outcomes and experiences, cost, and employee satisfaction/engagement. And these efforts must be a team sport: The senior leadership team must overcome the temptation to cloister innovation in one area of the organization. For these efforts to succeed, frontline staff must be involved in the process to help define the problems and generate solutions.

Finally, the leadership team must ensure that the technical infrastructure is in place to support innovation efforts. Beyond data and analytic platforms, the technical infrastructure encompasses certain core capabilities, human capital, and organizational structures to take advantage of the organization’s talent.

Branching Out

To access core capabilities that aren’t native to the organization, many health plans, health systems, and physician practices are collaborating with a broad array of companies—including traditional competitors—in specific areas around an identified problem.

Leading organizations are also hiring marketing and IT talent from consumer-facing industries and including them on cross-functional teams. These teams focus on specific problems that are surfaced through dedicated structures designed to gain insight into the unmet needs and existing pain points of consumers and patients.

This report highlights practices used by leading organizations to successfully incorporate innovations that improve value for stakeholders into their care delivery models and business processes.

A New Era of Innovation

What will it mean for pediatric groups when parents can use a smartphone attachment to diagnose their child's ear infection without a doctor visit? What will be the impact on health systems when a mobile app can detect sleep apnea events, eliminating the need for in-hospital sleep studies? And what are the implications for health plan coverage policies when genomic sequencing, which can better match patients to the right treatments, drops below \$1,000?

In fact, these developments are already here and will contribute to strategic changes by physician groups, hospitals, and health plans as the pace of innovation accelerates over the next three to five years.^a

One factor fueling the rapid pace of innovation—broadly defined as the creation of viable business offerings—is the availability of venture capital. In 2015, venture capital (VC) funding in U.S. healthcare companies jumped to a record \$16.1 billion, according to Dow Jones VentureWire.^b Venture capital is currently funding new treatments for conditions such as cancer, depression, diabetes, and Alzheimer's disease.^c

“What we need to do is build not just the digital tools but also the workflow and processes. If patients are using a tool to manage their diabetes, there has to be a health system on the other side to make sure they get the care they need if they are not doing well.”

—Robert Wachter, University of California, San Francisco

VC firms also invested \$4.5 billion in 2015 in companies designing consumer engagement tools, wearable devices, and other digital tools, according to Rock Health.^d

Besides being buoyed by the availability of capital, emerging technologies have hit a sweet spot for potential commercialization.

“Advancements in analytics, machine learning, and artificial intelligence will help spur innovation over the next five years,” says Mary Mirabelli, FHFMA, 2016-17 Chair, HFMA Board of Directors, and vice president, Global Healthcare Practice, HP Enterprise Services, Plano, Texas.

Take radiology, for example. “Machines have the ability to see thousands more images than a human radiologist would ever see in their lifetime,” Mirabelli says. “The same trend is happening in pathology.”

Even pharmacy is evolving, thanks to innovations like 3D-printed pills that could combine a patient’s drugs into a single tablet and potentially improve compliance.

Recent innovations are driving Mirabelli and other healthcare technology leaders to rethink which traditional clinical and businesses process will eventually become self-service. “I firmly believe consumers will drive online scheduling, registration, and payment,” Mirabelli says. “One reason is that the generation below me, the millennials, think very differently about accessing health care.”

Robert M. Wachter, MD, author, futurist, professor, and chair, Department of Medicine, University of California, San Francisco, also believes some of the greatest changes to the

industry over the next three to five years will be driven by new digital tools like telehealth and mobile apps that will allow patients to access care at home rather than at a physician office or hospital.

“We are the most prime business for disruption, and we’d rather do it ourselves than have someone do it to us,” Wachter says. “Whether we will be totally disrupted like the taxi industry or journalism industry remains in question.”

In any scenario, providers don’t figure to be left on the curb. “There is a fallacy that if you just give digital tools to patients, everything will go smoothly because they already use these tools to make travel plans or restaurant reservations,” Wachter says. “Health care is more complicated than that. What we need to do is build not just the digital tools but also the workflow and processes. If patients are using a tool to manage their diabetes, there has to be a health system on the other side to make sure they get the care they need if they are not doing well.”

Gauging the Pace of Innovation

Despite the buzz around emerging technologies, many health plans, health systems, and physicians continue to find it difficult to make the business case for healthcare innovation. But what will likely accelerate the adoption of innovation will be the continued demands from purchasers, including consumers, for better value from providers.

