INNOVATION’S FRONT LINES

How innovation is transforming the healthcare industry:

+ Through artificial intelligence
+ In organizational structures
+ At the state and federal levels

Eric Topol, MD, says near-term changes in technology and care delivery will make patients far more invested in digitized, democratized medicine. Page 6
More NCI-Designated Cancer Centers choose Mevion for their proton therapy solution than any other company. **HERE’S WHY:**

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# COVER STORY

### COMING SOON TO A HEALTH SYSTEM NEAR YOU: DIGITIZED, DEMOCRATIZED MEDICINE

An interview with Eric Topol, MD, of Scripps Translational Science Medicine, about a changing landscape in which patients will have the technology, guidance, and motivation to play a far more central role in their own care.

# TECHNOLOGY

### INNOVATIONS ON THE FRONT LINES OF CARE

Artificial intelligence is among the breakthroughs that are having a significant impact on care delivery.
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- Treating Stroke On-Scene, 17
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# CHANGE MANAGEMENT

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Three leaders of health system innovation centers describe the benefits, challenges, and transformative potential of such programs for organizations and for the industry.
The debut edition features an in-depth discussion of the future of ACOs, including steps healthcare organizations should be taking today to prepare for the future.

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**Innovators**

OUTSIDE THE BOX: HOW HEALTHCARE INNOVATION AWARDS ARE DRIVING NEW IDEAS

Four case studies illustrate the potential of a federal grant program to spur new approaches to care delivery.

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COLUMN: HEALTHCARE LEADERSHIP SKILLS IN AN ERA OF DISRUPTIVE INNOVATION

By Jamo Rubin
Founder and CEO, TAVHealth

COLUMN: GETTING TO “AND”: AVOIDING THE PITFALLS OF EITHER-OR THINKING

By Joseph J. Fifer
President and CEO, HFMA

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While health care moves to better manage populations, cardiologist and author Eric Topol, MD, says individualized medicine will have a far broader impact.
AN INTERVIEW WITH ERIC TOPOL, MD

COMING SOON TO A HEALTH SYSTEM NEAR YOU:
DIGITIZED, DEMOCRATIZED MEDICINE

The decorated physician and author says the “high-def” individual will replace the medical establishment as the focus of the future.

By Lauren Phillips

You could be forgiven for thinking that everyone in health care is betting on population health management as the way forward—but you would be wrong. Eric Topol, MD, thinks that direction represents a serious misstep.

Topol, a practicing cardiologist at Scripps in La Jolla, Calif., where he specializes in genomics and wireless digital technologies, sees population health as mass medicine, characterized by imprecision and controlled by the medical profession. He believes the future is individualized medicine: using the genome and digital technologies as a basis for understanding—and tailoring treatment to—each person’s unique biologic, physiologic, and anatomic makeup. And all of that data will be owned and controlled by that person.

He also believes this future is not as far away as you might think.

Some in the industry may scoff at the notion that these changes could start to take effect within a few years. But there’s no arguing with Topol’s credentials. He is a professor of genomics and the Scripps endowed chair in innovative medicine, chief academic officer of Scripps Health, and director of Scripps Translational Science Institute.

Previously, he led the Cleveland Clinic to the No. 1 spot in the U.S. News hospital rankings in heart care, started a new medical school, and spearheaded key discoveries in heart disease, including the drugs tPA and Plavix and multiple genes that increase susceptibility for heart attacks. He was named Doctor of the Decade by the Institute for Scientific Information for being one of the most cited U.S. medical researchers, and was voted the most influential physician executive in the United States in a national poll by Modern Healthcare.

THE GUTENBERG MOMENT

As he explains in his most recent book, The Patient Will See You Now: The Future of Medicine is in Your Hands, Topol sees this as medicine’s “Gutenberg moment.”

“Much as the printing press took learning out of the hands of the priestly class, the mobile Internet is doing the same for medicine, giving us unprecedented control over our health care,” he writes. “Medicine has been digitized, now it will be democratized.”

And democratization, he says, will lead to new cost structures, transparency, and progressive reduction of waste.

Topol is not talking about patient empowerment so much as patient emancipation. Technology such as wearable sensors, personal genome sequencing, better digital imaging tools, and ubiquitous electronic records, along with support from computer algorithms and machine learning, will allow patients to not only generate much of their own medical data but also track their health status and the treatments prescribed by their doctors.

For example, using a wearable glucose sensor and their smartphone, individuals who are at risk for diabetes will learn, for the first time, what particular foods or activities lead to better or worse glucose regulation. (See the sidebar on page 8 for more examples of how digitization can impact health care.)

GETTING FROM HERE TO THERE

This paradigm shift will not happen from the inside. Instead, it will come from one of three outside forces:

• Big employers tired of paying billions of dollars for care and hoping to downshift by enabling employees to track their own conditions using inexpensive chips instead of expensive alternatives that rely completely on physicians

Live Session
See Dr. Topol’s keynote presentation at HFMA’s National Institute, June 26-29 in Las Vegas. For more information: hfma.org/ANI/Home/
• Insurers wanting to become more competitive and more attractive to those big employers
• Consumers of all ages harnessing the power of controlling their own data, peer-to-peer social media support, and technology to upend and flip the traditional doctor-patient relationship

“One of these will eventually get moving. I don’t know which or exactly when, but over the next few years we will see this really take hold,” Topol says. “The economy itself will likely be the driving factor. We’re currently spending more than $3 trillion a year on health care, and more than a third of that is waste—the wrong screening for the wrong person, the wrong medication.”

Of course, there will have to be a way to process and integrate the vast quantity of personal health data and superimpose it onto a global digital infrastructure. The healthcare industry’s ability to generate big medical data has outstripped its ability to manage that data, according to Topol. But, he says, data scientists—who can write algorithms, separate signals from noise, and actualize the full potential of computers to perform deep learning—are becoming an increasingly significant presence in medicine.

He points to a “few little pockets” in the world that are beginning to capitalize on new IT to create infrastructure and give people access to, if not yet control of, their own data. For example, Switzerland’s HealthBank, the world’s first citizen-owned health data exchange platform, allows people to collect their own data from any source or format and share it with whomever they choose—physicians, care teams, or loved ones.

And then there’s the Estonian Health Insurance Fund, which receives all billing data electronically and showcases the potential to connect all patients, providers, and insurers. The nationwide system has made it possible to create a single medical record for each patient, including test results and prescription history.

“If they can do it, we can do it,” Topol says.

Of course, the likelihood of cybersecurity breaches is enhanced with so many people having their own wireless devices and potentially accessing the health system’s “secure” inner network. As Topol writes in The Patient Will See You Now, “By having our medical selves digitized, we’re making ourselves highly vulnerable” to medical identity theft.

The larger the information resource, the more vulnerable the information. With a personal cloud with appropriate firewalls, the chances of “data escape are diminished.” But Topol is adamant about the need for a new act that transcends HIPAA and HITECH to protect privacy while at the same time promoting medical research.

“Curating medical information, with the right amalgam of security and openness, might someday be the foundation of curing, or at least preserving, health,” he writes. “I’m assuming that the right balance will eventually be struck.”

For that to happen, Topol says in an email, the “federal government

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**ERI Topol’s Top Targets for Wireless Medicine**

- **Alzheimer’s disease** (5 million Americans). Wireless devices can track the vital signs of patients as well as their location, activity, and balance; smartphone apps can track specific eye function; and other apps can perform cognitive tests for screening, diagnosing, and monitoring the condition.

- **Asthma** (20 million). Wireless devices can track respiratory rate, peak flow, lung function, air quality, pollen count, and other triggers so patients can preempt attacks before the onset of symptoms.

- **Chronic obstructive pulmonary disease** (10 million). Wireless devices can monitor FEV1 (forced expiratory volume, a common index used to assess airway obstruction), air quality, and oximetry.

- **Depression** (19 million). Wireless devices can monitor activity, communication patterns, tone and inflection of voice, facial recognition, vital signs, breathing patterns, galvanic skin response, and medication compliance.

- **Diabetes** (21 million). Wireless devices can monitor blood glucose and hemoglobin.

- **Heart failure** (5 million). Wireless devices can monitor vital signs, cardiac output and pressures, and chest fluid.

- **Hypertension** (74 million). Wireless devices can continuously monitor blood pressure and track medication compliance.

- **Obesity** (80 million). Wireless devices can track weight, and wireless smartphone sensors are being developed to scan food for caloric and nutritional content.

- **Sleep apnea and disorders** (15 million). Wireless sensors can monitor each of the phases of sleep for quality of rest, detect apnea, and track vital signs.
needs to pass legislation that owning one’s data is a civil right, that hacking medical data carries the most serious penalties, and that no individual’s data can be sold or used in any fashion without the explicit agreement of the individual.”

FROM EHR TO PHR
In the United States, Topol says, the electronic health record (EHR) is “vastly incomplete.”

“It’s just a collection of one-off encounters, whether office visits or hospitalizations,” he says. “Ideally, we would have a PHR, a patient health record. It would have everything about the individual in it, including sensor-generated, real-time individual and environmental data, gene sequence, and microbiome and other biologic data. Moreover, instead of physicians having to focus on typing into the record during visits, every patient encounter would be captured with natural-language processing and machine-transcribed for both the patient and physician to edit.”

As much as anything, he says, what’s standing in the way is the profound reluctance of the medical community to give people their data—and with it, control over their own care. That reluctance, Topol says, is an outgrowth of the paternalism that has been a hallmark of health care.

A small start-up in California called Picnic Health is moving in the right direction, he says. The organization has developed software to collect all healthcare data from every provider a patient has ever seen, connect it, graph it, and make it accessible to patients via smartphone.

“I gave them the names of 20-some doctors I’ve seen over the last 25 years, in three cities in different health systems with many different electronic records,” Topol says. “Within two weeks, I could see on my phone every scan—actual scans, not just the reports—and every lab test, all connected in graph form. But I don’t own that data; I have to go onto their server to see it. I want it to be in my own private cloud. I want that for every individual.”

A DIFFERENT HOSPITAL ROOM
The hospital room of the future, Topol says, is the bedroom. Hospitals will have ICUs, ORs, EDs, and advanced imaging, but no regular patient rooms.

“Just as we saw the shift from inpatient to outpatient, the next shift is from outpatient to home,” he says. “With the remote monitoring capability we have today, it’s more economical, more convenient, and far safer to have patients recover in the comfort of their own rooms. Some systems are already moving in this direction.”

In 2015, for example, Mercy, one of the largest Catholic healthcare systems in the United States, opened the world’s first virtual care center, dedicated entirely to care outside its walls. The center includes the world’s largest single-hub eICU, which monitors more than 450 beds in 15 Mercy hospitals across five states; a telestroke program in which emergency department patients with suspected stroke can be seen immediately by a neurologist via telemedicine; virtual hospitalists; and home monitoring for chronically ill patients after hospitalization.

Such trends admittedly could result in large layoffs of hospital employees. Topol is blunt: “Health care, with a labor force that has grown unchecked over the last decades, is not immune to the whole trend of technology doing some things better without human beings involved.”

On the other hand, he says, although people will do much of

“The economy itself will likely be the driving factor. We’re currently spending more than $3 trillion a year on health care, and more than a third of that is waste—the wrong screening for the wrong person, the wrong medication.”

— Eric Topol, MD
their own diagnosing and monitoring—with access to a continuous stream of personal data and the digital resources to interpret it—they will still turn to physicians and the healthcare system for diagnostic oversight, interpretation, and treatment. The critical role of the doctor’s advice, experience, wisdom, and compassion will not be undermined, he contends.

And there will be significant new opportunities for hospitals. For one thing, Topol says, it would make sense for them to become aggregated data and information resource centers.

“While this could be done remotely by large, dedicated companies, it’s better if the data is proximal to patients—handled by physicians and staff who have familiarity with the individuals themselves,” he says. “That continuity and trust are important to patients.”

RATIONAL FINANCING

Topol would like to see everybody who works in the healthcare space be salaried, rather than incentivized to do things. He’s seen such an approach work in cardiology at the Cleveland Clinic, where, he says, people were amply rewarded for all their education, training, effort, and time.

“I think if we get away from the ‘medicine by the yard’ model—fee for service—we’ll be better off,” he says. “But the salary has to come with accountability for patient care and outcomes. While objective metrics can at times be difficult to define and can vary by type of practice, systematic patient and peer surveys can be helpful.”

Isn’t that what accountable care is all about, making care systems responsible for keeping their patients healthy? And isn’t that awfully close to population health management?

The concept of managing population health, Topol says, overlooks the key notion of the “high-def individual” taking charge. Accountable care is a good direction—just not aggressive enough. “The Affordable Care Act (ACA) approach moves at glacial speed,” he says. “If you really want to eliminate waste in our health system, you simply say, ‘No more fee for service, it’s over.’”

The pivot toward digitized, democratized health care, Topol says, is a worthy investment. The other trajectory, toward spending 20 percent of the country’s GDP on health care, is not acceptable.

“The problem is that none of the incumbents—hospitals, drug companies, physicians, insurers, etc.—have an incentive to make that investment,” he says. “Nor can we look to government; that big coupon was used up with the ACA, which was momentous in some ways but didn’t address the need or capitalize on the opportunity for individualized medicine.

“Hopefully, as we move forward with precision medicine, the Food and Drug Administration and Centers for Medicare & Medicaid Services will support innovations in digital and genomic technologies that define the medical essence of each individual. Except for legislation to deal with privacy and security, for which governmental intervention is wanting and vital, much progress in this space can be accelerated by less regulation.”

