CONTENTS

Executive Summary
1 Virtual Care Is Becoming Real

In Depth
2 The Reality of Virtual Care
10 Diversification and Virtual Care Services
11 Telehealth Gets More Coverage From CMS
12 Telemedicine Providers Welcome AMA Guidelines
13 Weighing Telehealth’s Pros and Cons
15 Sports Medicine Turns to Telemedicine
17 Telemedicine’s Expanding Options

Case Study
20 Banner TeleHealth: Reducing Length of Stay and Mortality with TeleICU

Featured Webcast
21 The Telemedicine Playbook: Mercy & Nemours Models

TELEMEDICINE
Advancing From Pilot to Practice
By having an infrastructure in place, we can now expand what we offer to external partners more rapidly and at lower costs.”

In this Insider Report, HealthLeaders Media takes a look at where this game-changing technology is headed, what changes users can expect, and how healthcare providers have overcome challenges. In six original articles, a case study, and an expert webcast, practitioners share their experiences in developing a successful program. Find out what matters now as telemedicine moves from idea to implementation.
Telemedicine is removing geographical boundaries and bringing patients and providers together.

Virtual care is not a new idea. Videoconferencing dates back several decades. Remote monitoring in ICUs began more than a decade ago. Telestroke and remote behavioral health programs have been on the radar in many settings for years.

But two major factors have given virtual care a big boost in the past year. Healthcare's notorious inefficiency is pushing health systems to balance workloads and workflows, erasing distance and time as limiting factors on the provision of care—using virtual care to do much of the balancing. Second, telemonitoring technology is providing improved ease of use and simplicity, while more attractive price points and performance capabilities are driving virtual care innovation into all of healthcare's costly nooks and crannies.

Forty-six states and the District of Columbia offer some form of Medicaid payment for telemedicine services, according to the American Medical Association—though Medicaid payment for more advanced uses, such as remote patient monitoring, is available in only 14 states.

The drive to virtual care is also creating partnerships between providers and businesses that are offering software, hardware, and even clinical and medical staff to facilitate technical innovations. Large hospitals are using virtual care to help small ones. Doctors, nurses, and pharmacists—some affiliated with large providers, some freelancing—are providing care where and when it’s needed, 24 hours a day, 365 days a year.

The team behind the camera

“Healthcare delivery is simultaneously local and virtual,” says Lynn Britton, president and CEO of Mercy, a St. Louis–based system with operating revenue of about $4.5 billion, 4,231 licensed acute beds, and operations in seven states. “For as long as I’ve been in healthcare, people have talked about how it’s all local, and frankly that’s never been completely accurate. It’s always had a regional dimension to it. If you couldn’t get something done in your hometown, you went to the next biggest place to get it. But our belief is that to be comprehensive, we have to have the virtual dimension of it; that removes the geographic boundaries that constrain us, and it has a huge impact on our ability to enhance quality and the service experience for patients.”

Britton says telemedicine has been a 10-year journey at Mercy. Today, Mercy monitors 450 ICU beds in 28 ICUs and two step-down units in 15 hospitals across five states, with 40 board-certified critical care intensivists. The system has telestroke capability in 26 of its 35 hospitals, and it is soon to come in the remaining facilities. On-call neurologists view CT scans and evaluate
patients through a secure encrypted network and two-way video screens on mobile carts. Sixteen of the intensivists are certified in neurocritical care and are part of Mercy SafeWatch, the teleICU program.

All these efforts are supported by more than 80 critical care nurses. In May, Mercy will open a freestanding 120,000-square-foot telementology center that will house 300 clinicians who provide 24/7 care, but with the patients all located elsewhere.

Like many other organizations cutting a virtual-care path, the rural nature of Mercy’s Missouri catchment area was a telementology crucible. But as the benefits of eliminating distance and time accumulated, Britton and his team realized they could also make profound improvements in overall quality systemwide by leveraging virtual care.

“We need to succeed at telementology at a big enough scale so that we have the facts to convince the payers that they’re better off to pay for it, and to convince the broader community of medical professionals that it really works,” Britton says. “That’s one of the reasons for the virtual center that we’re building, to create significant enough scale to make the point that it’s irrefutable.

“What’s taken off in the past four or five years is the way our physicians have embraced” telementology, Britton says. “They now see these technologies as a clinical tool, and they’re imagining how to practice medicine using them, and are driving, in a sense, the experimentation and the innovation going on.”

As this occurs, Mercy assembles the evidence it points to as virtual care’s return on investment.

**Assessing the benefit**

To cut the cost of sepsis, Mercy extended telementology to a skilled nursing facility that had been receiving low-level monitoring, such that the standard for collecting vital signs was to do so once a day—too infrequently to spot downward trends. By using telementology hospitalists and nurses, and trend-spotting algorithms developed in conjunction with Philips, the global technology company, Mercy has been able to increase early sepsis identification in a population of hundreds by 31%, reducing cost per case by $2,800 and decreasing length of stay by two days, says Wendy Deibert, RN, MSN, vice president of telehealth services for Mercy.

But that was just the start. “As we kicked that off, our hospitalists said they were struggling getting their admissions done at night, so we thought: What if we took cross-coverage and moved it up to the centralized monitoring center? And now we are answering all the calls from across the hospital,” she says.

“Over the past decade, Mercy has invested more than $200 million in developing infrastructure, teams, and solutions for telementology,” says Randall Moore, MD, president of Mercy Virtual. “Our investment in telementology is very similar to how we invested in an integrated electronic health record. We were an early adopter, willing to take risks because we saw the potential. We believe good patient outcomes will follow our virtual investment. We have seen good outcomes in areas such as teleICU, telesepsis, and telastroke, but we are moving into a second phase of testing and measuring to further validate.”

The benefit is not just internal. “By having an infrastructure in place, we can now expand what we offer to external partners more rapidly and at lower costs,” Moore says. “We can even address specific patient groups and needs. Because each market is unique—as well as patient groups and programs—we have to take into account multiple factors in order to account for clinical, operational, and financial value.”