“The healthcare system is being driven more strongly than ever to deliver better, safer, more satisfying care at a lower cost,” Wachter says. “That, coupled with new electronic tools, payment arrangements, and capabilities, will drive levels of innovation beyond what we have seen before.”

Wachter believes the pace of change will likely be brisk, although it largely depends on how quickly payment models evolve from fee for service to value-based. During this transition, many physicians and hospitals will face financial challenges. “Moving to more efficient models sounds good in theory,” he says. “The problem is there are many doctors who are financially dependent on the old model. Some hospitals right now are struggling, and if you take away patients, they will fold.”

“There is no question in my mind, particularly with all of the biologic medicines coming out now, that we will be able to target a more precise group of patients that have a higher probability of benefiting from treatment.”

– Glenn D. Steele, Jr., xG Health Solutions

With providers’ incomes at risk, some may not adapt quietly. “Their opposition will never be framed on financial grounds but rather on quality grounds—that patients will get hurt if we move too much or too quickly to nontraditional

ACTION STEPS TO INNOVATION:

HEALTH SYSTEMS AND PHYSICIANS, PART I

Futurist Robert M. Wachter, MD, of the University of California, San Francisco (UCSF), offers the following suggestions for healthcare organizations trying to prioritize innovation along with their other strategic imperatives.

Walk before you run. “Where organizations get this wrong is trying to move into the innovation space before they get the basics down,” Wachter says. “You need a well-functioning healthcare IT system in the hospital and physician offices first. This is not a step that can be bypassed. You need to make the transition so everyone is comfortable with health care as a digital business.” A healthy IT foundation is essential for capturing data, learning to use the data to better understand care, changing workflows to take advantage of the data, and bringing about the necessary culture change, he says.

Don’t assume your innovation experts are the same people who led your electronic health record implementation. In many cases, providers will need to supplement their IT experts with talent from fields such as design and engineering. Hiring a chief innovation officer from outside of health care may prove worthwhile.

Connect innovation with day-to-day operations. At UCSF, all unit-based leadership teams—which manage the health system’s clinical units—report to the chief innovation officer. “This is a model that is more likely to succeed than if the chief innovation officer was in an independent corner of the organization,” Wachter says. “Other groups that are disconnected may come up with great ideas, but they have no way of inserting them into the workflow. You need to figure out the structure that works best for your organization.”

Gauging the Pace of Innovation (CONTINUED)

models of care,” Wachter says. “The challenge is disentangling the quality arguments that are real from those that are not.”

Beyond the quality debate, many are concerned with how emerging technologies—from next-gen pharmaceuticals to wearable monitoring devices—will affect healthcare costs. Specifically, how can costly innovations be justified in an environment when healthcare expenses are rising from 17.4 percent of GDP in 2013 to an estimated 19.6 percent by 2024?^e

Glenn D. Steele, Jr., MD, PhD, chair, xG Health Solutions, Columbia, Md., and former president and CEO of Geisinger Health System, Danville, Pa., believes innovation has the potential to reduce the total cost of care and bend the cost curve—but only if value-based payment is widely adopted.

“If fee for service remains the dominant payment mode, technology will increase healthcare costs,” Steele says. “If, on the other hand, we are suddenly faced with working within a budget, whether it is a geographic budget or budgets for given cohorts of patients, then technology can be used to extract waste or to get rid of unjustified variation.”

One area of innovation that could significantly improve patient care while reducing costs is personalized medicine. “The whole concept of individualized medicine has been a promissory note for three decades,” Steele says. However, the time may be fast approaching when it becomes reality. “In cancer therapy, if we give a drug to 100 patients with difficult cancers and it cures 20, we consider that a success—and we charge all 100,” he says. “Yet there is no question in my mind, particularly with all of the biologic medicines coming out now, that we will be able to target a more precise group of patients that have a higher probability of benefiting from treatment.”

As patients benefit from personalized medicine that helps them avoid ineffective treatments, so will health plans, which will likely see a reduction in their total cost of care, Steele says. On the other hand, the financial impact to oncologists largely depends on how they are paid. “In a system like Geisinger that is all under one fiduciary, that financial benefit can be redistributed in a way that is closer to the provider so they are not feeling as if they have done the reengineering and changed their behavior but the health plan gets the benefit financially,” Steele says.