A more likely scenario, he says, is one in which the biggest employers say: “That’s it, we’re done paying all this money every year for a broken system. We’re going this other way, toward individual health—and by the way, we’re firing our insurer unless they support this initiative.”

If employers take such a step, Topol is convinced, “Then we’re off to the races.”

Lauren Phillips is president of Phillips Medical Writers, Ltd., Bellingham, Wash., and a frequent contributor to Leadership (lauren-don-phillips@comcast.net).

Interviewed for this article: Eric Topol, MD, director, Scripps Translational Science Institute, and chief academic officer, Scripps Health, La Jolla, Calif. (etopol@scripps.edu).
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Artificial intelligence is among the technological breakthroughs that are having a significant impact on care delivery.

By Karen Wagner

With so much disruption in health care today, including changes that affect the practice of medicine, many physicians are feeling frustrated and dissatisfied. Not Anthony Chang, MD.

Chang, chief intelligence and innovation officer at Children’s Hospital of Orange County (CHOC), Orange, Calif., is excited about new opportunities he sees at the intersection of data science and medicine. Chang says innovations in artificial intelligence (AI)—computer programs designed with the ability to learn from data—are improving patient care and even taking the grunt work out of care delivery.

“Intelligence is something we get from the better use of data,” says Chang, an internationally recognized pediatric cardiologist who is also founder of the Medical Intelligence and Innovations Institute (MI3) at CHOC. “Data is just the raw material we use to improve decision making and to improve patient care.”

From word-processing programs that correct misspellings to smartphones that can detect when friends are nearby, AI is becoming an increasingly significant part of professional and personal lives. In health care, this technology is being used in day-to-day decisions on the front lines of care.

“One example is that telepresence, the collection of data from wearable technology, and artificial intelligence are all converging to basically bring the doctor’s expertise to the home in a very non-invasive, continuous way,” Chang says.

### BY THE NUMBERS

**$6.4 million**
Savings since December 2014 for the Houston Fire Department from a program that uses tele-consults to divert some patients from hospital emergency departments.

**$500,000-$1 million**
Rough estimate of the savings per year from Cleveland Clinic’s mobile stroke program, which expedites treatment of ischemic stroke.

**9 percent**
Reduction in length of stay in units at Newton-Wellesley Hospital that use the continuous monitoring system, compared with control units.

Chang and a team of colleagues at MI3 are working on an outpatient-monitoring program that incorporates the use of wearable devices and data analytics to improve outpatient follow-up on pediatric patients with conditions such as heart disease. Many high-risk patients require weekly follow-up. Rather than relying exclusively on clinic visits for these routine checkups, which can be inconvenient and time consuming for patients and their families, the children will be monitored through devices they wear outside the clinical
setting. The data from these devices will be analyzed by computer algorithms for abnormalities in the patient’s condition, with reports sent to the patient’s physician. Such technology will enable routine checkups to take place outside the clinic.

“In the future, the clinic visit will be more substantive in terms of what will need to be done,” Chang says. “I think it will increase patient as well as physician satisfaction.”

The outpatient-monitoring program will begin later this year at CHOC, Chang says.

**PICKING UP THE PACE**

In addition to improving patient access to care and medical expertise, Chang says, AI is changing the pace of innovation within the medical world. Physicians are often unfamiliar with the advances and benefits of AI. “Most physicians are not aware that MRIs can be read better and faster with computer software analysis and, better yet, tied in with elements of medical records,” Chang says.

The latter feature is particularly important because medical records often include information on a patient’s medical history, including family history, that can be relevant to the imaging results, Chang says. The imaging results, coupled with anonymized data from a patient’s medical history, also can be used to advance medical knowledge through AI software that sweeps the data, searching for patterns that may be relevant to an overall patient population, for instance.

The availability of big data, the ability to gather the data, and the new ability to automatically analyze the data represent a potent combination for solving the mysteries of medicine, Chang says. “It’s going to be an amazing two decades to come in terms of uncovering all the knowledge that previously has not been available.”

**CHAMPIONING CHANGE**

Just how quickly innovations using AI become widespread in the clinical setting depends on the medical profession itself, Chang says. “It could be three to five years. It could be 10 to 20 years,” he says. The more physicians embrace AI, the faster the improvements will come. Chang says the rate of acceptance will depend largely on physician champions, who will be called on to act as change agents, eagerly adopting technology innovations and convincing colleagues of the benefits.

Improved functionality will foster acceptance as well. As AI becomes more embedded in medical technology such as electronic health records (EHRs), which many physicians view as a burden, Chang says the hindrance of such technology will diminish. For example, physicians may spend less time inputting data into the EHR if the input can be done automatically, and would have more face-to-face time with patients as a result. “I think in the future, AI can liberate the physician from computers and electronic medical records because everything will be embedded and more obvious and not be so obstructive in terms of taking care of patients,” he says.
Those who feel threatened by applications of AI, Chang says, are shortsighted about its potential. For example, radiologists should be first in line to learn and appreciate what AI can do.

“If you’re a physician who is afraid of being replaced by computers, then maybe you ought to be replaced because there are so many good things that can come from being in a collaborative mode with computer science,” he says. “So it’s not an ‘us versus them’ situation. It’s what we can do together with computer scientists that I think is the exciting part of medicine for the future.”

The main downside to AI is that overreliance can lead to errors, Chang says, as any traveler whose use of GPS has resulted in being led to a dead end, or worse, knows all too well. “AI can make mistakes, so you have to have human oversight,” he says.

THE ROI OF AI
Of course, another potential downside of new technology is the danger of expending limited resources without reaping tangible benefits—especially in terms of quality and cost. Adopting AI has the potential to control costs, Chang says, because it applies a richer, more comprehensive database of knowledge to a particular problem or task, which in turn fosters solutions more quickly and efficiently.

A study published in 2013 by researchers from Indiana University’s School of Informatics and Computing found that machine learning, a form of AI, can improve the cost and quality of health care nationally. The researchers used an AI framework to show how simulation modeling, which understands and predicts the outcomes of treatment, could reduce healthcare costs and improve outcomes for any diagnosis or disorder.

The study involved 500 patients with diagnoses of major clinical depression, many of whom also had chronic diseases such as diabetes, hypertension, and cardiovascular disease. The researchers compared actual physician performance and patient outcomes against the use of computerized decision-making models. The cost per unit of outcome was $497 for the physician-directed treatment and $189 for the AI model. The AI approach also produced a 30 to 35 percent improvement in patient outcomes, according to a news release, and by slightly modifying parameters of the computer modeling, researchers found that a 50 percent improvement in outcomes could be obtained.

Such results demonstrate the potential of AI to transform the industry, Chang says. “The future is really bright with approaching data science in a different way to help patients,” he says.

Read More
For more examples of clinical innovation in health care, see pages 16-19.
A major contributor to high healthcare costs is the unnecessary use of emergency department (ED) services when urgent or even primary care would be appropriate. In December 2014, the Houston Fire Department’s (HFD) Emergency Medical Services (EMS) division initiated a program designed to redirect non-emergent cases to more appropriate care settings, such as community primary care clinics.

Called ETHAN (Emergency Telehealth and Navigation), the program incorporates mobile technologies to triage EMS 911 cases. When responding to a 911 call, EMS providers assess whether the case is emergent. If it is deemed not to be, the EMS provider and the person requiring care can opt for a real-time clinical assessment via video teleconferencing software on a computer tablet. The assessment is provided by an emergency physician located at HFD’s dispatch center. The physician assesses whether the patient requires transport to an ED or referral to a clinic or primary care physician. Patients who do not consent to the telehealth assessment are transported to an ED.

The goal is to reduce the number of unnecessary ED transports and reduce overcrowding in Houston’s busy EDs, where, according to a study by researchers at the University of Texas School of Public Health, 40 percent of cases are primary care-related.

According to calculations by Diaa Alqusairi, PhD, a senior staff analyst for the HFD and the ETHAN program’s initiator, the average cost to transport a patient by ambulance in Houston is $1,600. The cost to treat primary care-related cases in the ED is $600 to $1,200, about four times the cost of treating the same case in an outpatient clinic.

Of the 6,047 patients agreeing to mobile clinical assessment between the program’s inception in December 2014 and February 2016, only 18 percent were transported to an ED. A majority of the remaining patients were referred to an ED by non-ambulance transport, such as a cab or self-transport, or referred to primary care.

Because of infrastructure and budget limitations, Alqusairi says the program has a maximum capacity of 250 video clinical assessments per week. Although the program has almost reached capacity at times, a more typical number of calls is 100 per week. The city receives about 300,000 EMS calls each year, so Alqusairi sees room for growth with ETHAN, but for the foreseeable future the program is not able to handle mobile assessments for every qualifying patient, he says.

The program is adaptable to other large urban areas, but there are challenges. One of the greatest is up-front technology costs, which totaled $0.7 million for expenses such as IT infrastructure, videoconferencing equipment, and system integration and interfaces.
Another challenge is the cultural change. Current HFD protocol calls for all ambulances sent out in 911 cases to transport patients to an ED. Longtime EMS personnel are accustomed to transporting patients to EDs, no matter the severity of the case.

“It’s a really big cultural change from the way fire departments work,” Alqusairi says. “We’re having better results as more members from the field try the program and adopt it as an essential tool.”

Currently, ETHAN is funded through a federal waiver program totaling $12 million over a five-year period and a city ordinance that penalizes businesses that have contracts with the city but do not offer health plans to their employees. Because of the way the program is structured, Alqusairi says, the state’s telemedicine laws prohibit the services from being reimbursed by Medicare and commercial payers.

Estimated operating costs are $1 million annually, or about $300 per patient served. Using estimated savings of $1,300 per patient not transferred to an ED (the $1,600 cost of transport minus $300), the program has saved HFD $6.4 million so far.

HFD officials are in discussions with area hospitals and health plans about cost sharing, especially for the cost of cab transport to an ED. Although the fire department realizes the bulk of the savings, healthcare organizations also save by avoiding costly ED treatments. The eventual goal is to provide a reduction in the number of EMS transports to a specific hospital and then estimate the cost savings, which would be shared between the hospital and the fire department. “We want to demonstrate the savings for the healthcare system in Houston and take that to the hospitals,” Alqusairi says.

**TREATING STROKE ON-SCENE**

For patients with ischemic stroke, which accounts for about 87 percent of all strokes, the faster treatment can be administered, the less likelihood of brain damage. That is the impetus behind Cleveland Clinic’s mobile stroke unit, which employs an ambulance outfitted with special equipment to bring high-quality stroke care directly to patients.

The mobile unit, one of the first in the country, is part of the clinic’s telestroke program, which uses telemedicine to treat stroke victims at network hospitals in Northeast Ohio, Pennsylvania, and Florida. “We just treat the mobile stroke truck like another node on that telestroke network,” says Peter Rasmussen, MD, director, Cerebrovascular Center, Cleveland Clinic, and the initiator of the mobile stroke program. “So, the same stroke neurologist who answers our telestroke call is virtually present with the patients in the back of the mobile stroke unit.”

The program, started in June 2014 and similar to a program pioneered in Berlin, Germany, is 99 percent reliable, Rasmussen says. Patients are given a preliminary diagnosis and treatment begins at the scene. The ambulances, staffed by a paramedic, critical care nurse, and CT technologist, are supplied with portable CT scanners to detect the type of stroke; images are transmitted to neurologists at the clinic, and blood is tested using a mobile lab. If the patient is experiencing an ischemic stroke, the onboard medical team can administer intravenous tissue plasminogen activator (IVtPA) to attempt to break up the clot. The clinic’s neurologists also begin to assess the need for advanced therapies, enabling patients to be transported to the appropriate healthcare facility faster.

In 2015, the truck was called out about 1,300 times; about 350 of the calls (about 27 percent) resulted in an actual transport of the patient. “We try to take calls for what would be the slightest concern for a stroke,” Rasmussen says.
In comparing a control group receiving IVtPA in a Cleveland Clinic ED to patients receiving IVtPA in the mobile unit, patients in the truck received the medication about 45 minutes faster than the control group, which Rasmussen says translates into 15 percent more patients discharged to home.

Total cost savings for the health system are difficult to calculate precisely, Rasmussen says, but, “In my mind it’s probably saving anywhere between $500,000 and $1 million a year just in the population base that we’re covering in terms of direct hospital costs,” he says.

A mobile stroke unit is easily replicable, but such programs face challenges, he explains. One is complacency within the stroke care community that the existing system of care delivery for stroke is adequate. Rasmussen also says, “There’s this misperception that these programs are too expensive.” But the cost of the truck, minus the cost of the ambulance, is about $400,000—mainly for the CT scanner. “If you think about the cost of long-term care of a stroke patient, you don’t have to save that many patients from long-term disability to recoup the cost of that CT scanner. It’s really very minimal.”

“The other important thing about this program is that it’s really challenged conventional models of care delivery,” Rasmussen says, noting that in-hospital emergency care typically is prioritized over on-the-scene care. “If we’re really going to make improvements in quality of care and outcomes of patients, we have to stop thinking like that. We have to start thinking that what happens before the hospital is every bit as important as what happens when a patient gets to the hospital.”

Of the patients who are transported, about 90 percent have a neurological disease and about 50 percent have stroke. Of patients diagnosed with stroke, about 40 percent receive IVtPA.