“So the return is there,” Britton says, “and it varies depending on which service you’re talking about and what your economic model is as far as reimbursement. If you’re in some sort of ACO structure, then using some of the population healthcare management capabilities where you monitor chronic disease patients in the home, intervene early, and keep them out of the office and the hospital—then that’s a benefit that pays for itself pretty quickly.”

Moore explains that measuring the return varies based on the specific application. “From purely financial returns, we are not yet net positive. But if you are talking about improved patient outcomes, increased access,
and lower costs of care, then yes, we are net positive,” he says. “Mercy supports transformation within and beyond our system. We have met or exceeded many of our objectives. Our goal is to continue to identify programs that can and will drive value in our current system, while accelerating our capabilities within population and personalized medicine.”

**Tackling hazards and complexity**

Virtual-care techniques pioneered in ICUs are spreading to general and pediatric hospital bed settings. Nemours—which owns and operates Nemours/Alfred I. duPont Hospital for Children in Wilmington, Delaware, and Nemours Children’s Hospital in Orlando, Florida, along with major pediatric specialty clinics in Delaware, Florida, Pennsylvania, and New Jersey, employs more than 600 physicians and reported net patient service revenue of $732 million in 2013.

“We wanted to provide an extra set of eyes for nursing, facilitate rapid responses of care as need be, not waiting minutes but down to seconds, [and to] establish more of a central monitoring … to troubleshoot issues, while creating oversight of things like code blue care coordination and just-in-time aspects of things,” says Stephen T. Lawless, MD, MBA, vice president of quality and safety for Nemours.

“Hospital ward beds are what ICU beds were 10 or 15 years ago,” Lawless says. “More complexity [and] higher ward acuity is now becoming more the norm. That actually leads to more alarms for the monitoring being done, and alarms subject you to alarm fatigue. Medical research is really showing almost a linear relationship between medical errors and the number of tasks assigned to a bedside provider. The more you do, the more likely there’s going to be an error.”

From Nemours’ own internal review of its claims, the organization found that the recognition and monitoring issues were associated with 55% of its malpractice incidents and 80% of the malpractice payouts.

Traditional communications tools—phone calls, yelling down hallways—cannot adequately address the false alarm that traditionally reaches a clinician once every 92 seconds on average, Lawless says. Indeed, in 2013, The Joint Commission approved a new National Patient Safety Goal on clinical alarm safety for hospitals and critical access hospitals. Also, this year, alarm hazards topped the ECRI Institute’s Top 10 Health Technology Hazards list—the fourth consecutive year.

To address this concern, Nemours created a Clinical Logistics Center, described in the October 2014 issue of the *Journal of Hospital Administration*. The CLC is a hub where all of Nemours’ monitoring technology is integrated and tracked 24 hours a day, 7 days a week, by trained paramedics.

**Real-time surveillance**

“Instead of just looking within our box of how we do alarms, we decided to take cues from other industries,” Lawless says. “We looked for continuous improvement of redundancies. We looked at the airline industry, air traffic control, NASA, aircraft carriers, nuclear power plants, trying to look at why...
they are acting a lot of times at a Six Sigma level. All these systems had systemic redundancies to ensure failsafe responses, rather than just individual alarms.”

The CLC doesn’t exist just to monitor alarms, however. “We needed to create more of a real-time surveillance,” Lawless says.

So the CLC also assists busy clinicians with order entry. “Even those who have electronic medical records know that entering orders into an electronic medical record could take 45 minutes to an hour, hour and a half,” Lawless says. “There are ways of designing and having other people listen in and work with you in terms of facilitating those orders and getting them verified. These are the specifications, along with using the National Patient Safety Goals, for how we designed our logistic approach.”

“Limitations of the CLC are a result of its young age,” Nemours researchers wrote in the JHA article. “Acceptance by the bedside staff is slowly growing. Many staff members do not have experience with this innovative alarm management approach.”

One positive development is that nurses are more willing to ask for help than before the CLC was implemented, and Lawless cites data to demonstrate that willingness: “We consider this 38%–50% increase from baseline of other children’s hospitals a good thing.” The value of asking for help through the CLC system is that it replaces a previous pager-based system where average response time was 5.5 minutes; now, that has drastically been reduced to a sub-30-second response time from CLC personnel.

“It’s near 24 months since the CLC startup, and we’ve had no unexpected mortality events on the general wards,” Lawless says. “We have expanded to a second hospital that we’ll be monitoring within our system.”

**Costs and benefits**

By establishing a centralized monitoring approach, Nemours has cut costs by two-thirds over more traditional models, while increasing standards for patient safety and quality care, Lawless estimates.

“We were very fortunate to include the infrastructure for the Logistics Center’s centralized monitoring system as we built Nemours Children’s Hospital and expanded to Nemours/Alfred I. duPont Hospital for Children,” Lawless says. “The start-up cost for this infrastructure, like wiring, cameras, and monitors, was $250,000. Continuing operating costs total around $500,000 annually to monitor patients from both hospitals through the Logistics Center. This cost includes staffing and infrastructure updates.”

Lawless compares this cost to that of a more traditional unit-based monitoring approach. “Using a traditional model, we estimated costs of $200,000 per unit or $800,000 for just one hospital, including wiring, monitors, and other infrastructure needs,” he says. “In a state where beds are clustered, staffing would also be more extensive.”

Lawless notes that while CLC doesn’t generate revenue, the value it brings to Nemours Children’s Health System is from the patient harm it helps prevent. “Using the centralized monitoring system, we have not seen any unexpected mortalities in either hospital. We’ve also seen more timely responses to patient calls and alarms, greater nurse satisfaction and patient experiences. Through decision-supports, we’ve reduced errors by delivering medications on time and alerting providers of critical lab results.”
On October 31, 2014, CMS released a new final rule on payments to physicians, which included a provision effective this year to cover remote multi-symptom chronic care management using a new CPT code with a monthly unadjusted, nonfacility fee of $42.60 per month per qualified patient. In all, CMS added seven new telemedicine billing codes, including psychotherapy, prolonged office visits, and annual wellness visits.