→ KEY TAKEAWAY

Value-based payment models will help speed the adoption of innovation, particularly technology that improves quality while lowering the total cost of care. Healthcare organizations that cannot embrace technology to enhance their clinical and business practices will be at a competitive disadvantage. The extent to which providers adapt likely will depend in part on their ability to construct a business model that allows them to keep some of the savings. But those that stay behind may have creative destruction imposed on them by health plans and other outside entities—while being allowed to keep less of the dividends.

→ ORGANIZATION TO WATCH

Physicians at Henry Ford Hospital and researchers at the Henry Ford Innovation Institute, Detroit, are using 3D printing technology to build replicas of patients’ hearts before noninvasive valve procedures are ever performed. This approach allows structural interventional cardiologists to know the optimal size and position of the proposed valve before the scheduled procedure. Early data suggest the models help cardiologists reduce device waste while cutting the time needed in the cath lab to complete the procedures by at least half. Physicians also use the models to help patients understand their upcoming procedure.

In addition, the team at Henry Ford Hospital uses the personalized 3D printed models to determine the best catheters and device sizes when planning a heart procedure known as left atrial appendage occlusion. Using this technology, they are able to rule out patients who are not good candidates for the procedure based on patient-specific anatomy.

Experts at Henry Ford Innovation Institute believe the health system will begin to see significant improvement in serious, preventable, and costly medical errors as the result of more efficient and informed decision making stemming from the 3D printed models.^f

Interacting With Consumers in New Ways

“Innovations today are largely aimed at improving the convenience and accessibility of health care, producing better outcomes in terms of health and wellness, and lowering the cost of care,” says Tom Miller, senior vice president and CIO, Anthem.

Like many organizations, Anthem is leveraging new technology in its quest to become more consumer-focused. “We decided to heavily invest in delivering an exceptional consumer experience so we could make health care more intuitive, simpler, and easy to use,” says Miller, who previously was senior vice president and CIO of Coca-Cola Refreshments Co.

For example, the health plan has developed a dynamic video-generation technology that allows the company to send personalized videos to welcome new members and deliver practical information. Each video is automatically customized to include the member’s name, family information, and plan details. Miller says such technology could be adapted to other user scenarios in the future, such as for providing information to patients on specific locations where they can access care.

Anthem also is developing a digital health insurance ID card that will live on a member’s smartphone. In addition, the health plan is creating mobile shopping apps that members can use to find the best prices for services in their area.

“Amazon could adjust its products every day because they could see how consumers were responding in real time. If you are engaging with consumers digitally, that becomes a lot easier to do. You can make your products and services better a lot faster.”

– Aaron Martin, Providence St. Joseph Health

Miller is optimistic about how innovations like these will transform the healthcare industry in the next five years. “This entire industry has yet to pivot and reorient itself toward the consumer,” Miller says. “Innovation is going to be a game changer, and we’re going to see a waterfall of new capabilities over the next few years. It’s true that sometimes you need to experiment without a clear idea of the value potential, but that becomes clearer the more you progress.”

ACTION STEPS TO INNOVATION:

HEALTH SYSTEMS AND PHYSICIANS, PART II

Mike Pacetti, CFO, DuPage Medical Group (DMG), shares these lessons with providers looking to adopt virtual health strategies. (For much more information, see “Creating New Avenues to Access Care” beginning on page 10.)

View e-visits and video visits as a way to build patient loyalty. “Although there are third-party innovations in virtual care, patients want to have a medical home and a provider base that is consistent,” Pacetti says. “What we found in our pilots was that patients wanted to talk to *their* physician, not just any physician.”

Make sure clinical and business leaders agree on how to deploy the technology. Having a cross-functional committee vet technology ideas and then piloting new approaches within the employee population at the practice or health system can help refine the strategy.

Start by offering e-visits and video visits at no cost. DMG’s virtual health services are self-pay (at a cost of \$10 per visit), but initially the group offered the services at no cost to its employees and their dependents while the organization worked out the kinks.

Although most government and commercial payers do not reimburse for this type of service, Pacetti believes that will change soon. “It’s just a matter of time,” he says.

Interacting With Consumers in New Ways (CONTINUED)

Forward-thinking health systems also are following the consumerism trend. For example, leaders at Providence St. Joseph Health, Renton, Wash., plan to emphasize ongoing consumer relationships that are contingent upon the ability to deliver value beyond a single care experience.