“That’s one of the real success stories around the outcomes of the mobile stroke unit,” Rasmussen says. The average hospital, with a general neurologist covering the ED for stroke cases, will administer IVtPA in about 5 percent of cases, he says. For hospitals with telestroke units, that rate may increase to 12 to 15 percent. The significantly higher rate of IVtPA administration in the stroke truck is vital because the medication works best and quickens the recovery process when administered as close to the time of onset of stroke symptoms as possible. Every 15 minutes that is saved translates to a 5 percent increase in the share of patients discharged to home rather than to a skilled nursing facility or rehabilitation center.

“We’re treating probably 10 times as many patients with tPA using the truck than if they come into one of our average emergency rooms,” Rasmussen says. “That translates directly into savings of healthcare dollars.”

For example, he says the cost of care for a patient with ischemic stroke at Cleveland Clinic is about $12,000 for the first 90 days if the patient is discharged to home, $25,000 if the patient is discharged to a skilled nursing facility, and $36,000 if the discharge is to a rehabilitation facility. If a stroke patient’s chances of being discharged to home increase by 15 percent, costs for that episode of care can be reduced by anywhere from $13,000 to $24,000 per patient.

Continuous monitoring of inpatients can be a challenging task for busy clinicians. A prevalence of false alarms emanating from monitoring systems has resulted in alarm fatigue, causing staff to often ignore alarms. Yet early detection and prevention are cornerstones of value-based care.

In 2011, Newton-Wellesley Hospital, Newton, Mass., part of Partners HealthCare, implemented a continuous monitoring system on its medical-surgical units. The sensor lies underneath the patient’s mattress and continuously monitors heart rate and respiratory rate. When rates fall out of the normal range, the sensor transmits an alarm to a pager worn by the patient’s nurse or to a central monitoring system located at the nursing station, says Perry An, MD, COO of the medicine division for Newton-Wellesley and director of implementation for the continuous monitoring system.

“It allows us to monitor the heart and respiratory rates in a continuous fashion, without placing the patient in the ICU,” An says. In comparison, the standard of care for checking vital signs on medical-surgical units is every four to eight hours.

An says the sensors, which are used on all 150 beds in the medical-surgical units, have alerted medical staff to dangerously abnormal heart and respiratory rates, enabling nurses and physicians to intervene and save lives.

The sensor also helps nurses work more efficiently. Use of the sensors oftentimes means that
patients do not require telemetry monitoring. For example, a patient with gastrointestinal bleeding can have his or her heart rate monitored continuously without cardiac telemetry monitoring. By optimizing management of clinical alarms and sensor alerts, Newton-Wellesley reduced the number of telemetry alarms by 80 percent in one year. Having the continuous monitoring system in place played an important role in reducing alarm fatigue, An says.

“It’s allowing our nursing staff to focus on the work they need to focus on as opposed to false alarms,” he says.

David Bates, MD, chief innovation officer at Brigham and Women’s Hospital, Boston, also part of the Partners system, and his colleagues published a study in the American Journal of Medicine on a randomized controlled trial of the continuous monitoring system at a hospital in Los Angeles.

“We showed that when you do monitor, it decreases the likelihood the patients will need to go to the ICU subsequently, and it also decreases their risk of a code blue [cardiopulmonary arrest] very substantially,” he says.

Results from the study, which compared a 33-bed medical-surgical unit to a sister control unit for an 18-month period spanning pre- and post-implementation, showed a decrease in overall length of stay of 0.37 days (9 percent). In addition, the average stay in the ICU for patients transferred from the medical-surgical unit was about two days fewer in the intervention unit after the device was implemented—a 45 percent reduction in length of stay. The rate of code blue events decreased by 86 percent.

Bates says that a cost-effectiveness analysis showed that the technology paid for itself within a year. +

Karen Wagner is a freelance healthcare writer based in Forest Lake, Ill., and a member of HFMA’s First Illinois Chapter (klw@klw.ms).

Interviewed for this article: Anthony Chang, MD, chief intelligence and innovation officer, Children’s Hospital of Orange County, Orange, Calif. (achang@choc.org); Diaa Alqusairi, PhD, senior staff analyst, Houston Fire Department (Diaa.Alqusairi@houston.tx.gov); Peter Rasmussen, MD, director, Cerebrovascular Center, Cleveland Clinic (RASMUSP@ccf.org); Perry An, MD, COO, medicine division, Newton-Wellesley Hospital, Newton, Mass. (pan@partners.org); David Bates, MD, chief innovation officer, Brigham and Women’s Hospital, Boston (BWHMediaRelations@partners.org).
KeyBank: Offering Expertise in Tax-Exempt Financing to Give Health Systems Flexible Options for Growth

Which industry drivers are prompting healthcare organizations to consider tax-exempt options to finance new assets?

Amy Gross: The nature of health care is changing, and we’re seeing a steady stream of major consolidations and acquisitions that require large-scale financing. In addition, sophisticated technology can necessitate significant capital investments, and some hospitals are even seeking financing for working capital to fund growth strategies.

Fortunately, hospitals and health systems have access to a range of financing options. Not-for-profit organizations are especially interested in securing financing that offers lower costs and flexible terms. Given current market conditions, characterized by historically low interest rates, these organizations are evaluating their options, including strategies for refinancing existing debt on more favorable terms or new capital projects through tax-exempt financing structures.

In the not-for-profit segment, 501(c)(3) hospitals and healthcare organizations can qualify for tax-exempt financing by partnering with a state or local government issuer that serves as a financing conduit to issue tax-exempt financing on behalf of the 501(c)(3) organization. In this vehicle, the government or other qualified agency uses its borrowing authority to issue a tax-exempt obligation, and then makes proceeds available (by loan or otherwise) to the 501(c)(3) hospital to be used for completion of a capital project—such as a new facility or new equipment—related to a 501(c)(3) organization’s exempt purpose. Such an arrangement is referred to as conduit borrowing, with the state or local government issuer typically assuming no obligation on the debt.

What are the different types of tax-exempt financing available for conduit transactions?

Gross: Generally speaking, there are two financing structures commonly used by healthcare providers and municipalities for the issuance of tax-exempt debt. The first is a public issuance of traditional bonds. This is accomplished through a long-term structure. Bonds can be very effective for large projects that span an extended period. It wouldn’t be unusual, for example, to have a bond issued for hundreds of millions of dollars for a 30-year term. These are typically issued through a broker-dealer and taken to the market where bond investors fund them in tranches—related investments offered at the same time that have different risks, rewards, and/or maturities. The downside of the traditional bond option is that the issuance costs can be higher. Also, bonds are relatively standardized in that they typically are offered at a fixed rate and structured as a sequence of serial and term bonds sold publicly to institutional investors.

The second structure is a private placement, which can be tailored to the specific needs of each borrower. In this model, the credit is privately negotiated and held on the balance sheet by a specific bank or single institutional investor. The transaction resembles a conventional bank loan in many respects, with a straightforward structure involving only one holder of the debt instrument who can exercise all administrative, oversight, and enforcement functions present in a lending transaction. This structure can be more appealing because it requires limited or no Securities and Exchange Commission reporting, no credit enhancement or letters of credit (LC) fees, and limited involvement from third-party financing professionals. Often, the financing can come together—from commitment to approval—in as little as 90 days, and a private placement can bring some needed diversity in lending sources. In addition, the private placement offers more flexibility with pre-payment penalties compared to a public issuance where pre-payment is typically locked out for 10 years.

The dollar value for private placements generally ranges from $5 million to $50 million. We find that most fixed interest rate commitment periods are in the seven- to 10-year time frame with up to a 25-year financing term.
allowing the lender to price on a shorter yield curve, which is more attractive.

Smaller private placements are usually purchased by a bank. That can translate into fewer and less-restrictive covenants because of the local relationship and trust with the borrower. Typical covenants include a minimum debt service coverage ratio, days-cash-on-hand requirements, and financial reporting obligations. An appraisal may be required where a mortgage is pledged to ensure it meets the loan-to-value test.

Who should be involved in the financing decision?

**Gross:** On the hospital side, decisions typically are the responsibility of the chief financial officer—and sometimes the treasurer as well—along with an external financial adviser who represents the hospital and provides additional counsel and expertise. The financial adviser will solicit proposals from banks and make recommendations to the hospital’s board. In some cases, the registered municipal financial adviser is involved to help manage the municipality’s bond investments and private placements. This individual may not always meet with the hospital’s board of trustees, but that wouldn’t be unusual.

Why do state and local government issuers participate in conduit transactions?

**Gross:** There are several reasons why tax-exempt conduit transactions are favored by state and local government issuers. First and foremost, there is a strong impetus to create an environment that’s favorable for healthcare systems. The presence of a vibrant healthcare infrastructure contributes significantly to the quality of life for an area’s citizens. It can be a factor in attracting employers and new residents, which, of course, ultimately increases the local tax base. Plus, history has shown that these types of financing structures have proven to be a reliable and low-cost financing option available to 501(c)(3) hospitals and healthcare organizations.

What are some other considerations to keep in mind?

**Gross:** When working with a private-placement bank, there are often incentives to coordinate and arrange ancillary business services to strengthen the relationship. Some term sheets may even make these ancillary services a condition. These can include cash management, credit card and payment solutions, and depository and trust services.

We recommend paying close attention to the private placement’s covenant requirements. For example, how much cash on hand will you be required to carry? What’s the debt service coverage? Are the financial reporting obligations reasonable and feasible?

Finally, be sure that the bank with which you’re partnering has the resources to properly support the transaction. Often, a hospital will have a relationship with a smaller, local bank that may be attracted to large private placement borrowing to preserve the relationship, but the local bank doesn’t have the expertise or lending capacity within its portfolio to execute efficiently.

How should an organization get started with a private placement financing project, and what should it look for?

**Gross:** Before making this leap, it’s important to select a lending partner with the necessary credit underwriting expertise to properly price private placement bonds and evaluate the specific terms and covenants required. The responsibility for underwriting private placement bonds falls on the lender, so they need the diligence to analyze and price credit risk. They’ll also need considerable legal expertise. Successful lenders form strong relationships with issuers, placement agents, financial advisers, and bond counsel. They also participate in the market frequently enough and hold a private bond portfolio with sufficient scale to make their credit underwriting legal, and back office infrastructure investments pay off.

Are there any educational materials you would like to share to help healthcare providers in these efforts?

For more information on our tax-exempt financing practice, visit the Key Government Finance website at keyequipmentfinance.com/government/capital.htm.
NEW STRUCTURES, NEW ROLES FOR THE FUTURE OF HEALTH CARE

Many forward-thinking organizations are testing creative ways to position themselves to take on industrywide challenges. Unlike restructuring brought on by dire circumstances, these internal changes are meant to help organizations take on value-based payment, population health management, and the rise of consumerism in health care.

By Laura Ramos Hegwer

Many healthcare organizations are transforming their traditional, insular operating structures to become more nimble and future-focused. What’s more, their leadership and governance also are changing.

“The provider organizations experiencing the most substantial restructuring are those that are coming to market with some type of insurance product, because they are essentially creating a new, stand-alone business,” says John Matthews, principal and U.S. healthcare and life sciences leader, KPMG Strategy, Chicago. Partially in response to the emphasis on accountable care and the shifting of financial risk to providers, several health systems have introduced health plans in recent years.

Even provider organizations without a health plan are restructuring in an effort to develop more regionally focused care teams or enhance their consumer engagement capabilities, Matthews says. “Many progressive healthcare organizations are starting to create nascent consumer insight capabilities, like what you might find in a consumer packaged goods company,” he says. Unlike patient experience departments—which are also becoming more common in the industry—these functions are focused on understanding consumer behavior and motivation.

NEW STRUCTURES, NEW TALENT
Changes in organizational structure are manifesting in various ways, including two of particular note.

Centralizing and professionalizing the board. Governance is evolving. “Today, boards in large health systems are starting to look more like corporate boards in other industries, comprised of senior business leaders who can help guide the organization on how to make investments and where to allocate capital,” Matthews says.

Terri Welter, principal, ECG Management Consultants, Arlington, Va., agrees. “Increasingly, boards are looking at their composition and realizing they may need to add
Making health care more entrepreneurial

Philadelphia-based Jefferson, which includes Thomas Jefferson University and Jefferson Health, has restructured to support what its leaders call a more optimistic and entrepreneurial approach to academic medicine.

“The main reason why many in academic medicine are not as optimistic about the future is that they are relying on the old math—NIH [National Institutes of Health] funding, inpatient revenue, and tuition—for their success,” says Stephen Klasko, MD, MBA, president and CEO, Thomas Jefferson University and Jefferson Health. “We believe success in the future requires new math, which focuses on academics, clinical care, innovation, and philanthropy.”

In fact, Jefferson has restructured its organization along those four pillars, each led by a COO who reports directly to Klasko. The COOs meet regularly and explore opportunities to work together. For example, they might discuss how a large philanthropic gift could be used to purchase new equipment for academic research and to enhance clinical care, while at the same time spurring an innovative partnership with a technology company.

“That would have never happened in a traditional academic medical center,” Klasko says. “If a gift went to one area, like research, the other areas—clinical and innovation—would have never known about it.”

Only 50 to 60 percent of each COO’s compensation is based directly on the performance of his or her pillar, with the remaining compensation based on the performance of the three other pillars.