“Eight million newly covered people actually want to go get care, and that puts more stress on the primary care system,” says Jason Gorevic, CEO of Teladoc, a Dallas-based independent provider of virtual care services to more than 8 million members. “Teladoc is a sort of pressure-release valve for the primary care system.”

With customers primarily drawn from employers’ health plans, Teladoc is taking stress off brick-and-mortar systems, Gorevic says. “One-fourth of our users who seek care from Teladoc would have otherwise ended up in the emergency room,” he says. “Another probably 35%–40% would have ended up in an urgent care center.

“Physicians in general, intensivists probably in particular, are not great at surveillance,” Simons said in the program. “They are good at reacting to incidents, emergencies, identifying the patient and then acting to stabilize and set a care plan for that patient. But what they are not particularly adept at is walking by patients continually to see how they are doing: Is there some subtle evidence of decompensation that has not risen to the level that it piques my curiosity? And that is what the teleICU software and the collaboration with the teleICU nurses brings to bear. It brings those population management tools and computer algorithms to help identify those patients that you should look at, and bring those to the attention of physicians who traditionally might pass by that patient.”

Banner has now fully implemented telemedicine-powered surveillance monitoring outside the ICU at all beds in two of its hospitals, according to Julie Reisetter, RN, chief nursing officer of the Banner Telehealth division.

While Banner continues to study the data in its tele-acute facilities, early results indicated a reduction in transfers to the ICU from the ward by nearly 50% and a decline in the fall rate from 3.1 to 2.2 per 1,000 patient days. Reisetter points to anecdotal stories from nursing staff “where they’re monitoring this population of patients in this facility, and all of a sudden they’ll have an alert for a high heart rate,” she says.

“They’ll put on their headset. They’ll quickly camera into the room, and next thing they know, they’re saying, ‘Stay in bed; we’re going to get someone. Hold on,’ and we have the ability to simultaneously get the team. So it’s fascinating to be able to tie some of those physiologic triggers to something that we think can potentially help reduce falls.”

**The financial urgency**

The rapid growth in newly insured due to the Patient Protection and Affordable Care Act is exacerbating already existing clinician shortages. Providers say virtual care addresses these shortages by load balancing available clinician resources across the Internet in a wide spectrum of care settings.

In response, the federal government via the Centers for Medicare & Medicaid Services, commercial payers, and state agencies are accelerating steps to reimburse for virtual care services rendered.

On October 31, 2014, CMS released a new final rule on payments to physicians, which included a provision effective this year to cover remote multi-symptom chronic care management using a new CPT code with a monthly unadjusted, nonfacility fee of $42.60 per month per qualified patient. In all, CMS added seven new telemedicine billing codes, including psychotherapy, prolonged office visits, and annual wellness visits.

“Eight million newly covered people actually want to go get care, and that puts more stress on the primary care system,” says Jason Gorevic, CEO of Teladoc, a Dallas-based independent provider of virtual care services to more than 8 million members. “Teladoc is a sort of pressure-release valve for the primary care system.”

With customers primarily drawn from employers’ health plans, Teladoc is taking stress off brick-and-mortar systems, Gorevic says. “One-fourth of our users who seek care from Teladoc would have otherwise ended up in the emergency room,” he says. “Another probably 35%–40% would have ended up in an urgent care center.

“As hospital systems begin to take more
care offering through the launch of AnywhereCare, online services that provide a personalized response from a UPMC provider, usually within 30 minutes of submitting symptoms. If needed, prescriptions can be sent directly to the member’s pharmacy, and e-visits cost $38 or less, depending on the patient’s insurance provider.

According to Sokolovich, episodes of care are an estimated $86.60 less expensive when UPMC members utilize AnywhereCare instead of presenting in primary care, the ED, or urgent care.

Telepharmacy opportunities

Another example of how virtual care can bend healthcare’s cost curve is the advent of telepharmacy services. In the small town of Ogdensburg, New York, which is situated on the U.S. side of the St. Lawrence River, Claxton-Hepburn Medical Center, a 100-staffed-bed hospital, uses a service known as PipelineRx. This

### HEALTH I.T. INVESTMENT AND TELEMEDICINE

Among the relatively few healthcare leaders who do place telemedicine in the top three areas of healthcare IT that are of strategic importance in supporting their organization’s financial targets over the next three years, those who rank it No. 1 are prepared to invest heavily.

<table>
<thead>
<tr>
<th>Service</th>
<th>Major new investment needed</th>
<th>Minor new investment needed</th>
<th>No new investment needed</th>
<th>Don’t know</th>
<th>Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telemedicine</td>
<td>56%</td>
<td>41%</td>
<td>3%</td>
<td>0%</td>
<td>34</td>
</tr>
<tr>
<td>Data analytics</td>
<td>55%</td>
<td>39%</td>
<td>1%</td>
<td>5%</td>
<td>119</td>
</tr>
<tr>
<td>Clinical IT</td>
<td>53%</td>
<td>40%</td>
<td>3%</td>
<td>3%</td>
<td>149</td>
</tr>
<tr>
<td>Actuarial skills for risk assessment</td>
<td>53%</td>
<td>27%</td>
<td>7%</td>
<td>13%</td>
<td>15</td>
</tr>
<tr>
<td>Data integration</td>
<td>51%</td>
<td>34%</td>
<td>3%</td>
<td>12%</td>
<td>59</td>
</tr>
<tr>
<td>Electronic health record</td>
<td>45%</td>
<td>38%</td>
<td>9%</td>
<td>8%</td>
<td>119</td>
</tr>
<tr>
<td>Financial IT</td>
<td>43%</td>
<td>41%</td>
<td>4%</td>
<td>12%</td>
<td>49</td>
</tr>
<tr>
<td>ICD-10</td>
<td>42%</td>
<td>33%</td>
<td>8%</td>
<td>17%</td>
<td>36</td>
</tr>
</tbody>
</table>

**SOURCE:** HealthLeaders Media Industry Survey 2015: Succeeding in the Risk Era: How to Accelerate Progress Toward a Value-Based Future, January 2015

and more risk, and act like payers, more and more they’re looking to solutions like telehealth to help manage the overall risk of the population, help manage the cost of care, and help manage the leakage outside of their system,” he says.