“Our strategy is to get our patients online and be relevant to them between episodes of care,” says Aaron Martin, executive vice president and chief digital officer. “But we have to earn the right to get them online. The rule of thumb is that the online experience needs to be 10 times better than the existing experience.”

Martin and his innovation team hope to drive patients online—even when they are not sick—by offering meaningful health content, tools, and resources. “If health systems want to fulfill their mission around population health, they need to foster a constant, nonobtrusive relationship with the consumer around health,” he says. For example, Providence St. Joseph Health recently developed and piloted an app called Circle for new and expectant moms that provides relevant health information for each stage of pregnancy and easy access to care like after-hours support from a lactation consultant. As a result of the app, patient retention within test pediatric/primary care clinics increased by as much as 35 percent postpartum. Circle is now being sold to other health systems that have large women’s and children’s businesses and that want to increase the likelihood that new moms will establish a primary care relationship with their system.

Martin, who formerly was with Amazon, believes healthcare organizations that are online have a significant advantage when it comes to understanding consumer behaviors and intent. “Amazon could adjust its products every day because they could see how consumers were responding in real time,” he says. “If you are engaging with consumers

digitally, that becomes a lot easier to do. You can make your products and services better a lot faster.” For instance, the Circle team can make weekly changes to the app and see the effect on how frequently an expectant mother engages with the content.

→ KEY TAKEAWAY

Healthcare organizations should leverage technology to enhance the consumer experience. Mobile and online technologies that engage consumers in new ways and build continuous relationships will be differentiators.

→ ORGANIZATION TO WATCH

Kaiser Permanente has a long history of leveraging innovation to better understand the consumer experience. It opened the Sidney R. Garfield Health Care Innovation Center in San Leandro, Calif., back in 2006.

Leaders at the center created a scenario-based tool that allows clinicians and employees to “walk” in the shoes of their patients via avatars, such as a young Latino couple experiencing their first pregnancy.⁸ The tool helps staff think about ways to offer more personalized care and improve the patient experience, such as via an app that helps support better nutrition for pregnant women.

Kaiser Permanente also plans to open a new health innovation center in Denver, its first such center in Colorado. In addition to providing primary care services, the center will serve as a pilot site to test new methods of care delivery, including emerging technology and clinical processes. Leaders at the center will benefit from having immediate member feedback on innovations, which they can use to design better care interventions.^h

Creating New Avenues to Access Care

“A lot of the focus in innovation right now is about moving health care to different access points,” says Michelle Conger, chief strategy officer, OSF HealthCare, Peoria, Ill. “While some of this may happen with traditional telemedicine, more and more will happen on our phones. Mobile innovations are going to radically transform the way health care is delivered.” In fact, a phone-based electrocardiogram tool diagnosed tachycardia in one of her family members.

Many experts expect to see a rise in virtual medicine over the next three to five years. Although health plans and some national companies have been offering virtual medicine for a while, health systems are joining the ranks as a way to make

care more convenient and cost-effective. Telemedicine also may open a broader entryway to the delivery system.

“Many healthcare systems are starting to look at virtual health as a viable way to deliver care,” says Luis Bellmas, vice president, outpatient services, Baptist Health South Florida, Coral Gables, Fla. “For many of us, virtual health fits into our overall strategy of becoming value-based providers of care, and it is one more way we can reduce costs.”

Baptist Health South Florida now offers a platform that gives patients immediate virtual access via a mobile app to board-certified providers who are affiliated with the health system. Patients can access care without an appointment 24/7.

ACTION STEPS TO INNOVATION: HEALTH PLANS

As the experience of Anthem suggests, the following strategies can help health plans make the most of innovation.

Build an innovation center close to where the talent is. Anthem has launched its 6,500-square-foot Innovation Studio in Atlanta’s Technology Square, near the Georgia Institute of Technology and leading research facilities. With the studio’s proximity to Georgia Tech, leaders hope to tap into local talent and develop strategic partnerships with technology and innovation companies in the area.

Leverage your employees. Anthem uses an employee engagement platform that allows the health plan’s 40,000 employees to submit ideas to solve particular problems posed by leaders. The company also hosts workshops and pitch days that encourage employees to share ideas and solutions that can help transform health care. Employees then vote for the best ideas, which are later discussed in ideation sessions with healthcare, technology, and subject-matter experts in Anthem’s Innovation Studio.