Klasko believes such incentives are key to fostering teamwork across the enterprise. “If you want to predict a hospital’s performance in the future, look at the C-suite’s incentives,” he says.

Jefferson’s restructuring is seen in other areas as well.

Hiring leaders to support innovation and transformation. As part of its restructuring, Jefferson has hired a new chief innovation officer who is committed to commercializing products and services and to establishing joint ventures with other organizations. The chief innovation officer also works with leaders in the academic pillar to create appointments, promotions, and tenure committee based on entrepreneurship, which will provide a new career track for entrepreneurial faculty.

(In most academic medical entities, if a faculty member chooses to build his or her career around inventions and innovations, advancing up the professorial ranks is difficult because the promotions committee has traditionally looked only at NIH funding, education, and traditional scientific achievements. At Jefferson, leaders are creating a track where one can advance to “professor of entrepreneur and innovation” via a different promotions pathway.)

Leaders at Jefferson also have hired new vice presidents for decision analytics and for telehealth and urgent care, along with adding the role of chief patient experience officer.

Building and reassessing partnerships. In the past two years, Jefferson has grown from a $1.5 billion, three-hospital academic medical center to a $4 billion, eight-hospital system, largely due to a merger with Abington Jefferson Health, Abington, Pa. Jefferson also has signed definitive agreements to merge with Philadelphia-based Aria Health and with Kennedy Health, based in Cherry Hill, N.J. “We have abandoned the traditional hub-and-spoke model of care delivery because nobody really wants to be a spoke,” Klasko says. “Instead, we have adopted a ‘hub-and-hub’ model, in which most care is delivered out in the communities.”

In 2014, Jefferson financially decoupled from Main Line Health, a four-hospital system based in Bryn Mawr, Pa.
“We were very different organizations, and we couldn’t go on pretending we were merged,” Klasko says. But all was not lost. Instead, Jefferson chose to focus on growing its accountable care organization (ACO) with Main Line Health. The Delaware Valley ACO, which manages nearly 100,000 Medicare lives, was one of the 10 most successful ACOs in the Medicare Shared Savings Program in 2014, earning $6.57 million in shared savings.

REORGANIZING FOR BETTER INTEGRATION

In 2015, NewYork-Presbyterian, New York City, reorganized into four major divisions. These include the main academic medical center, with six campuses that operate under a single provider number and board; a regional hospital network including three community health systems under active management; a physician services group; and a division focused on community and population health, which includes the organization’s new ACO.

Moving to an “active parent” model. Previously, NewYork-Presbyterian managed its relationships with community hospitals as a “passive parent.” The community hospitals operated fairly independently, although the boards included staff from NewYork-Presbyterian, says Phyllis Lantos, executive vice president, CFO, and treasurer, NewYork-Presbyterian.

However, leaders at “the parent” hospital soon realized they were not getting the benefits of consolidation that would ensure the long-term viability and ability of these arrangements to continue to meet the needs of the community. “We felt as board members we had responsibility for financial performance, but lacked control to effect timely change in the passive parent model,” Lantos says.

Recognizing that the passive parent model was not working, NewYork-Presbyterian has since moved to an “active parent” model in which the community hospitals operate under a consolidated financial statement, Lantos says. Lawrence Hospital, now NewYork-Presbyterian/Lawrence in Bronxville, N.Y., became the first hospital to enter the NewYork-Presbyterian Regional Hospital Network under the active parent model in 2014. The organization since has moved two other community hospitals to the active parent model.

Strengthening integration. Under the new active parent model, several executives from NewYork-Presbyterian have moved into president or COO roles at the community hospitals. “It’s not that we want to impose everything that we do on the hospital—that’s not how integration works,” Lantos says. “But it is about creating complementary cultures and becoming best-in-class in each geography.”

Still, Lantos recognizes that moving to an active parent role means walking a fine line. “You’re stepping gingerly to keep people engaged and enthusiastic about their institution while asking them to change,” Lantos says. “You don’t want to disenfranchise your community, so you need to maintain the integrity of a community hospital while collaborating on best
After redesigning care processes, UAB Medicine has experienced reductions in length of stay, mortality, and variable cost per surgical case.

**IMPACT OF CARE PROCESS REDESIGN AT UAB MEDICINE**

**Creating a Culture Focused on Patient Quality and Safety**

University of Alabama at Birmingham (UAB) Medicine, Birmingham, Ala., restructured to emphasize a culture of safety and align goals and behaviors to enhance quality outcomes. Additionally, this approach supported enterprisewide initiatives focused on reducing costly practice variations and improving financial performance. A critical organizational care improvement initiative—“UAB Care”—engages clinical faculty in the redesign of care processes across the continuum and measures the subsequent impacts on clinical quality, patient satisfaction, and financial outcomes.

“In an environment predicated on transparency, quality outcomes are paramount,” says Mary Beth Briscoe, CFO, UAB Hospital and UAB Medicine Clinical Operations.

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Meeting or exceeding target
Improving
Needs improvement

*Source: UAB Medicine. Reprinted with permission.*

practices that can improve quality and reduce costs. Furthermore, through integration, we have the opportunity to spread best-practice learnings between the academic medical center and the regional hospital network, with each able to bring their unique ideas to the table.”

**Organizing Physicians.** NewYork-Presbyterian created its new physician services division as a way to provide centralized billing, credentialing, and other support to physician groups in Westchester, Queens, and Brooklyn. Other goals were to provide an umbrella organization for integrating full-time faculty with independent community physicians and to improve access to specialists in the community. A new chief integration and network development officer leads the division.
**Retooling infrastructure to focus on quality.** UAB Medicine recently appointed its first chief medical officer, who leads the system’s quality, patient safety, and clinical effectiveness activities. According to Loring Rue, MD, his role as CMO is “to better align our quality and patient safety efforts across the health system, and to promote value in our clinical practices.” To this end, Rue seeks to establish synergies among existing resources, leverage technology to support clinical operations, and create joint accountability and buy-in among stakeholders. These activities are pursued through the UAB Medicine Program for Clinical and Operational Effectiveness, which was formed as part of the restructuring, and are supported by a newly established advanced enterprise analytics program.

“The demand for improved quality and enhanced operational efficiency was one of the key drivers for reorganizing our quality structure and approach at UAB Medicine,” says Briscoe, who is also the former Chair of HFMA’s Board of Directors. “As with most institutions, we had previously addressed traditional areas of organizational improvement. Effective organizational alignment coupled with our mandate for improved quality created a pathway for our clinical and administrative leadership to partner at a higher level. Collaboratively, key leadership actively pursued the reduction of practice variation and refinement of care processes, and facilitated organizational adoption.”

For those care processes redesigned thus far, UAB Medicine experienced a reduction in length of stay, mortality, and variable cost per surgical case (see the exhibit on page 26).

**Focusing on funds flow alignment.** In 2014, UAB Medicine implemented a funds flow model that redefined the methodology by which dollars are invested in the departments of the School of Medicine to support the tripartite mission. To reinforce the advantages of physician and hospital alignment, UAB Medicine’s funds flow model includes a value-based component. This component cascades from organizational pillar goals and emphasizes collaboration to attain quality, financial, and patient satisfaction goals. Additionally, the model is administered under a shared governance structure where revenue from the practice and the hospital are combined. An example of the shared governance structure is included in the exhibit on this page.

**Creating alignment through organizational restructuring.** To further organizational alignment, UAB Medicine also operationally restructured administrative responsibilities. Clinical operations were consolidated under the health system’s COO, with senior vice presidents for inpatient care and ambulatory care responsible for day-to-day operations and coordination between the hospital and ambulatory clinics.

**Funds Flow is Shared Governance**

Below is an example of UAB Medicine’s shared governance structure for funds flow, with combined revenue from the physician practice and hospital. The model emphasizes collaboration to attain quality, financial, and patient satisfaction goals.

**PREPARING FOR VALUE-BASED PAYMENT**

What does it take for an organization focused on treating acute, episodic illnesses to transform into a true healthcare delivery company? Leaders at SSM Health, St. Louis, believe such a transformation starts with properly aligning the health system’s resources, including in two key ways.

**Building a cohesive physician and ambulatory services unit.** As part of a 2013 restructuring, SSM Health created a physician and ambulatory services business unit that includes the health system’s six employed medical groups in four states.

“What we have lacked is a way to see our assets, including our ambulatory assets, as part of a coordinated, reliable system of care,” says Shane Peng, MD,
Creating a value-based care and payment task force. SSM Health has approximately 500,000 lives under some form of value-based contract, from fully capitated to shared savings to pay for performance. Peng leads a new task force focused on driving performance in the organization’s shared savings and risk-based contracts. “The new task force allows us to reverse-engineer what we need to do to improve performance and realize opportunities from our existing contracts,” Peng says. “If achieved, the amount will flow into the bottom line of the organization.”

“This initiative has already quantified existing value-based contracts to be worth millions of dollars, if SSM can achieve the optimal performance in these contracts,” Peng says. “If achieved, the amount will flow into the bottom line of the organization.”

“Once we understand the infrastructure necessary to perform well in these contracts, we will transition this task force into a more permanent infrastructure that will support value-based contracts moving forward,” Peng adds.

LESSONS LEARNED

Hospitals and health systems likely will add new talent and test new organizational structures as trends such as consumerism and risk sharing gain more momentum. Healthcare leaders who are restructuring proactively suggest the following strategies.

Stop making incremental changes. Jefferson’s Klasko believes healthcare organizations need to quit focusing on the past and start asking, “What if?” At his organization, leaders model out various scenarios, such as what could happen if joint replacements become an outpatient procedure. “We need to be ready for a world that will need less inpatient beds,” Klasko says. “In other words, we need to stop acting like Blockbuster did when the world was moving to Netflix.”

Tread lightly. When restructuring involves changing the parent model of regional hospitals, Lantos, of NewYork-Presbyterian, stresses the importance of emotional intelligence. “You want to be sensitive and deliberate so you don’t damage the relationship,” Lantos says. “You also want to be humble and recognize that as the parent, you do not have all of the answers.”

Reach across the aisle. UAB Medicine’s Briscoe urges finance leaders to proactively approach collaboration with clinical leaders, particularly efforts focused on patient outcomes and clinical quality. “Our current and future roles in finance depend on strategic partnerships and teamwork with our clinical partners,” Briscoe says. “Quality can be a strategic advantage for our organizations and is critical to our future financial and reputational success. Most importantly, quality care is what we owe the patients and communities we serve.”

Use a dyad model to elevate physician leaders. In each of SSM Health’s regions, the president of the hospital division is matched with the president of the physician division. SSM Health also uses a dyad model at the national health system level. “We operate as a singular unit to make sure what we do is balanced and puts the needs of patients at the forefront,” says Peng, whose dyad partner is the health system’s president of hospital operations.

FINDING TALENT FOR THE FUTURE

As the healthcare industry becomes more consumer-focused, KPMG’s Matthews believes many provider organizations will need to recruit talent from outside of health care.

“When life science companies were interested in becoming more retail-oriented in the 1990s, they imported talent from consumer goods companies,” Matthews says. “I believe this will also happen in health care, with organizations hiring from consumer goods, retail, or even technology if they want innovation to occur,” Matthews says.

In the future, providers could even test whether new leaders and structures can support a sales function. Such sales teams could be used to persuade payers to enter risk-sharing arrangements, sell health plans to the market, or directly contract with employers. As Matthews says, “For the first time, providers will need to know how to construct and communicate a value proposition for what they have to offer.”

Laura Ramos Hegwer is a freelance writer and editor based in Lake Bluff, Ill. (laura@vitalcomgroup.com).

Interviewed for this article: John Matthews, principal and U.S. healthcare and life sciences leader, KPMG Strategy, Chicago (johnmatthews@kpmg.com); Terri Welter, principal, ECG Management Consultants, Arlington, Va. (twelter@ecgmc.com); Stephen Klasko, MD, MBA, president and CEO, Thomas Jefferson University and Jefferson Health, Philadelphia (Stephen.Klasko@Jefferson.edu); Phyllis Lantos, executive vice president, CFO, and treasurer, NewYork-Presbyterian, New York, N.Y. (Phl9002@nyp.org); Mary Beth Briscoe, CFO, UAB Hospital and UAB Medicine Clinical Operations, Birmingham, Ala. (mbriscoe@uabmc.edu); Loring Rue, MD, chief medical officer, UAB Medicine; Shane Peng, MD, president, physician and ambulatory services, SSM Health, St. Louis (shane_peng@ssmhc.com).
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WHOLESOME
HOW STATES ARE REDESIGNING HEALTHCARE DELIVERY

Some of the boldest experiments in healthcare payment and delivery reform can be found in individual states that are responding to their unique mix of challenges and opportunities.

By Lola Butcher

In Arkansas, mandatory bundled payments for hip and knee replacements have been standard for years. In Maryland, hospital pay is unrelated to the volume of admissions. And in Oregon, Medicaid patients can get free air conditioners “prescribed” by their physicians if their medical condition warrants it.

While the federal government and commercial health plans experiment with new ways to pay for healthcare services, some innovative states are pursuing payment and delivery reform initiatives of their own.

Even as it pushes its own ideas, the Centers for Medicare & Medicaid Services (CMS) is supporting state-led reforms in the hope that everyone can learn from each other. After all, states are responsible for administering Medicaid programs and providing health coverage for their workers, making them collectively the second-largest healthcare payer in the country. And states oversee private payers that sell insurance to residents, giving them another huge point of influence.