A December 2014 actuarial study by Red Quill Consulting found that telehealth can save $100 or more compared to the estimated cost for in-person care. The study used de-identified data provided by Teladoc, Anthem, American Well, Doctor on Demand, and Optum. The study also found that 83% of telehealth visits resolved the issue for which care was being sought, requiring no additional follow-up care.

**Redistributing specialty care**

At UPMC, the Pittsburgh-based health system that operates more than 20 hospitals with more than 5,100 licensed beds, virtual care now encompasses outpatient centers, inpatient care, homecare, and employer medicine, says Lawrence R. Wechsler, MD, vice president of telemedicine services of UPMC.

“It’s the redistribution of specialty care,” says Wechsler. “Pennsylvania is a fairly rural state. You don’t have to go far outside of Pittsburgh before things are pretty rural. While there’s primary care in many of these areas, even 50 or 100 miles away from Pittsburgh, you can’t get specialty care, so patients have to drive two, three hours to get to either Pittsburgh or Philadelphia.”

At present, UPMC provides these telemedicine services at clinics in Franklin, Bedford, and Hermitage. Across the three locations, UPMC has seen 1,200 patients virtually, according to Natasa Sokolovich, executive director of UPMC’s telemedicine program.

In 2013, UPMC extended its virtual care offering through the launch of AnywhereCare, online services that provide a personalized response from a UPMC provider, usually within 30 minutes of submitting symptoms. If needed, prescriptions can be sent directly to the member’s pharmacy, and e-visits cost $38 or less, depending on the patient’s insurance provider.

According to Sokolovich, episodes of care are an estimated $86.60 less expensive when UPMC members utilize AnywhereCare instead of presenting in primary care, the ED, or urgent care.

**Telepharmacy opportunities**

Another example of how virtual care can bend healthcare’s cost curve is the advent of telepharmacy services. In the small town of Ogdensburg, New York, which is situated on the U.S. side of the St. Lawrence River, Claxton-Hepburn Medical Center, a 100-staffed-bed hospital, uses a service known as PipelineRx. This
There are peaks and valleys within all their organizations and in the prescription flow. PipelineRx can provide its own pharmacists to staff the telepharmacy, Roberts says, or can provide its technology via software as a service, so hospitals can optimize their own internal infrastructures.

Kiosk care

Virtual care is changing not just the location of healthcare providers but also the way in which care is delivered. Mark Ciota, MD, CEO for Mayo Clinic Health System sites in Austin and Albert Lea, Minnesota, deployed a HealthSpot virtual-care kiosk in October 2014 at the 40-staffed-bed Austin hospital, initially piloted with employees and dependents. The 8-foot-by-5-foot walk-in kiosk features privacy for patients and an array of instruments that remote clinicians can use to evaluate kiosk visitors, including

permits remote licensed pharmacists to verify doses, check drug allergies and food interactions, and determine cost appropriateness of delivering medication via IV versus oral therapy—20 potential interventions in all. It also provides pharmacist approval for orders without having to be on site, says director of pharmacy Greg Guimond.

“For me, it adds an entire evening and night shift,” Guimond says. “I have a pharmacist available for the facility just a phone call away without having to hire my own staff. It helps stretch my employment dollars further. I can hire a telepharmacy company for probably half the price per hour that it would cost me to hire a pharmacist with salary and benefits.”

PipelineRx can afford to provide such service for half the price because its pharmacists support multiple facilities at the same time, Guimond says.

The service, which connects into the hospital’s electronic medical record and order entry systems via the Internet, also overcomes a problem that arose with the introduction of EMRs. “When nurses were doing paper medication administration, they could pencil in the drug that they needed, and we had a system where they could get the medication out of a night cabinet and administer the drug,” Guimond says. “Whereas since it’s all computerized now, if a pharmacist doesn’t verify it, the nurse doesn’t even know they have to give it. So we really need to have the ability to verify those orders 24/7.”

The advent of telepharmacy is a natural follow-on to earlier services such as teleradiology, says Brian Roberts, CEO and founder of PipelineRx, a San Francisco–based medication management services company that focuses on clinical telepharmacy to acute care hospitals. “Pharmacies are overstuffed by 50%,” Roberts says.

“There are peaks and valleys within all their organizations and in the prescription flow.”

PipelineRx can provide its own pharmacists to staff the telepharmacy, Roberts says, or can provide its technology via software as a service, so hospitals can optimize their own internal infrastructures.

CARE ACCESS AND TELEHEALTH

More than half of healthcare leaders expect to begin or increase investment in telehealth to improve access to care as part of their population health strategy.

| Access to midlevels such as NPs, PAs | 74% |
| Patient engagement program(s) | 66% |
| Public outreach programs to foster wellness | 60% |
| Employ physicians to improve access | 57% |
| Telehealth | 51% |
| Participate in an ACO | 42% |
| Participate in a physician-hospital organization | 25% |
| No access-to-care investments expected | 1% |
| Don’t know | 1% |

SOURCE: HealthLeaders Media Intelligence Report, Population Health: Are You as Ready as You Think You Are?, October 2014
a stethoscope, thermometer, pulse oximeter, magnascope, otoscope, and blood pressure cuff; the kiosk also features a UV-based cleaning system for between visits.

“It’s a whole different process for a patient to end up in there for a treatment,” Ciota says. “That is different than the typical method where you have to get an appointment and you have to try to show up on time for that appointment. It’s usually a little bit late. You have to then wait in a waiting room. For a 15-minute visit with the provider, that can take a half a day.