Ask customers for input. One way health plans can make sure new technologies are adding value—rather than simply increasing spending—is to understand what their customers need, says Tom Miller, senior vice president and CIO.

For this reason, Anthem invites large employers to the Innovation Studio to discuss ideas. “Collectively, we will come up with ideas on how to leverage technology to support the health goals of their employee population,” he says.

Follow a defined process to make sure you are innovating for value. Anthem uses a six-step process that allows ideas to be advanced or abandoned at particular phases if they are not adding value. “The process is designed to ramp up investments as ideas become more likely to succeed through defined stage-gates,” Miller says. “We initially evaluate a large number of potential innovations in the *ideate* and *shape* stages. As concepts take shape, it becomes clearer whether they will deliver value to the consumer. Ideas that pass this feasibility threshold are moved forward to the *define* and *prototype* stages, where they are further proven. Prototypes provide a working model that makes it easier to understand the concept and estimate the potential value.” From there, leaders can complete the final two steps: a live production pilot and scaling the innovation for a broad rollout.

“This proven process allows us to funnel in many ideas, build confidence in those that are worth additional investment, and minimize the investments in those that do not seem promising along the evaluation path,” Miller says.

Creating New Avenues to Access Care (CONTINUED)

The platform is designed for patients who need non-emergent care for conditions such as mild asthma, nausea, vomiting, sore throats, and ear and sinus pain, Bellmas says.

Patients can connect to providers via high-definition video, and each visit is documented in the electronic health record to ensure appropriate care coordination. At the end of the video visit, patients receive a record of their interaction via email so they can share the record with other providers.

Large medical groups also are eager to pilot virtual health strategies to improve patient access and offer greater convenience. Since 2015, DuPage Medical Group, Downers Grove, Ill., has completed approximately 530 video visits and more than 3,800 e-visits (which are basically simple communications about specific health conditions, such as coughs and cold symptoms, via secure email) for patients

seeking care from internists, family practice physicians, dermatologists, and pediatricians. The technology is available to patients through the group’s patient portal via mobile devices and computers.

“We feel like video visits and e-visits will be huge access points for our patients that will really help us with patient engagement,” says Mike Pacetti, CFO.

“Many healthcare systems are starting to look at virtual health as a viable way to deliver care. For many of us, virtual health fits into our overall strategy of becoming value-based providers of care.”

— Luis Bellmas, Baptist Health South Florida

→ KEY TAKEAWAY

Innovation is helping to fuel the trend to deliver more health care in the home rather than in the hospital and doctor’s office. Providers should consider offering patients new ways to access services to build patient loyalty and engagement.

→ ORGANIZATION TO WATCH

Tennessee Valley Healthcare System, Nashville, Tenn., realized positive results from a telehealth initiative targeting veterans with diabetes, according to a study published in *Pharmacotherapy*. Using video telehealth technology, pharmacists provided disease management services to patients at outpatient clinics where on-site clinical pharmacy services did not previously exist. After six months, the pharmacist-led telehealth program raised the number of patients meeting their A1C goal from 0 percent at baseline to 38 percent. Patients also reported a high level of satisfaction with the program.ⁱ

Testing New Structures for Innovation

Healthcare organizations are exploring different strategies to build an infrastructure for innovation.

In recent years, many healthcare organizations have established innovation centers to coordinate previously disjointed efforts. These centers have a median staff of six and a median annual budget of \$1.9 million, although staff and funding vary widely, according to a survey from The Commonwealth Fund.¹

OSF HealthCare built a 168,000-square-foot simulation center and incubator called the Jump Trading Simulation and Education Center in collaboration with the University of Illinois College of Medicine at Peoria. Jump has a variety of simulation labs that replicate an ambulance, a surgical suite, an ICU, and other environments. The \$50 million facility was built in part with a \$25 million donation. Many of its innovative projects are funded by a \$62 million research endowment plus \$15 million to support advanced work in imaging and modeling. A team of OSF leaders evaluates

commercial opportunities and guides the development of organizational innovation.

However, large-scale incubators are not the only path to innovation.

“Health systems often start innovation from a point of strength,” Conger says. “For some, that may mean initial investments in telehealth or virtual health capabilities. Others may be able to do it through partnerships.” In fact, OSF is actively monitoring 12 startup companies through its partnership with Chicago-based healthcare incubator Matter.