“From CMS’s point of view, the hope is that states will be partners in terms of innovation,” says Tony Rodgers, a principal at Health Management Associates. “If states are engaged, they could be another part of the equation and push delivery system reform much quicker than if just Medicare is involved.”

Arkansas provides an example. Its Arkansas Health Care Payment Improvement Initiative introduced episode-of-care payments for total joint replacements in 2012.

CMS’s Comprehensive Care for Joint Replacement Model, a mandatory program that is scheduled to launch in 67 markets this year, largely mirrors the Arkansas program (although Arkansas assigns the surgeon to be accountable for the quality and cost of care, whereas CMS holds the hospital responsible).

“CMS very often watches what’s happening at the state level and then incorporates, adapts, and adopts things at the national level,” says William Golden, MD, medical director for Arkansas Medicaid. “You can

BY THE NUMBERS

25%
Reduction in inpatient admissions in 2011-15 at Western Maryland Health System, a participant in Maryland’s global budget initiative.

$77 million
Savings over the first two years of Minnesota’s Integrated Health Partnerships program, a Medicaid ACO initiative.

$2 billion
Projected savings through 2022 from Oregon’s healthcare reform initiatives, including the creation of regional coordinated care organizations.
almost take what we did here two or three or four years ago and layer it right on top of what they are doing nationally in Medicare.”

Likewise, states watch what CMS and other payers are doing. As Minnesota was designing its Medicaid accountable care organization (ACO) program, three provider organizations in the state were getting ready to participate in Medicare’s Pioneer ACO program. “We were getting a lot of feedback that they really wanted the state to create some level of alignment in terms of what Medicare was doing and also what some of the commercial payers were doing,” says Marie Zimmerman, Minnesota’s Medicaid director. “So we were very mindful of that in our design.”

Minnesota was the first state to receive federal approval for a Medicaid shared savings program—and CMS liked the state’s approach. “In some ways our model influenced the guidance that CMS put out advising states on how to develop these models in Medicaid,” she says.

TRAIL BLAZERS VS. ORIOLES VS. RAZORBACKS
At the broadest level, the states are attempting the same feat as every other healthcare payer: reduce unsustainable costs while improving care, with the ultimate goal of improving the health of the population. But the variety of approaches showcases American regionalism. (For additional details of four state-based initiatives, see the sidebar on page 36.)

“We’re not out selling the Maryland model, and we’re not proselytizing,” says Carmela Coyle, president of the Maryland Hospital Association. “This is what works for us in Maryland.”

She refers to the state’s unique all-payer, global budget payment model. Hospitals receive fee-for-service payments, but annual revenue is capped—each hospital’s revenue budget reflects the previous year’s budget with adjustments for performance incentives, market shifts, and other factors.

When CMS approved the waiver authorizing the model, it required that every hospital move to some type of value-based payment arrangement within five years; in fact, every hospital moved to the global budget system within six months.

Coyle attributes that “all in” embrace of a new payment system to Maryland’s unusual healthcare history. “We are the only state where all hospital charges are set by the state—and we are the only state with an all-payer system, meaning that all payers pay the same amount for the same service in the same hospital,” she says. “And those two things have gone on for some 40 years.”

Meanwhile, Arkansas is using two strategies: episode payments and patient-centered medical homes. Minnesota has a network of Medicaid ACOs. And Oregon has divided the state into coordinated care organizations (CCOs)—independent organizations responsible for the cost and quality of care delivered in a discrete geographic area.

The variety of approaches reflects the fact that health care is organized differently in different parts of the country. That diversity challenges the Medicare
program and national insurers when they try to introduce reform initiatives nationwide, Golden says.

“They have a one-size-fits-all approach as opposed to what’s happening in Arkansas or Oregon, which are having successful payment reforms that reflect their own geographic constituencies and needs,” he says.

WHO’S GOT THE ANSWER?

Barry Ronan, president and CEO of the Western Maryland Health System (WMHS) in Cumberland, Md., exudes more confidence than many of his peers around the country about the direction in which health care is moving. WMHS operates a 275-bed hospital that is the sole provider in its market.

“I really do think that we’re working on the future of health care,” he says, referring to global budgets for health systems. The state’s All-Payer Model launched as a five-year demonstration in January 2014, but WMHS was one of 10 participants in a similar initiative that started three years earlier.

For WMHS and all other Maryland hospitals, revenue from all payers is 100 percent fixed. That means they have completed the journey from volume-based to population-based payment that most provider organizations are just beginning.

WMHS had a rough go financially in the second year of global budgeting but since has done “exceedingly well,” Ronan says. But that is not what makes him most enthusiastic.

“Could I ever work in an environment other than value-based health care? The answer to that is ‘No,’” he says. “I never imagined four years ago that I would be saying that, but seeing the difference in the care of our patients is just unbelievable.”

With financial support from the state, WMHS tripled its care coordination staff and acquired real-time information systems necessary for population health management. Its approach to care delivery has been turned inside out because the hospital is now a cost center rather than a revenue engine. This transformation has prompted a 25 percent decrease in inpatient admissions over four years while health outcomes for high utilizers and patients with chronic conditions have improved.

While global budgets might work elsewhere—indeed, Patrick Conway, director of the Center for Medicare & Medicaid Innovation, has suggested global budgets may work well for rural hospitals nationwide—Maryland’s all-state model has not yet proved itself to Coyle, who heads the state hospital association.

“We had great first-year results—Maryland’s hospitals hit the ball out of the park,” Coyle says. But a home run does not mean the game is won. Still to come: moving physicians away from fee for service to align their incentives with those of the hospitals and creating a statewide data infrastructure, an essential tool for care coordination and population health management.

“We have much more to learn and to evaluate over this first five years to understand if this model is successful and sustainable over a long period of time,” she says.

“But if other hospital leaders think that the move toward value-based payment is directionally correct, we hope that there will be lessons to be learned from the Maryland model.”

Meanwhile, global budgets at the hospital level might be hard for Oregon leaders to even imagine. That state pays a fixed budget—covering Medicaid beneficiaries only—to its CCOs, which manage and pay for care for patients in a given geographic area.

“Could I ever work in an environment other than value-based health care? The answer to that is ‘No.’ I never imagined four years ago that I would be saying that.”

— Barry Ronan, Western Maryland Health System

Western Maryland Health System is one of 10 Maryland hospitals that have been participating in a state-led global budget initiative since 2011. All Maryland hospitals moved to global budgets in 2014.

<table>
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<th></th>
<th>FY2011</th>
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Source: Western Maryland Health System. Used with permission.
Chris DeMars, director of systems innovation at the Oregon Health Authority’s Transformation Center, thinks the idea could work in some other states. “I would say there is a ton of interest out there and we are asked quite frequently about our model,” she says. “I wouldn’t be surprised if it catches on in other states.”

That same optimism is found in Arkansas, Minnesota, and other states that have made progress in reducing costs and improving quality. In sum, no one has found a universal solution yet—but several states are demonstrating different ways that the value of healthcare delivery can be improved.

WHAT EVERYONE AGREES ON
Despite the variation in reforms from one state to the next, payment and delivery reform leaders agree on one thing: Reform is easier if all payers are aboard the same train.

In Maryland, Coyle says, “I think there is something very critical in our all-payer approach here that allows us to create the alignment necessary to make global budgets work. It would be much more difficult to try to create economic alignment among various providers for just a subset of their patients.”

In Arkansas, Medicaid and the largest commercial insurers support both reform initiatives: per member per month payments to support overhead and practice transformation for medical homes, and episode-of-care payments that offer shared savings if the accountable physician meets quality and cost criteria.

“We have a multi-payer approach where everybody is doing much the same kind of things with the same metrics,” Golden says.

Minnesota tried to align its Medicaid ACO program with initiatives from CMS and private payers to make life easier for the state’s provider organizations. But the reform efforts do not encompass Medicare Advantage enrollees and workers covered by large self-insured employers. Zimmerman says greater multi-payer support is needed for the ACO model to achieve its full potential.

“I think providers are sort of wondering what the tipping point is,” she says. “When does this really move from being a demonstration into a larger systematic change?”

Another consensus of state-level reformers: Rigid rules do not work.

Minnesota designed its reform program to provide flexibility in ACO formation, risk level, and quality measurement. “We were looking for the broadest participation possible, so we wanted to create an overall framework that had enough flexibility to allow that,” Zimmerman says.

The state’s ACOs—called Integrated Health Partnerships—come in a wide variety. One was created through a 12-county joint powers agreement in which the counties contract with physician practices, federally qualified health centers (FQHCs), community mental health centers, and hospitals in their region; one is a group of 10 FQHCs; and others are health systems.

For participating providers, the level of financial risk and the specific quality measures are flexible. “Yes, we want a core set of measures they all use,” Zimmerman says. But some providers serve more people with disabilities, for example, so they have measures that are particularly relevant to their patient population. The state allows providers to propose specific measures that are meaningful for their organization.

Oregon’s CMS waiver offers a different kind of flexibility—and one that DeMars considers important to successful outcomes. CCOs can provide “flexible services” that are not typically covered by Medicaid if a provider believes such services are needed to promote an
Barry Ronan, president and CEO, Western Maryland Health System, says Maryland’s global budgets for health systems represent “the future of health care.”

individual’s health. These may include exercise shoes or a gym membership to support a fitness plan; air conditioners for patients with chronic obstructive pulmonary disease; and short-term, transitional housing for patients who are discharged from the hospital with nowhere to go. “We pay for outcomes and let the CCOs figure out how to get there,” DeMars says.

State policymakers are responsible for payment reform, not delivery reform, Golden says. “We’re not telling people how to structure their businesses; we are telling them, ‘Here are the new incentives. You can design your own local system to meet those incentives,’” Golden says. “So far, that appears to be much more engaging than setting out rules and getting people to react to them.”

STATE INITIATIVES IN CONTEXT
Although a few states are boldly leading the way in payment and delivery reform, many more are just getting started—or have already given up.

“Reform takes time, and when you have changes in political leadership, sometimes that affects your ability to have consistent effort behind these delivery system changes,” Rodgers says. “We have seen states jump out there with delivery system models, but after a couple years, kind of slow down.”

“I think that there are states out there that are discouraged and feel like, ‘Gosh there’s so much we need to do,’” DeMars says. “You have to be really concrete, see what it is the state can manage, and build from there.”

Lola Butcher writes about healthcare business and policy topics for several HFMA publications (lola@lolabutcher.com).

Interviewed for this article: Anthony Rodgers, principal, Health Management Associates, Phoenix (trodgers@healthmanagement.com); William Golden, MD, medical director, Medicaid, Arkansas Department of Human Services, Little Rock, Ark. (William.Golden@dhs.arkansas.gov); Marie Zimmerman, state Medicaid director, Minnesota Department of Human Services, St. Paul, Minn. (DHS.info@state.mn.us); Chris DeMars, director, systems innovation, Oregon Health Authority Transformation Center, Portland, Ore. (OHA.DirectorsOffice@state.or.us); Carmela Coyle, president, Maryland Hospital Association, Elkridge, Md. (ccoyle@mhaonline.org); Barry Ronan, president and CEO, Western Maryland Health System, Cumberland, Md. (webmaster1@wmhs.com).

Read More
For details about four state-level approaches to healthcare redesign, turn to page 36.
 STATES GO BOLD

A closer look at four state-based healthcare innovation initiatives

ARKANSAS: EPISODE PAYMENTS AND MEDICAL HOMES

The majority of payers—Medicaid, four commercial insurers, state and school employee benefit programs, Walmart, and other self-funded employers—support two reform strategies:

- Retrospective episodes of care with physicians or hospitals in control, depending on the episode. A principal provider is accountable for managing quality, minimizing treatment variation, and controlling cost. There are 14 types of episodes, ranging from total joint replacement and perinatal services to urinary tract infections (UTIs) and attention deficit hyperactivity disorder.

- Patient-centered medical homes. More than 82 percent of the state’s Medicaid beneficiaries are enrolled in a medical home; nearly 70 percent of all Medicaid-eligible physicians work in a medical home practice.

Medicaid saved $34 million in the first year of the patient-centered medical home program. Of that, $12 million went to providers as care coordination payments. The remaining $22 million was shared by the state and providers that met quality and cost savings targets.

MARYLAND: GLOBAL BUDGETS

All payers—Medicare, Medicaid, and private insurers—pay hospitals on a fee-for-service basis, but total revenue is capped, which incentivizes hospitals to reduce their care-delivery costs. The initial revenue budget for each hospital was based on historical revenue; budgets are adjusted annually for utilization changes related to shifts in the market, population, service mix, and other factors.

Under terms of the state’s Medicare waiver, per capita hospital revenue growth is capped at 3.58 percent per year. Maryland hospitals must save the Medicare program at least $330 million over the five years of the demonstration, reduce their aggregate Medicare 30-day all-cause readmission rate to the national rate over five years, and reduce infections and other hospital-acquired conditions by 30 percent.

If state hospitals as a group fail to meet the requirements, all hospitals will revert to national Medicare payment rates and rules.

In the first year of the program, inpatient use fell by more than 4 percent and Maryland hospitals saved Medicare $116 million, or more than half of the amount required for the entire five years. Spending growth was held to 1.47 percent, compared with 6 percent in the previous year. Medicare hospital spending growth per beneficiary fell 1 percent, compared with a 1 percent increase nationally. The aggregate rate of 65 potentially preventable conditions, ranging from catheter-related UTI to septicemia, fell by more than 26 percent in the first year.