“With the HealthSpot, you get your appointment—online or on the phone—you skip all those other steps and you show up and you key yourself into it and you go into it. You have your visit with your provider. You can get your prescription there or have it sent somewhere else. And then you’re done. That’s it. So the visits are much more efficient from a patient viewpoint.”

Mayo opened a HealthSpot—called the Mayo Clinic Health Connection—in early March at Ellis Middle School as part of a new initiative with Austin Public Schools, in the service area for Mayo’s Austin hospital and clinic. A second Mayo Clinic Health Connection also was established at a Mayo facility next to Austin High School.

Ciota says Mayo is even thinking about deploying a Mayo Clinic Health Connection in the waiting areas of some of its own emergency departments.

“That allows that patient to get timely care. It also then unloads the ER system for patients who really do need the more acute services,” he says.

Like some other virtual-care entrants, HealthSpot works with systems such as Mayo or Kaiser Permanente San Diego (which has deployed the HealthSpot kiosk at a government employment center) to put their own clinicians behind the camera.

HealthSpot, based in Dublin, Ohio, also recently announced that Rite Aid Corporation will be piloting the kiosks in Ohio pharmacies.

“When CVS opens a MinuteClinic with the original model, they spend approximately $250,000,” says HealthSpot founder and CEO Steve Cashman. “It costs $15,000 to install a HealthSpot. When CVS hires two nurse practitioners to work in there, they spend approximately $300,000 in payroll to hire two NPs. All they need with me is a medical attendant at 12 bucks an hour to greet people and clean the unit afterwards.”

Cashman notes that HealthSpot-operated kiosks can keep up with the latest developments in point-of-care medical device technology as it becomes available.

Not to be outdone, Rite Aid rival Walgreens recently announced it would deploy virtual-care provider MDLIVE in pharmacies, starting in California and Michigan. Basic MDLIVE telehealth visits cost $49 (or less, based on health insurance coverage) and include an on-demand encrypted video copy of the visit for customers.

“If you just have virtual low acuity, you will be able to take cases that would have inadvertently maybe gone to the emergency department, but it becomes commoditized and you have a fragmentation,” Parker says. “But having a continuity of care between a virtual network, connected deeply to a physical network, sharing the same medical record, having the integration of the ability to schedule that consumer is what we’re building on a national basis.”

Beyond the remote locations, kiosks, and retail locations looms the prospect of more and more virtual care being delivered directly to the home, or anywhere consumers are.

“You can do it in your home, and soon, frankly, I think consumers will be able to do it no matter where they are, with all these biometric monitoring devices and wearable related technologies,” says Mercy’s Britton.
DIVERSIFICATION AND VIRTUAL CARE SERVICES

Scott Mace, HealthLeaders Media

In numerous cases, virtual care is a new growth strategy for healthcare systems.

Because third parties such as Teladoc and PipelineRx can provide care to health plans and systems, health systems can choose to pursue growth by providing virtual healthcare to other healthcare systems through partnerships.

Intermountain Healthcare has deployed virtual care infrastructure in all 260 ICU rooms and 140 emergency departments systemwide, says Tara Larkin, operations director for telehealth services for Intermountain Healthcare, a Salt Lake City–based system that includes 22 hospitals and more than 185 clinics.

“We don’t have neurologists or intensivists or infectious disease docs available in all of these locations, and so what it allows our clinicians to do is reach out and get the specialists that they need,” Larkin says. But like Mercy, Intermountain is also planning to offer itself as a virtual care provider for other healthcare systems.

“It is a revenue diversification strategy,” says Lynn Britton, president and CEO of St. Louis–based Mercy. “Organizations that are early adopters are sort of riding that wave of growth in an emerging new sector of healthcare,” he says. Both Intermountain and Mercy were first-time exhibitors at the 2014 American Telemedicine Association trade show, offering their virtual care services to other healthcare organizations.

“We’re in dialogue with a number of different healthcare systems across the country to provide them different kinds of virtual care services, and even international conversations are going on with a couple of countries that are considering Mercy to provide a national level of service for their country,” Britton says. “So it’s very much a growth strategy for us.”

At UPMC, Lawrence R. Wechsler, MD, vice president of telemedicine services of the physician services division, says, “We are doing international telemedicine in several different places.”

Virtual care suppliers can also complement and advance the efforts of healthcare providers. Take, for example, St. Louis–based Advanced ICU Care. The 10-year-old company operates two state-of-the-art telemedicine facilities, with two operations scheduled to open this summer, that work directly with bedside clinical teams.

“Clinicians, particularly intensive care clinicians, are in short supply. As part of our strategy, we have opened in several markets to recruit clinicians in these areas,” says Advanced ICU Care chairman and CEO Lou Silverman. “We have a very robust set of experiences in implementing services for a wide range of installations at a wide range of hospitals in more than 20 states.” Originally started to provide bedside staffing of intensivists, the company expanded into teleICU services seven years ago, and annual growth has averaged 35% per year, says Silverman.

SSM St. Mary’s, a 175-staffed-bed hospital based in Jefferson City, Missouri, and part of the SSM Health Catholic healthcare system, became a customer of Advanced ICU Care in 2006. “One of our challenges was to convince all of the physicians that practice in our ICU that we were offering them additional expertise,” says Alice Chatley, chief nursing officer at SSM St. Mary’s.

When the pushback reached its height, some physicians claimed the patients as their own and reserved the right to order any consultations. In response, “we sold it as, this is our ICU,” Chatley says. “We want your patient in our ICU to get the best care, and so this is a service that we, the hospital, are providing for you and your patient. And we kept saying that, singing that song over and over, and now it’s just a given.”