In addition to partnering to realize new capabilities, organizations may need to restructure some of their internal competencies. For instance, OSF brought its health analytics division, which includes data analysts and predictive analytics experts, under the same umbrella as its performance improvement team, which includes experts in project management, Lean, and Six Sigma.

Across the country, in Washington State, Providence St. Joseph Health has developed four linked teams focused on innovation:

- Providence Ventures, led by experienced venture-capital partners who oversee a \$150 million fund that invests in solutions for chronic disease, healthcare e-commerce, on-demand health care, clinician tools, and population health
- Digital Innovation, which includes 200 software engineers and healthcare experts who focus on building a seamless clinician and consumer experience through technology that facilitates telehealth, online scheduling, and mobile-enabled home visits
- Consumer Innovation, a team that incubates new technologies designed to keep Providence St. Joseph Health relevant to patients between episodes of care using the Lean product approach
- Online Marketing, a team that owns and manages the online channel, including search engine optimization and online content/experience

The collaboration between teams is evident in ExpressCare, a new offering that delivers convenient, low-acuity care. ExpressCare clinics are either stand-alone or embedded in Walgreens Clinics, with a complete digital experience wrapped around the offering. Patients can schedule an in-person visit online, conduct a telehealth visit on their smartphone or personal computer, or summon a care provider to their home via an Uber-like app. The solution combines technologies Providence Ventures has invested in, new technology that Digital Innovation has built, and the

ACTION STEPS TO INNOVATION: ALL STAKEHOLDERS

For healthcare leaders seeking to avoid becoming overwhelmed by innovation, Michelle Conger, chief strategy officer, OSF HealthCare, Peoria, Ill., offers the following advice.

Use innovation to solve pressing problems. Align your goals around innovation to your overall strategy so your work on innovation does not feel like a one-off process.

Partner strategically. Recognize that innovation means bringing different thinking into the organization, whether it be from a university, an incubator, a tech company, or another group that can help you achieve your innovation goals.

Recognize that ROI is different with innovation. “Don’t think that with your first innovation, you are going to generate more volume, revenue, or a spin-off company,” Conger says. “You shouldn’t set unrealistic expectations, and you have to recognize that it takes time.”

Testing New Structures for Innovation (CONTINUED)

Online Marketing team's expertise in making patients aware of the new service.

Providence St. Joseph Health also has invested in digital and precision medicine. Arivale, a scientific wellness company, offers full genomic sequencing coupled with lifestyle coaching to extend longevity. The spin-off company was developed in partnership with the Institute for Systems Biology founded by Lee Hood, MD, PhD.

Like Conger, Martin, who is also managing general partner at Providence Ventures, believes smart partnerships are essential to create the infrastructure for innovation. He meets nearly every other week with innovation leaders at other health systems across the country to trade notes. "Even if they are just starting down the innovation path, all health systems have at least two or three superpowers that we can learn from, whether it be clinical reliability or work in precision medicine or wearable devices," he says.

Providence St. Joseph Health also has joined 21 other health systems (including OSF HealthCare) in the AVIA Innovator Network. Together, the health systems leverage their expertise to select new technologies, such as digital rounding tools for nurses, for adoption in-house. "Health systems have anxiety about picking the right technology solutions," Martin says. "This speeds the process of selecting innovation with a lot more data. AVIA does the due diligence on new technologies that no single health system would do by itself."

"Health systems often start innovation from a point of strength. For some, that may mean initial investments in telehealth or virtual health capabilities. Others may be able to do it through partnerships."

– Michelle Conger, OSF HealthCare

→ KEY TAKEAWAY

Healthcare organizations need to determine the best structure to spur the development of new business offerings. Innovation centers, incubators, and partnerships are among the options. Many healthcare leaders will need to look outside their organization for the people, processes, and technology that can support innovation.

→ ORGANIZATION TO WATCH

In 2013, Intermountain Healthcare, Salt Lake City, partnered with Healthbox, a Chicago-based firm focused on supporting healthcare organizations' innovation strategies.

As part of the relationship, Healthbox is the general partner of a \$35 million Intermountain innovation fund. "The fund's mission is to source, evaluate, and invest in innovative companies that represent a high-return, high-growth opportunity and that align with its mission of helping people live the healthiest lives possible," says Lisa Bower, director, innovation consulting, Healthbox.