MINNESOTA: MEDICAID ACOs

The state recognizes two types of ACOs, called Integrated Health Partnerships (IHPs):

- “Integrated” IHPs are health systems that provide both inpatient and outpatient care and serve at least 2,000 Medicaid members. Using a phased-in approach, they assume upside and downside financial risk by the third year of IHP participation. They can propose their own performance thresholds for shared savings.

- “Virtual” IHPs are composed of providers that are not integrated with a hospital system or small integrated systems that serve between 1,000 and 1,999 attributed members. Virtual IHPs are eligible for shared savings but have no downside risk.

Shared savings is based on a total-cost-of-care target and contingent on an IHP’s performance on quality measures.

The program saved the state $15 million in the first year, when six IHPs participated, and $62 million in the second year, when nine were operational. All IHPs earned shared savings and exceeded quality targets in the second year.

OREGON: COORDINATED CARE

Oregon has been working for five years on significant changes that include:

- Shifting all health services, including public health, Medicaid, and employee benefits, into the newly created Oregon Health Authority (OHA)

- Creating 16 regional coordinated care organizations (CCOs) that are accountable for outcomes and costs for a population of Medicaid patients

- Recognizing nearly 600 patient-centered medical homes

- Keeping stakeholders convinced that all this work will pay off

As of this year, more than 90 percent of the state’s Medicaid beneficiaries are enrolled in a CCO, more than 80 percent are engaged with a medical home—and the state is on track to save nearly $2 billion in healthcare costs by 2022.
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How Health Systems Are Making Innovation Their Business

Clockwise from top left:

Thomas J. Graham, MD, an orthopedic surgeon, is chief health strategy and innovation officer, Tavistock Group, and global chairman, Lake Nona Institute, Orlando. He is the author of Innovation the Cleveland Clinic Way: Transforming Healthcare by Putting Ideas to Work, which draws on his experience as chief innovation officer of Cleveland Clinic Innovations from 2010 through 2015 (tgraham@tavistock.com).

Michael Mirro, MD, is chief academic research officer, Parkview Health System, and director, Parkview Mirro Center for Research and Innovation, Fort Wayne, Ind.; and co-director of the Midwest Alliance for Health Education (Michael.mirro@parkview.com).

Marc Probst is chief information officer and vice president, Intermountain Healthcare, Salt Lake City (marc.probst@imail.org).

Q + A

Three leaders of health system innovation centers say such programs can boost healthcare organizations in various ways.

By Lauren Phillips

Health care is in need of innovation: new tools, devices, and processes that can improve clinical outcomes, patient experience, and the bottom line. Many large health systems are taking the lead in developing and commercializing creative ideas generated by their own clinicians and by outside inventors looking for a source of support.

Leadership talked with three innovation executives to learn more about the benefits, challenges, and transformative potential of such initiatives for health systems and for the industry in general.
What kind of innovation is your organization involved in?

Graham: We launched the formal innovation function in 2000, but innovation was woven into the DNA of Cleveland Clinic from its founding in 1921, and it’s given us so many firsts: from blood transfusion and kidney dialysis to cardiac valves and orthopedic implants. We’ve spun out 76 companies, hundreds of royalty-bearing licenses, and thousands of patent applications.

Recently, the big splash was Explorys, which we sold to IBM Watson. It’s a massive database of deidentified information from across the entire healthcare ecosystem, combined with the world’s most scalable performance management platform, which drives improvements in every aspect of medicine and care delivery.

Probst: Intermountain Healthcare is well-known for best practices, and that has led to the development of what we call Care Process Models, which provide expert advice in the diagnosis and management of certain medical issues. They’re not “recipes” but instead help clinicians optimize decision making. These are available, free of charge, on our website. However, we have collaborated with Cerner to develop two related services that we are in the process of commercializing now: software that automates the models and a consulting service to help people get the best possible results from their use.

We are also at the forefront of personalized cancer treatment through Intermountain Precision Genomics, which is capable of testing and providing treatment for the greatest number of actionable gene mutation types and which offers advanced next-generation sequencing.

Mirro: Historically we’ve focused on device and drug development, participating in multi-center trials. But we’re also very committed to process improvement. For example, we received a grant from the Robert Wood Johnson Foundation to address adolescent depression and suicide, which is a major problem in Indiana, using telemedicine. We’ve already modeled some things we think have potential, so now we’re in the process of testing them to see if adolescents will find them useful. And we are increasingly involved in medical informatics.

Why should healthcare organizations be in the innovation business instead of leaving it to outside companies?

Probst: I think the best innovation comes from the people who actually do the work. We’re finding that our clinicians are the ones who provide the most value to the industry. I can’t see every hospital doing this—for some of them, it’s just not part of their mission. But for those organizations that are larger, that have the resources, and, frankly, some of the most innovative and research-oriented clinicians, I think it’s our responsibility.

Graham: The real advantage of conducting innovation in an academic medical center or other not-for-profit healthcare organization is that the “virtuous cycle” is at play. The crucible of ideation is the bedside or lab bench, but if there’s no apparatus in place to nurture that idea, it probably gets shoved in a drawer or thrown away, so no one benefits. When the hospital is capable of seeing the idea through all the necessary stages—for example, engineering, prototyping, regulatory, legal, investment, and ultimate divestment as an external company of royalty-bearing license—that adjacency eliminates a lot of barriers. So that’s why we developed a core competency in commercialization and corporate ventures.

Mirro: Our hope as a health system is that the research and testing we do will benefit our patients, that we improve their care by accelerating not only new product development and commercial ventures but also new process improvement innovations that enhance patients’ experiences and outcomes in terms of health and economics.

For example, in this part of the state we have a cluster of orthopedic device companies that attracts start-ups in that field; those people come to us with their ideas to see how we can help them accelerate their success. This helps the region economically and may bring new technologies to our patients that they would not benefit from outside of an investigational setting.
**What factors are helpful in pushing out new products expeditiously?**

**Mirro:** Having a clinical test environment—which includes a research center, a center for health innovation to screen and seed projects for Parkview staff, and an advanced simulation center—allows us to really accelerate the development of new products from within the health system. Compare this with a team of engineers that thinks of some innovative product but then has to look around for partners and make their invention a priority for someone else. We’re focused internally on our 10,000 employees, but we have innovators from the outside come here to provide advice and referrals to community resources, because the state of Indiana is very focused on the health science space.

On the regulatory side, the key to getting approval in the shortest possible time is being able to identify regulatory barriers facing the particular type of device or product in question, and knowing how and in what order to approach those barriers. For example, a medication adherence app for either an iOS or Android platform may or may not need to get 510(k) approval, depending on how directly it influences the care of the patient. We know a lot about the [Food and Drug Administration] regulatory process because of the many device and drug studies we do, but we also use our academic partners at the Indiana University School of Medicine and their research technology center to advise us on tech transfer.

**Probst:** Having a champion in the C-suite is so important. At Intermountain, that’s our CFO, Bert Zimmerli, who’s my boss. He understands the financial benefits and risks of innovation, he really knows the industry, and he’s personally made it happen. He brought in a small group of us to start the process five years ago, to develop guiding principles and an approach to spur more innovation in the organization; he brought in a vice president for innovation and growth to focus on this function exclusively; and he spearheaded the building of our Transformation Lab, which is all about inviting in new partners, sourcing new creative ideas, and bringing those ideas into the organization.

Now, Intermountain is a very conservative organization, so it wasn’t like selling this idea to the rest of our leadership and board was smooth sailing. We had to do a lot of educating and discussing—Why does this make sense for us? What does it do for us as an organization?—and Zimmerli has been the leader all the way.

**Graham:** I’m a big evangelist for process. The difference between being creative and being innovative is putting ideas to work, and that’s a nonlinear, arduous, long process. If you don’t have the basic architecture or apparatus of innovation, the support system, you’ve got an uphill battle to move the needle. You need the basic building blocks:

- An educational model to teach people how to recognize innovation
- Legal capabilities to protect intellectual property in a patent or trademark
- Medicinal chemistry for pharma
- Engineers and a prototyping lab for medical devices
- Coders for healthcare IT

You also need people who understand market needs, can identify potential investors, and know how to get a favorable deal structured.

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**What are the barriers and challenges in getting innovations to market?**

**Probst:** It took Intermountain two to three years just to achieve a shift in attitude to where we will permit ourselves, as an organization, to be in a commercial venture outside of our core business and mission, which is care delivery. It wasn’t so much a matter of resistance—the culture of innovation has been there all along—but we’d always given it away. We’ve had to work hard to build a business-oriented environment and a team that can take ideas from our busy clinicians and commercialize them.

We still believe in imparting our knowledge freely. But we’ve learned that for our innovators to be really successful, we need to invest money, and that we could actually do a better job of that if we charged for some of these things.
In tandem with that is building an expertise internally that allows us to identify powerful concepts, build prototypes, and find capital to move them forward. We’re not experts yet, but we’re making strides in the right direction. We’re putting a basic foundation in place to make it possible for us to nurture ideas from inside and outside the organization.

Mirro: Sometimes we have difficulty identifying the right population to test a product or care path. Let’s say we want to study a technological solution to problems facing lower-income patients with diabetes, such as sticking with a healthy diet and filling expensive prescriptions. Data mining the system for such a narrowly defined group can be challenging; for one thing, there are competing priorities for our technical and human resources. So we’re working closely with our [information systems] team to come up with simpler analytic tools.

Another challenge is educating staff in what they need to do to bring an innovation to reality; most ideas come from the bedside, so we want to unleash the creativity of nurses and physicians. We provide entrepreneurial coaching—we’re currently developing a more sophisticated curriculum—but it’s a lot of hard work.

What kind of outside partnerships are important?

Graham: You know the fishing’s always better in muddy water, and the seas of health care are certainly roiling now—we have to do better, help more people, and do it faster and with more fiscal responsibility. And I think innovation is going to be the margin of difference. Innovation is an amazing platform for collaboration—it can take former competitors and turn them into collaborators, it can take vendor-client relationships and turn them into partnerships—and we need to democratize it. If a hospital has invested in an innovation apparatus and a doctor working at a hospital across the street has a great idea, if they don’t share, then everybody loses.

We did that very tangibly by developing the Global Healthcare Innovation Alliance, which has allowed Cleveland Clinic to share its capabilities with major universities like Notre Dame, commercial partners like Cox Media, and government-sponsored research centers like NASA.

There’s also a real capital gap in innovation today. I have 50 patents, and each one cost more than $100,000 to develop and protect. It’s a misconception that the venture capital or private equity community is just standing by to dole out money, especially at the pre-commercial level of funding, when you need a few thousand dollars to get something off the drawing board. Luckily, Ohio is a very forward state when it comes to business and had two funds that were very instrumental in the growth of CC Innovation: Ohio’s Third Frontier Fund and Jobs Ohio gave critical capital at some of the hardest times.

Probst: I don’t know that health systems or hospitals make the best vendors in the world. Our mission is health care—serving our communities and helping people live the healthiest possible lives—and vendors need to be more focused on how to generate revenue or, for those that are public, increase their stock value. We definitely add credibility to any of the products or services we might develop, but we’d rather have a vendor lead the commercialization part of innovation.

We invested in an incubator group called HealthBox, which provides a structured framework that helps employee inventors and entrepreneurs determine the commercial viability of their business concept, validate the market opportunity, identify product development or service needs, and develop a plan for growth, including go-to-market strategy and funding needs.

And we have a true collaboration with Cerner: We leverage their technology to automate our Care Process Models, and we’re building pieces of that initiative specifically to fit into that technology. We will benefit from their customer base, and the software will help their customers—hopefully, both ships will rise.
Finally, what are the benefits to the organization?

Mirro: We have a very liberal intellectual property policy that ensures that Parkview inventors benefit financially—typically by licensing a new tool or idea to a commercial entity—with the health system taking a small piece of that to help renew the seed-funding process. For example, an algorithm or pathway to manage a chronic disease might have tremendous value for a large private payer, which could really put the innovation on steroids and launch it.

We look at clinical outcomes but also, particularly with process improvement, at economic outcomes. A product might not have a direct health benefit as far as reduction of mortality, but it might improve the patient and family experience and provide an economic benefit in the form of cost avoidance.

And, of course, our involvement in so many clinical trials spurs creativity among our physicians and other clinical staff.

Probst: The biggest benefit for Intermountain is not yet financial, nor is that the primary reason we got into innovation. We got into it to create an attitude and an excitement around innovating, because we believe that fostering innovation and supporting people who come up with better ways to provide care and better tools is a major part of health care—and that’s the best thing we’re getting out of it.

It also starts to get us into the right circles. People are approaching us now who may not have approached us in the past. New start-up organizations that have exciting solutions are coming to us and asking us to work with them. We bring them in, we pilot their inventions, we share ideas on how to improve them, and that’s really helping us provide better care.

For example, there’s a company called Velano Vascular that’s created a needle-free device that fits into a port so you can draw blood from a patient whenever you need to and do other things that typically involve needlesticks. We tested early versions of the product, we gave them feedback, and we’re piloting it now in three hospitals. My bet is we’re going to be a big-time user of this device, and that’s great for our patients. We won’t benefit financially in a direct way but indirectly in many ways.

Another example is Sotera Wireless. We’ve been working on and off with them for four years on a wearable vital-signs-monitoring device. We believe this could be successful, and we could realize some financial benefit from that eventually, but, again, we got engaged with the company because we came to feel strongly that this was a good thing for patient care.