As for outcomes, mortality declined, not because ICU clinicians at SSM St. Mary’s were treating patients wrong, but because they weren’t documenting all the necessary information, a problem corrected by Advanced ICU’s participation, she says.
Among the new rules are provisions that will pay for remote chronic care management. “The combination of the chronic care management code and being able to use it in conjunction with monitoring of those chronic conditions is a big step forward,” says the American Telemedicine Association.

Capistrant says the new rules also represent an acknowledgement by CMS that reimbursing for chronic care could prove to be cost-effective.

“It’s an important policy move. Whether it is sufficient, time will tell, but it is certainly a step in the right direction and an important initiative,” he says. “There has been a lot of focus on primary care, even with the Medicare population. That may be the 80% of the people, but it is only 20% of the problem. There’s an increasing emphasis on looking at the 80% of the problem that is 20% of the people, and that is chronic and specialty care. They understand that the government is spending a huge amount for chronic care conditions and that there is a value managing those to reduce the overall expenditures.”

As a practical matter, Capistrant says, the new evaluation management code for chronic care management will be much more commonly used because “it’s a better fit between management and monitoring.”

As for the reimbursements, Capistrant says “only time will tell whether those amounts are sufficient to get physicians to focus on chronic care management and monitoring. I think it will be attractive to physician community, geriatricians, and others who deal with these chronic conditions.

Hospitals might also take a greater interest in chronic care management if only to avoid readmissions penalties. “More than 2,000 hospitals have a penalty this year in their Medicare rates because of readmissions. There is an increasing demand for this kind of service, and it fits together,” Capistrant says. “There is an increasing demand for this kind of service, and it fits together.”

The new rules also include seven new covered procedure codes for telehealth, including annual wellness visits, psychotherapy services, and prolonged services at physicians’ offices.
In its recommendations, the AMA cements what providers have been hearing for years: Telemedicine needs more regulation and reimbursement.

In what is seen as its biggest step forward in acknowledging the value of telemedicine, the American Medical Association issued, in early June 2014, a list of eight policy recommendations for providers who provide telemedicine services to follow.

The AMA’s suggestions include establishing a “valid patient-physician relationship” before telemedicine services are provided; requiring physicians to be licensed in the state where the patient who is receiving telemedicine services resides; and transparency in services and cost, as well as encouraging more reimbursement, research, and support for telemedicine pilot projects.

The overall message received by the telemedicine provider community was a reflection of what other organizations, including the American Telemedicine Association, have been saying for years about telemedicine: It needs regulation and reimbursement.

“The policy, as a whole, is a good one,” says Ben Green, MD, a medical director at Carena, a primary and urgent care telemedicine provider based in Seattle. “The fact that the AMA has recognized telemedicine is great. It’s an excellent step in the right direction. We need better evidence, and clinical practice guidelines for telemedicine.”

The ATA also commends the AMA’s policy recommendations. ATA CEO Jonathan Linkous says the AMA and ATA have had “positive dialogue” over the years, but calls this step major progress.

“We have a good working relationship with them for the first time in 20 years,” he says.

The one sticking point the ATA has with the AMA’s recommendations is requiring physicians to have a license to practice in each state where their patients live. The suggested requirement is a barrier, says Linkous, because people become attached to their doctors.

“Take snowbirds, for example,” says Linkous, referring to the seasonal travelers who leave behind the snow for sand in winter. “We’re saying patients should have the ability to choose their physicians.”

Green, an ATA member, calls the requirement limiting, but not a barrier. Green is one of more than a dozen providers at Carena who deliver telemedicine care in six states: Washington, California, Illinois, Missouri, Kentucky, and Nebraska.

“They have been able to get our providers licensed in those states, but it takes time. It’s not a new issue. We’re all hoping for improvements.”

There are two proposals circulating that would ease the state-by-state licensing requirement. The one that Linkous holds out hope for is reciprocity, where one state recognizes the license of provider in another state. That’s the easiest approach, but likely to encounter stiff resistance from state medical boards.

Another proposal is from the Federation of State Medical Boards, which creates a simplified pathway to get an out-of-state license to practice. Under the FSMB proposal, willing states would step forward and enter into a compact.

Providers would have to fill out one set of forms for an out-of-state license. They’d still have to pay the individual state medical board fees, but the paperwork would be reduced.

Karen Rheuban, MD, director for the University of Virginia Health System’s Center for Telehealth, and past ATA
President, says the AMA's strict policy stance is understandable and sound because it protects patients. She says:

The AMA and the Federation of State Medical Boards have taken this position so to ensure the ability of the boards to respond to complaints and enforce actions against providers. The Federation is in the process of developing an expedited licensure process that still will require any physician who provides services in another state to obtain a license in that state, albeit more quickly. Once implemented, we look forward to working with the Federation and our Board of Medicine to determine the success of this new process. There are many patients who can benefit from consulting with providers in another state, and as compared to true licensure portability, this new process still risks being time consuming and costly to providers, albeit very much an improvement.

Telemedicine policies on regulation and reimbursement vary from state to state. In some states, obtaining a license is relatively easy compared to others. For that reason, Green says Carena works with states “friendly” to telemedicine. Some insurers do pay for some telemedicine services, including Wellpoint, Aetna, and Medicare and Medicaid.

The adoption of telemedicine as a viable access point to providing care has moved more quickly than legislators and state medical boards, but the AMA's policy recommendations are a shot in the arm to telemedicine, despite the state licensing requirement, says Linkous.

“Even though there are some issues where we disagree, we both agree on appropriate regulation, reimbursement, and some of the other rules,” he says. “In all honesty, we have a better relationship with AMA now.”

WEIGHING TELEHEALTH’S PROS AND CONS
Lena J. Weiner, HealthLeaders Media

Remote teams can cut hospital costs and help fill staffing gaps, but HIT and regulatory requirements can be daunting, especially for small, remote hospitals.

A human-size robot roams the halls of Hamilton County Hospital. Through cameras and a tablet mounted at eye level, doctors working as far away as California, New York, or Massachusetts view and treat patients in this rural Kansas hospital remotely.