Healthbox also established the Intermountain Foundry, which solicits employee ideas for commercialization or possible broader internal implementation. "When we first came in, we were hearing from employees that they did not always know where to take an idea, and it sometimes took several months just to get to a 'no,'" Bower says. "We worked with various stakeholders to build the right governance and a centralized, transparent, and timely process for employees to submit ideas designed to improve care and reduce costs."

To date, the Foundry has supported 12 innovative ideas by providing resources and guidance to vet their commercialization potential. Examples of employee ideas include a web-based outcomes tracking and analytics tool for physical therapists and a set of risk scores for heart failure patients.

Innovating for Future Success

During the next three to five years, the healthcare industry will see an acceleration of innovation in areas such as precision medicine, virtual health, remote monitoring, and mobile apps. So much activity can make it difficult for healthcare organizations to know where to focus their energy—and their capital.

“The biggest challenge companies have is knowing how much money to invest in innovation,” Anthem’s Miller says. “The challenge is deciding where to carve out funding for innovation activities that may not have as clear of a return on investment as nearer-term, more visible capabilities might have.”

However, organizations that proceed with too much caution could fall behind their competitors. “You need to

invest in competencies and experimentation so you can take advantage of new capabilities as they become available,” Miller says.

Another barrier is getting the workforce—which may already be burned out on industry change—excited about innovation, says Conger of OSF.

“When you start talking about innovation, it can feel like a buzzword,” she says. That is why OSF hosted a leadership retreat that focused on engaging leaders in innovation. “We wanted to help leaders understand how we want innovation to be part of our work and recognize that all of our mission partners [employees] have an opportunity, and in some ways an obligation, to contribute to this type of work,” she says. The event included presentations from 10 technology

ACTION STEPS TO INNOVATION: HEALTH SYSTEMS

Aaron Martin of Providence St. Joseph Health suggests the following strategies for hospital leaders to make their organizations more innovative.

Make sure the CEO owns innovation. Even though Martin is charged with leading innovation at Providence St. Joseph Health, he makes the argument that his CEO actually owns innovation at the health system. “If the CEO doesn’t own the innovation agenda, the organization will devour it,” Martin says. “People have other things going on, and innovation is by nature very disruptive. You have to resource it effectively and get those experts from outside of health care inside the organization who know how to do it.”

Use Lean approaches to reduce project risk. Leaders at Providence St. Joseph Health develop minimally viable products (MVPs) to test the merits of an idea in front of customers early. “We focus on building the slimmest product we can as fast as we can to do the job the customer wants done,” Martin says. For example, at the start of a project, the team will write a hypothetical “working

backwards” press release to demonstrate what they would say about the product and how it adds value once launched. “If you can’t do that at the beginning of the project, you shouldn’t start,” he says.

Foster cross-functional collaboration. “You have to put the tech experts in the same room with the clinical experts,” Martin says. “They all need to be on the same team when building products.”

Learn from tech companies. “Companies like Amazon have a single-minded focus on the customer, and everything else derives from that,” Martin says. “Health systems need to build their relationship with patients because over time, patients will have more flexibility in deciding where they are treated and they will care more because they are taking on greater financial burden.”

A lot of tech companies also are good collaborators, even with their competitors. Providers can take this approach. “Recognize that in some areas you will be useful to each other, but in other areas you will compete,” he says.

Innovating for Future Success (CONTINUED)

companies as well as demonstrations of products developed or in development at OSF.

Employees also need to understand how innovation fits into the mission. “We have had to explain that our commitment to quality and safety and becoming a highly reliable health-care system does not go away with innovation,” Conger says. “In fact, 80 percent of our efforts are going toward these types of core innovations.”

Another barrier that leaders of healthcare organizations should strive to overcome is cultural, namely the belief that failure is always a bad thing. “With innovation, we need to create a safe space to learn,” Conger says. “We are going to fail fast and move on, which means changing our culture to some degree.”

Bower of Healthbox agrees. “For good reason, hospitals are risk-averse environments, but in terms of innovation, you want people to be comfortable with failure,” she says. “That means knowing how to fold as quickly and cheaply as possible when you realize an idea is not worth pursuing.”

One factor that could make or break many consumer-driven innovations is patients’ willingness to take on more responsibility to make appointments, access their medical record, monitor their health, and engage with providers, says Mirabelli of HP.

“Not all patients will want to be engaged, but many will if they truly care about their health,” Mirabelli says. “As we move forward, we need to make sure we are giving patients what they want. That is our challenge as an industry.”

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