Graham: Innovation can be a great way for a hospital to augment its bottom line with nonclinical revenue—royalty-bearing licenses, sales to companies, spin-off companies. And if somebody’s ideas make a difference to the bottom line, that boon should be shared. We’ve returned $90 million to on-campus inventors since 2000, writing seven-figure checks to some of them. That’s a very powerful incentive and a very powerful recruitment and retention tool—and an amazing advantage for our organization.

The patients win, they get the newest therapy; the inventor wins, the institution wins, and chances are some jobs are created.

Lauren Phillips is president of Phillips Medical Writers, Ltd., Bellingham, Wash., and a frequent contributor to Leadership (lauren-don-phillips@comcast.net).
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OUTSIDE THE BOX: HOW HEALTHCARE INNOVATION AWARDS ARE DRIVING NEW IDEAS

Four initiatives showcase the potential of a federal grant program to jump-start innovation.

By Ed Avis

Health care in the United States is massively complex and constantly evolving. Those characteristics make the industry fertile ground for innovation, a process the Center for Medicare and Medicaid Innovation (CMMI) has been encouraging through a federal grant process.

A total of 39 three-year grants, ranging from about $1 million to $30 million, were awarded to healthcare organizations in 2014, the second round of funding (107 grants were awarded in the first round two years earlier). The goal was to jump-start programs that could potentially transform payment mechanisms and service delivery. In theory, the programs ultimately could be applied at other healthcare organizations as part of the effort to achieve the Triple Aim of improved patient experiences, improved population health, and lower costs.

Below are case studies of four programs that received grants, each with the potential to transform an aspect of the healthcare system.

ACUTE CARE AT HOME

The physician who makes house calls has been part of medical lore for generations, but the economics of health care today generally are not supportive of that model. An innovative program in New York City aims to show that providing acute care at home can improve the patient experience and population health while saving money.

The Bundled Payment for Mobile Acute Care Team (MACT) Services at Icahn School of Medicine at Mount Sinai, which received a $9.6 million CMMI Health Care Innovation Award, provides in-home acute care to patients who present at the hospital’s emergency department (ED) and meet certain criteria. The patients return home via ambulance and receive three to five days of acute care and 30 days of follow-up attention.

“We do everything we would normally do at a hospital, but we do it at home,” says Linda DeCherrie, MD,
Clinical director of MACT. “A doctor sees you every day, a nurse sees you two or more times a day, and a social worker and physical therapist see you at least once during that time.”

Patients enter the MACT program via Mount Sinai’s ED. Eligible patients have one of eight diagnoses—pneumonia, urinary tract infection, cellulitis, chronic obstructive pulmonary disease, dehydration, hyper- or hypoglycemia, pulmonary embolism, or congestive heart failure—and are on Medicare. They also need to live in Manhattan and cannot be on dialysis. About 150 patients have participated since the program was launched in November 2014.

“When an eligible patient enters the ER, we screen them for home safety and then offer them the program by saying, ‘Would you like to go home with us instead?’” DeCherrie says. “If they say yes, they are sent home in an ambulance and met by a nurse at home.”

The participants receive essentially the same care they would receive in the hospital—including IVs, tests, and professional attention—during the acute period. For 30 days thereafter clinicians are available for follow-up as needed, and a social worker meets with patients to make sure they have transitioned back to the care of their primary care provider.

An important element of the program is coordination with emergency medical services (EMS). If a patient experiences difficulties when clinicians are not in the home, especially at night, the patient can call the physician in charge, who can subsequently call EMS if appropriate. Unlike with typical EMS calls, the responding paramedics can be paid without transporting the patient to the hospital.

“The MACT physicians are certified by our EMS council to provide medical direction, which means they can order medications and treatment by the paramedics,” says Kevin Munjal, MD, MPH, assistant professor of emergency medicine at Mount Sinai. “Typically only emergency physicians working in a base station can provide that role, not the patient’s own doctor.”

Evolution of concept: For the past 12 years DeCherrie has been the director of Mount Sinai’s home-based primary care program, which treats about 1,300 patients with chronic conditions in Manhattan. Those visiting physicians occasionally also provide acute care, she says, but payer obstacles prevent such care delivery from becoming routine.

“It’s frustrating because patients want to be treated in the home,” DeCherrie says. “It’s disorienting, especially for elderly patients, to come into the hospital, and they often develop complications.”

DeCherrie was aware of pilot at-home acute care programs, such as those developed by Bruce Leff, MD, at Johns Hopkins Medicine, so she knew the concept could work. When the Innovation Award program emerged, she felt Mount Sinai’s existing program would be a solid springboard for MACT.

Broader applicability: MACT’s economics are not clear-cut, given that a home visit costs more than treatment provided in the hospital. But the idea is that keeping patients out of the hospital reduces facility costs and the incidence of common complications.
“We don’t have the financial data yet, but similar programs have shown 15 to 19 percent cost savings,” DeCherrie says. “And those patients have lower rates of delirium and other complications.”

As for the status of the program after funding ends in 2017, DeCherrie says Mount Sinai is negotiating with other payers on contracts that cover the program.

MACT could be used in many other health systems, DeCherrie believes, but certain conditions need to be met. A hospital with an existing at-home care program is a better candidate than one that needs to start a program from scratch, she says, and the hospital also requires a density of patients sufficient to allow traveling clinicians to see multiple patients a day.

Another key to success is a strong interdisciplinary team that can see past the typical siloes.

“There’s no question that it’s a big lift,” DeCherrie says. “Hopefully we can create the tools and implementation guides to help other hospitals do it, so it’s easier for them.”

HELPING CARDIOLOGISTS WITH DECISIONS

Decision making in health care can be fraught with complexity. Physicians and patients deciding on a treatment course, for example, have to evaluate numerous factors ranging from diagnostic information to intervention risks.

The SMARTcare program, designed by physicians in two chapters of the American College of Cardiology (ACC), helps cardiologists and their patients effectively make decisions about stable ischemic heart disease treatment. The program, funded with a $15.8 million CMMI Health Care Innovation Award, eventually may be applicable to other medical conditions.

“We want to make sure clinicians and patients have the ability to meet their goals using prospective decision support information that is easy to use at the site of care,” says Thomas Lewandowski, MD, project director of SMARTcare. “We were looking at what the environment was asking clinicians to do to hit the Triple Aim, and we realized clinicians needed help.”

SMARTcare bundles five decision-making software tools that had been used separately. The tools cover a range of issues that cardiologists and patients face before, during, and after a medical intervention.

For example, the FOCUS tool helps physicians make decisions about ordering imaging by asking questions about the situation and mapping the responses to established guidelines. Clinicians using FOCUS enter details about the patient, select a test, and then view on-screen advice that indicates a rating of “appropriate,” “rarely appropriate,” or “may be appropriate.”

“Other tools include decision support education for patients,” says Lewandowski, a cardiologist affiliated with ThedaCare Cardiovascular Care in Wisconsin. “These are tools patients can use before they see the cardiologist to help them understand the workup and treatment, so when they talk to the cardiologist he doesn’t have to explain all of that. This makes the shared decision-making process more effective and gives the patient a better understanding of what it is they’re agreeing to have, and how it may help or may hurt.”

Evolution of concept: SMARTCare was developed by doctors in the Wisconsin and Florida chapters of ACC. The CMMI award allowed the program to scale up more quickly, Lewandowski says.

While SMARTcare is designed specifically for stable ischemic heart disease treatment, the creators envision the idea being applied to other conditions.

“We designed it to be more of a proof of concept or approach,” Lewandowski says. “We wanted to show how you can work with clinicians and patients to attain the Triple Aim and make use of the data already in the electronic health record.”

Broader applicability: Lewandowski notes that effectiveness data on SMARTcare have not been reviewed, but each tool previously have been proven effective individually. When the funding runs out in 2017 the project likely will continue to exist in some form, he says.

SMARTcare is being used by four integrated health systems in Wisconsin and a number of systems, cardiology practices, and multispecialty practices in Florida.

“So we are covering the gamut of geographic areas and various environments, including rural, suburban, urban, large, small, and medium-size,” Lewandowski says.

Lewandowski advises others undertaking these kinds of major innovations to plan for the long run and be prepared for the environment surrounding the innovation to evolve. Projects with the potential to transform care delivery probably will take longer than expected, so having faith in the goal is important.

“You have to make sure that you truly believe in your concept and that you really understand what you’re trying to attain. If you’re really working toward something in the long run, you’re more likely to maintain the excitement.”

— Thomas Lewandowski, MD, SMARTcare
“You have to make sure that you truly believe in your concept and that you really understand what you’re trying to attain,” he says. “If you’re really working toward something in the long run, you’re more likely to maintain the excitement.”

In the case of SMARTcare, Lewandowski has remained enthusiastic despite obstacles.

“Has it been harder than I thought? Yes,” he says. “Have there been more hills and barriers than I expected? Yes. But am I still enthusiastic? Yes. I’ve loved every minute of it. There are great people out there who really want to make health care better.”

INNOVATIVE DEMENTIA CARE

Caring for people with dementia is a costly struggle that likely will grow in the coming decades as America’s population ages. On the other hand, the lives of individuals with dementia and their caregivers can be greatly improved with inexpensive interventions. Furthermore, those interventions probably can reduce care costs over the long term.

Katherine Possin, PhD, an assistant professor at the University of California San Francisco School of Medicine, and her colleagues have been striving to develop a program to efficiently provide those interventions.

“Have there been more hills and barriers than I expected? Yes. But am I still enthusiastic? Yes. I’ve loved every minute of it. There are great people out there who really want to make health care better.”
“Nursing home placement is the biggest driver of healthcare costs in dementia,” Possin says. “We also think we can decrease unnecessary hospitalizations and reduce the cost of medications. We hypothesize that those savings will pay for our program.”

Evolution of concept: The CMMI innovation program encourages grant recipients to modify their programs as needed, and Possin and her colleagues have done that.

“One of the exciting things about this award is that it is an agile research study,” Possin says. “In most randomized trials you need your intervention finalized before you enroll patients, but in this trial we are encouraged to improve the intervention throughout the award as we learn what works best.”

For example, the group learned that the interventions need to be personalized to each patient and caregiver, so which services are provided—such as medication review or respite care—and when they are given is decided through discussion with each family about its needs. And after receiving feedback from the enrolled families that they would like more connectedness with other caregivers, the group developed an online portal that will go live this summer and link families to targeted resources and online support groups.

Broader applicability: The collaboration with the University of Nebraska Medical Center ensures that the Dementia Care Ecosystem can be applied to patients with dementia who live in rural areas.

“We wanted to show that we could make our model of care available to all kinds of patients, urban and rural, from a range of socioeconomic backgrounds,” Possin says. “We also want it to be available to multilingual patients—our team provides care in Cantonese and Spanish.”

The CMMI grant expires in 2017, by which time Possin hopes to have enough data to demonstrate that the program is sustainable and that payers should support it. The fee-for-service model does not support this kind of care, making it a great example of the justification for alternative payment models.

“The care of dementia stands to benefit more from new payment models than any other disease,” Possin says. “Dementia is the costliest medical condition in our country, and care that is continuous, personalized, and proactive could drive down costs.”
-- Katherine Possin, PhD, UCSF School of Medicine

Michael Englesbe, MD, an associate professor and a liver transplant surgeon at the University of Michigan Health System, and his colleagues created the Michigan Surgical and Health Optimization Program (MSHOP), which helps patients better withstand operations. After piloting the program for about two and a half years at the University of Michigan, Englesbe and colleagues earned a $6.4 million Health Care Innovation Award in 2014.

MSHOP is a two-part program. The first part consists of a web-based app that helps surgeons, nurses, and other clinicians explain the risks of surgery to patients, based on the type of surgery, the patient’s comorbidities, and other factors.

“We developed the app ourselves,” Englesbe says. “It allows us to put a number on the risk, like a speedometer. It distills the data down to a single composite number from one to 100.”

The patient’s surgeon or another clinician can use the speedometer narrative to frame the risk discussion and make sure the patient is comfortable with the risk involved. It also helps the clinical team identify high-risk patients who may need pre-surgical intervention, which leads to the second part of MSHOP: a program that “trains” patients for surgery, usually beginning about a month before the operation.

“Once the surgeon and the patient decide to do the surgery, the patient gets a pedometer, a breathing exercise machine, information on nutrition, and information on relaxing,” Englesbe says. “The cornerstone of the program is that they start walking and the program gives them feedback, such as ‘How many steps did you walk today? OK, great, walk more tomorrow.’”

The progressive walking program, nutrition guidance, and lung exercises are all aimed at preparing patients to withstand the rigors of surgery. However, Englesbe says the biggest benefits of the program are not physiological, but emotional and psychological.
“People are scared before major surgery and looking for something to do to affect their outcomes,” Englesbe says. “This gives them something to do. I think it primarily works because they feel empowered, they are part of the team, they are doing everything possible.”

Englesbe says that among the first couple of hundred patients, data show a 30 percent reduction in time spent in the hospital after surgery and a concomitant 30 percent reduction in care costs.

The most important outcome, however, is less tangible. The vast majority of patients who enter the program stick with it, and in patient evaluations prepared post-surgery, nearly all of them note that the program helped them during that stressful time.

**Evolution of concept:** Englesbe says the idea for MSHOP emerged from his experiences, and those of his colleagues, working with frail patients.