Hamilton County Hospital is a 25-bed critical access care hospital in Syracuse, a small town of just over 1,800 people on the southwestern Kansas frontier. “The nearest Walmart is 55 miles away,” says Bryan Coffey, the hospital’s CEO. While it’s typically difficult to recruit staff to work in such remote care settings, Coffey has found a technology-based strategy for both keeping the hospital fully staffed and cutting costs.

“We’re the perfect model for telehealth and remote teams,” says Coffey.

“I have a passion for two things: rural healthcare and telemedicine,” he continues. Delivery of care in Coffey’s part of Kansas is not always easy. “This is a region where people have to drive eight hours one way to see a pediatric specialist.” Recognizing that his patients would be better served by access to more specialists than Hamilton County could realistically attract or support, Coffey found that telemedicine is the right answer to his hospital’s staffing challenges.

The robot, identical to robots used for healthcare by the Department of Telemedicine “is much more efficient. If they’re prescribing an antibiotic, [physicians] can finish the video consult in 15 minutes, then move on to the next.”

BRUCE CAROTHERS, VICE PRESIDENT OF TELEHEALTH SOLUTIONS, AMN HEALTHCARE
Defense, costs $2,300 a month to rent. “But, if we keep even one patient [at this hospital], it pays for several months of the robot,” Coffey says.

Not only can rural hospitals take advantage of talent from outside the immediate area, hospitals in areas where labor is expensive can take advantage of less expensive labor pools in other areas, says Bruce Carothers, vice president of telehealth solutions at AMN Healthcare, a healthcare recruiting firm. “You can definitely cut costs by employing specialists part time and remotely,” he says.

Besides dealing with regional labor issues, there are many other benefits to implementing a telehealth program.

**Convenience**
Cost-saving is just one benefit of telehealth.

“It’s much more efficient,” says Carothers. Telemedicine allows doctors to quickly log out of an appointment with one patient and into another appointment in seconds. “If they’re prescribing an antibiotic, they can finish the video consult in 15 minutes, then move on to the next,” adds Carothers. “Many physicians toward the end of their careers choose this as a way to start winding down.”

Aside from clinicians, other roles that lend themselves to remote teams include customer service, radiology, triage, billing, coding, and “anything that doesn’t involve having to touch or manipulate the patient,” says Carothers.

The flexibility afforded by telehealth technologies allows workers who cannot commute due to health issues, child or eldercare responsibilities, or lack of access to transportation a chance to work.

**Radiologists available at any hour**
“There’s a whole sector of teleradiology called ‘nighthawking,’ ” explains Carothers. “They find U.S.-licensed physicians who live overseas who can look at images on weekends and at night.” It’s one way to ensure all radiology results are in by Monday morning.

Some organizations, especially in remote areas, also employ a team of remote telepharmacists who can review prescriptions after hours. Because the pharmacists are employed by an outside service and shared by multiple hospitals, they are a less expensive option, and provide just the right amount of coverage for weekends and evenings.

But there are some challenges to be mindful of when considering remote staffing.

**Remote possibilities**
As attractive as telehealth can be, the barriers to adoption are many. For starters, a hospital must have robust and reliable high-speed broadband connectivity to support clinical functions.

Another vital requirement: Physicians must be properly licensed to practice in remote locations. Since licensure is regulated by the states, this can be very complicated.

As for reimbursement, traditionally, Medicare and insurance companies have only covered telemedicine appointments when the patient was in a very remote area like Hamilton County. “This is improving every year,” says Carothers. “Currently, 20 states mandate that commercial payers pay for telehealth services. But this has ... been a downside.”

Coffey concedes there are certain jobs around the hospital that still require in-house staffing. “Housekeeping and maintenance ... Phlebotomists, bedside RNs that need to touch the patient or change bedding, and wound care all have to be done on-site,” he says.

And that brings to mind an additional obstacle: bridging the gap between both doctor and patient. While the goal is seamless delivery of care, sometimes the distance becomes noticeable. “It’s critical to establish a relationship prior to telemedicine,” says Carothers.

He cautions that it’s important to properly collaborate with and manage a remote team as well. “There’s always a little bit of a gap when doing things remotely relative to a face-to-face conversation. It isn’t always easy.” He suggests putting in extra effort to fill the void with phone calls, instant messages, and video call services such as Skype and FaceTime.

Coffey insists, however, that Hamilton County’s patients hardly notice the distance once they spend a few minutes with a remote doctor evaluating them via the robot. “You would be shocked how many people extend a hand and say ‘thank you, doc,’ only to remember there’s no hand to shake on the robot.”
Advances in telehealth technology are revolutionizing how healthcare providers respond to the hard knocks and head injuries athletes sustain on the football field, soccer pitch, and ice rink.

It may be baseball season, but I’ve got football on my mind.

Not the game itself, but the injuries that can result from it, and specifically, how new technology can help detect concussions, those hard knocks that can do so much damage and yet be so difficult to detect.

Sensor technology and telehealth technology are revolutionizing how the healthcare system responds to the football field’s hard knocks, and the same technology could apply to other sports such as hockey, soccer, and anywhere else where sharp blows to the noggin are part of the game.

At the International CES show in Las Vegas, I got to see technology up close from a firm called MC10 that forms the basis for Reebok’s CheckLight, which collected a CES Innovations 2014 Design and Engineering Award.

The soft garment fits over the head, but underneath a player’s helmet. Sensors within the garment measure direct accelerations experienced by the head, rather than to the helmet or chin strap.

Earlier sensors, attached to these, could provide inaccurate readings.

When CheckLight measures a dangerous acceleration, the technology switches on a yellow or red light, depending on the severity of the acceleration. Coaches and trainers on the sidelines of the playing field can clearly see the light displayed below the bottom edge of the helmet.

Coaches and trainers then can bring the player to the sidelines and run a symptom checklist, which more and more coaches and trainers have been trained to administer.

According to officials at MC10, the sensors measure both linear and rotational acceleration to the head, which together calculate the total energy being delivered to the head.