“My clinical practice is liver transplantation, and a lot of my patients have a significant decline in function before surgery,” he says, adding that he discussed the situation with U of M colleague Stewart Wang, MD, PhD, a trauma surgeon. “Frail patients are poorly suited for big surgeries, and in our frustration with that we tried to come up with some opportunities to impact their outcomes.”

Five years of discussion led to the creation of MSHOP. Englesbe applied for a CMMI grant during the 2012 round of funding but was denied. “By the second round we had more experience and the technology was well-received, so we got funding,” he says.

**Broader applicability:** MSHOP has been expanded to 14 other hospitals in Michigan, and Englesbe hopes the number reaches 40 before the grant runs out in 2017. About 1,000 patients have experienced the program so far—fewer than the number Englesbe had hoped to reach by this point.

“We’ve found it’s hard to reach as many patients as we’d like,” he says. “As intuitive as the program is—using the technology adds less than about five minutes to the care time—it has been hard to implement among surgeons and nurses. We’ve had to come up with a different implementation strategy for every surgeon and nurse.”

Another challenge, perhaps related, is that some hospitals view the University of Michigan Health System as a competitor and thus are reluctant to implement the program. Englesbe says the MSHOP administrators take pains to not look like they are trying to interfere with competitors.

MSHOP’s innovation grant expires in 2017, and Englesbe and his colleagues have launched a limited liability company called Prenovo to foster the program thereafter.

“We hope to show that the program can have a big impact, and if we can demonstrate this, it can continue with investment and payers like Medicare or Blue Cross Blue Shield of Michigan,” Englesbe says. “We are hopeful that we can help a lot of patients. We’re optimistic that we can continue to drive change forward.”

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**Interviewed for this article:** Linda DeCherrie, MD, clinical director, Mobile Acute Care Team, Icahn School of Medicine at Mount Sinai (linda.decherrie@mountsinai.org); Kevin Munjal, MD, MPH, assistant professor of emergency medicine, Mount Sinai (kevin.munjal@mountsinai.org); Thomas Lewandowski, MD, cardiologist, ThedaCare Cardiovascular Care, and project director, SMARTcare, American College of Cardiology (smartcare@lewcrew.org); Katherine Possin, PhD, assistant professor, University of California San Francisco School of Medicine (Katherine.Possin@ucsf.edu); Michael Englesbe, MD, associate professor and liver transplant surgeon, University of Michigan Health System (englesbe@med.umich.edu).

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**Ed Avis is a freelance writer based in Chicago who frequently writes about healthcare management topics (edavis@edaviswriter.com).**
Payers and providers are evaluating and strongly embracing new models for managing population health that leverage IT tools.

By Michael Dowding

The U.S. healthcare industry is at a crossroads, placing the country in an increasingly untenable position. By 2050, more than 100 million residents are projected to be 65 or older. Many primary care physicians are already overwhelmed by patient volumes, and that trend should only accelerate. And providers of all stripes are wrestling with the implications—to both patient care and the bottom line—of the advent of accountable care and value-based payments.

In this environment, providers and payers are evaluating and strongly embracing new models for managing population health that leverage IT tools to achieve the scale, efficiency, and quality that likely will be non-negotiable requirements in a few short years. In such an evolving discipline, the definition of population health will vary. But most experts agree it encompasses the collection and analysis of patient data from a broad range of information sources, risk-based stratification, and the creation of actionable patient records and clinical work flows that improve patient outcomes and financial results. Executed properly, population health management promotes better health while minimizing the need for expensive interventions.

Delaware Valley Accountable Care Organization, a joint partnership of five health systems in the greater Philadelphia area, is balancing the need for immediate return with the recognition that its complex IT ecosystem will require a longer-term commitment to achieve the requisite interoperability. “We have such a diverse mix,” says Katherine Schneider, MD, president and CEO. “We have multiple owners, hundreds of employed and independent physicians, plus nurse practitioners and physician assistants, and a disparate mix of technology—from electronic medical records to clinical systems. As we like to joke, ‘If you’ve seen one … well, you’ve seen one.’

“But at the same time, we like to emphasize what we call ‘speed to value.’ Yes, we need to keep an eye on the long-term horizon, but we also press our vendors to deliver immediate returns as well. We need to move from volume to value. When we meet with a vendor, we’ll routinely say, ‘This is great, but what value can you deliver in the first 60 days?’”

For example, Schneider says, the organization’s care coordinators had live access to electronic documentation and work flow “right out of the box.”

“Basically, we have simultaneously been in production and implementation—and product enhancement—so we’re getting value quickly,” she adds. “That’s been a great strategy for helping all the stakeholders acknowledge the need to balance short- and long-term thinking.”

This article was excerpted from: hfma.org/Leadership/PopulationHealthIT
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HEALTHCARE LEADERSHIP SKILLS IN AN ERA OF DISRUPTIVE INNOVATION

By Jamo Rubin, MD

A recent Black Book Market Research survey revealed that, for the first time in 15 years, healthcare industry experience dropped from the top 10 skills desired by recruiters of healthcare executives.

This development reflects a new era in health care when “disruptive innovation” is taking hold amid the transition from fee-for-service models to fee for value. These new models are redefining who the customers are and how we approach them. As a result, the healthcare executive skill set needed to help organizations pivot and thrive in this consumer-driven, fee-for-value world also is changing.

For hospital leaders, having years of hospital management experience on a résumé is less important than is understanding how to recognize and attend to the needs of patients as people, rather than as disease states.

The business models and strategies of top consumer-oriented companies provide valuable insight that can be applied to this new era of health care. The successes of companies such as Amazon, Apple, Southwest Airlines, and Starbucks reflect a basic truth—discussed at length in The Innovator’s Prescription, by Clayton Christensen, Jerome Grossman, and Jason Hwang—that true innovation ultimately should flow to the consumer. If you can’t trace the line back to the consumer, then it probably isn’t real innovation.

Furthermore, as Christensen and colleagues also point out, much of the innovation generated by health care’s fee-for-value model will come from new entrants using disruptive business models. And those new market players likely will draw on leaders with skills distinct from those that we typically associate with healthcare executive experience.

A NOT-SO-PUZZLING LIST OF SKILLS

Take a look at Black Book Market Research’s list of the most desired skill sets among recruiters of healthcare C-suite executives:

- Technological and data/systems management
- Advanced analytics
- Deployment and execution
- Strategy/planning/marketing
- Finance and reimbursement
- Leadership
- Relationship/team building
- Communications
- Change management
- Integrity

Some of these skills may not seem applicable in a fee-for-service environment, where buying decisions are made by the physician. Patients are essentially purchasing solutions and services from a provider and hoping these address their ailment. For example, a patient with high blood pressure and diabetes expects to receive prescriptions after a brief office visit (if any visit takes place at all) and to be sent on his way with little, if any, additional support.

But let’s consider the same example in a fee-for-value environment, where outcomes matter. A patient with high blood pressure and diabetes receives prescriptions, but the provider and hospital also seek to understand his personal circumstances and the barriers that may stand in the way of solving these conditions. The health system ensures that the patient has the financial resources to purchase the medicines, a ride to follow-up appointments, and perhaps social support given that social isolation may be a root cause of both medical conditions. This level of collaboration gives the patient and his family the tools needed to achieve a better outcome at a lower cost, and an experience that far transcends the transactional nature of the fee-for-service model.

As fee-for-value takes hold, patients are challenging the boundaries and the definition of the traditional healthcare solution. They no longer simply want a prescription. They want support throughout their journey back to health. Providers and hospitals will adapt to become part of the solution, and leaders within these organizations must challenge traditional healthcare norms and mentalities to succeed.

DISRUPTIVE FORCES NOW IN PLAY

Getting back to Innovator’s Prescription, moving to fee-for-value represents an example of what Christensen calls “disruptive innovation.” According to Christensen,
disruptive innovation almost always comes from the outside, and incumbent companies are typically caught flat-footed by the disruption. Take Christensen’s examples from the past 50 years or so:

Honda and Toyota. In the late 1960s and early 1970s, these were two obscure Japanese small-engine manufacturers that figured out how to make cars cheaper and more efficiently than their American counterparts. They entered the market at the very low end and were paid little attention by the incumbent Big Three auto manufacturers. The disruptive innovators steadily built the infrastructure to go upstream and produce better cars for less, while providing a better buying experience. When brands and models such as the Lexus and Accord were launched, Detroit was caught flat-footed and never caught up.

Apple vs. Blackberry. For years, Blackberry reigned as the 800-pound gorilla in the jungle of smartphones and personal devices. But then Apple came along and made optimizing the customer experience the central focus of its iPhone development. Apple produced a smartphone with a reputation for value across price, capability, and experience that effectively put Blackberry out of business in just over three years. 

Innovator’s Prescription argues that the same disruptive forces are beginning to emerge in health care. Incumbent healthcare organizations have been operating in a fee-for-service environment where patients (i.e., customers) essentially have no choice. If Mrs. Smith’s son Ben falls off his bike and breaks his arm, the family’s primary care physician is most likely to send him to whichever hospital markets most effectively to the physician. Instead of catering to the Smiths’ needs, the physician sends Ben to a hospital that caters to the physician’s needs. The customer has little influence in this buying decision.

Tomorrow’s healthcare leaders will have competencies that help them build and execute successful strategies to answer these questions. This is disruptive change, and if other industries that experienced this kind of seismic shift in business models are any guide, the ultimate winner will be the consumer.

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Hospitals won’t suddenly start marketing to patients over physicians overnight, but the advent of fee-for-value models such as bundled payment and accountable care organizations means the shift is underway.

THE RIGHT LEADERS
Creating value for patients in this environment means creating more comprehensive solutions for their journey back to health. These solutions will include not only clinical care plans but also approaches to solve or mitigate the social and demographic conditions that are impediments to clinical plans. These value-based models thus require levels of sharing and collaboration across providers and their communities that generally are not evident in the fee-for-service healthcare system. And that is one reason it should come as no surprise that many of the top 10 desired skill sets in the Black Book survey of recruiters are related to information and personal relationships: technological and data/systems management, advanced analytics, relationship and team building, and change management.

Reconceptualizing customers, and understanding their motivators, taps into the skill sets of tomorrow’s successful healthcare leaders.

It’s one thing for a leader to partner with a group of physicians, gaining their confidence to continue using that hospital. It’s an entirely different scenario for a leader to partner with local employers and people of the community to ask—with sincerity—questions like:

- How can I lower your costs?
- How can I keep your employees healthy?
- How can we partner with you to build a stronger community?

Tomorrow’s healthcare leaders will have competencies that help them build and execute successful strategies to answer these questions. This is disruptive change, and if other industries that experienced this kind of seismic shift in business models are any guide, the ultimate winner will be the consumer.

OPPORTUNITIES FOR TODAY’S LEADERS
While fee-for-value leaders may hail from other industries, it’s not too late for existing healthcare leaders to help lead the transformation. Leadership teams that embrace people instead of patients, that willingly challenge norms and do not shy away from change, are primed for innovation. Mid-level management and frontline staff are where customer interaction takes place, and these employees must be part of the solution—and armed with the necessary support and tools. Everyone must be aligned and incented with the common goal of achieving truly empathic care.

We stand at perhaps the most exciting and dangerous period for the healthcare community. The business model is changing before our very eyes, and examples throughout business history tell us that once disruptive innovation has started, there is no turning back. By identifying leaders who can embrace and drive this change, the shift to fee-for-value care will be one of our country’s greatest accomplishments.

Jamo Rubin, MD, is founder and CEO, TAVHealth, San Antonio (info@tavhealth.com).

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GETTING TO “AND”: AVOIDING THE PITFALLS OF EITHER-OR THINKING

LIVING WITH COMPLEXITY
It’s easy to get into dualistic, either-or thinking. That’s why it’s been so challenging for healthcare leaders to operate in an “and” world when it comes to payment. Providers receive both fee-for-service and value-based payment. Few, if any, have found that a comfortable place to be.

It’s understandable that we’re anxious for the tipping point to arrive. No one likes the idea of living with “one foot on the dock, one on the boat” indefinitely. But the reality is that we probably will be doing just that for the foreseeable future. Our challenge, frankly, is to stop being so anxious about it. Is it challenging to live in two different worlds? Yes. Should we be paralyzed with anxiety because of it? Definitely not.

ADAPTING TO DUAL ROLES
By channeling anxiety into constructive action, stakeholders can identify the changes required to succeed under dual payment systems. For example, health systems can explore ways to integrate health and wellness into their offerings. Health plans can refine efforts to engage their members in effectively managing their health. Physicians can find new ways to overcome time constraints and partner with patients on their individual health journeys. And all providers can coordinate care in ways that will maximize value for patients and other care purchasers.

At the end of the day, no matter how conflicting the payment systems may be, organizational agendas for managing health (i.e., risk) and managing illness (i.e., fee for service) must align—and they must align around value.

INNOVATING TO THRIVE
Over the years, I’ve often said that if you think you’ll be sitting in the same place next year, doing the same things in the same way, you’re probably mistaken. That’s true at the organizational level as well as the individual level.

Given the challenges of managing under two payment systems over the long haul, it’s easy to see why success in the new era of health care demands significant innovation. Innovation is the theme of this issue, which profiles initiatives at the federal and state government levels as well as in the private sector, demonstrating the roles of all stakeholders in promoting innovative thinking. Going forward, innovation is everyone’s job.

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