Players with stronger necks will experience less acceleration than players with weaker necks, says Isaiah Kacyvenski, director of MC10’s sports segment.

With medical device maker Medtronic as one of its investors, MC10 is also pushing forward with even more invisible wearable sensors. At CES it showed Biostamp, a seamless sensing sticker due out this year that can stretch, flex, and move with the body. The company says Biostamp will be able to measure a variety of physiological functions: data from the brain, muscles, heart, body temperature, even hydration levels. (No pulse oxymetry—at least not yet.)

Sensors are fine, but seeking qualified medical assessment quickly is the other technological tool being deployed to treat concussions. I spoke with Vernon Williams, MD, medical director of the Kerlan-Jobe Center for Sports Neurology in Los Angeles. Williams also works with a group called the Sports Concussion Institute. In other words, he’s a concussion expert.

“I’ve always been interested in applying technologies that make sense to medicine and trying to improve my practice, trying to improve access for patients, improve the experience patients have and the value of the interactions,” Williams says.

A common scenario goes like this: An athlete will sustain a blow to the head during a Tuesday practice or a Friday game, but the parent who needs to take him to the doctor cannot take off work for several days, or geography is a barrier, often for the initial appointment, but especially for follow-
up appointments.

So, either the player’s symptoms go unchecked and don’t get care in a timely fashion, or due to lack of care or follow-up, patients are told by trainers to sit out for weeks or even skip the rest of the season.

“That’s when I came up with this concept of using telemedicine and videoconferencing, and as it turns out, it was great,” Williams says.

By sitting the athlete in front of a video session, the neurologist on the other end can ask the athlete to answer some questions or perform some simple exercises that help the neurologist confirm the concussion diagnosis and its severity.

And because injuries from concussions sometimes evolve rapidly, the ability to schedule follow-up assessments via video chat is a whole lot more convenient than scheduling a succession of doctor’s office visits.

Now, more and more trainers are placing telemedicine “towers” (kiosks optimized for a video session) in their training rooms, so that injured athletes, with a trainer and even parents by their side, can be evaluated by the neurologist.

“That communication is far more consistent,” Williams says. “We don’t have to rely on just sending pieces of paper saying yes he’s cleared or no he’s not cleared.”

Teams working with doctors also now have a far more consistent approach to their players being returned to play, with consistent evaluation and management, Williams says. It also helps neurologists schedule these follow-ups more efficiently as well.

Of course, once a platform like this is in place, it has benefits that go far beyond concussion treatment. “We can clearly see benefits where an athlete may have a good trainer on the other end where they’re actually competing and participating and practicing,” Williams says.

“That trainer may have a question about range of motion or an ankle injury or what have you, and they can fire up that videoconference and speak directly with an expert, and say, ‘Hey here’s what’s going on, here’s what his exam looks like, what do you think? Should he come in? Does he need an x-ray? Does he need an MRI? Should we advance his therapy or his activity level another step?’ So it is, I think, a great tool for improving communication and improving consistent and efficient evaluation and management.”

A big enabler of all this has been the plummeting cost of those telemedicine towers, which in the past three years have gone from a cost of $15,000 to something equivalent to a tablet with its ever-sharper display, built-in camera, and HIPAA-compliant software to ensure privacy, Williams says.

Telemedicine towers still have their place alongside tablets, because cameras on these towers can pan, zoom and tilt. But tablets are still usable as well.

“With the iPad, then they have to either position the iPad or someone else has to be holding it and reposition it so that they can be seen, but it’s still achievable, and we still do it, and it works very well,” Williams says.

After two full football seasons of use with high schools and colleges, Williams’ clinic has conducted hundreds of telemedicine assessments of athletes. With 49 out of 50 states requiring clearance from a licensed healthcare professional prior to returning to play, the access telemedicine affords is making a big difference in treatment.

Add the sensor data to the mix, and you have the kind of analytics that can lift a whole population of at-risk athletes and provide a much larger evidence base to look at concussion and other sports injury trends over time.

Finally, it also provides yet more scenarios where a patient’s initial encounter with medical help takes place via technology. Some said it wasn’t possible or advisable. But sports medicine is yet another example of this new reality.
Spurred by new laws and policies that permit online teleconsultations, both payers and providers are exploring ways to enable patients’ access to care in ways that also meet growing industry demands.

Encouraged by interest from insurance companies and employers, physicians are ramping up their ability to make an increasing number of patient encounters online or over the phone.

“We need to meet consumers where they are, knowing that often consumers aren’t able to get to the doctor during the workday or on the weekends, and they end up going to the emergency room or the urgent care room for inappropriate use of care, and so we have a service that truly gets to the consumer 24 hours, seven days a week, 365 days of the year, and it’s a real doctor every single time,” says Matt Marek, vice president of product and marketing at 2.6-million-member BlueCross BlueShield of Minnesota, based in St. Paul.

“We believe this is the next generation of retail care that we saw at Target and MinuteClinic years ago, where we’re truly trying to serve the consumer beyond normal doctor hours,” says Marek.

Using technology from American Well, BCBS offers high-definition video consultation between its members and a physician with an average wait time of less than two minutes, Marek says. The service never costs more than $45, and patients are reimbursed by the health plan like a claim. Some employers are even considering moving to a $0 copay to encourage employees to use online care.

Although BCBS of Minnesota has offered this service since 2010, use of the service is now growing 200% per year, and BCBS expects that growth to accelerate this year. BCBS of Minnesota is also expanding the coverage it offers to employers in its service area. After initially serving only employees in Minnesota, BCBS of Minnesota’s Online Care Anywhere service now permits employees of those companies to utilize the service in 46 states and the District of Columbia, Marek says. This makes Online Care Anywhere the fastest-growing service in BCBS of Minnesota’s set of service offerings.

Sparking the move are liberalized laws and policies throughout the United States that now permit online teleconsultations. “There are many states today that now allow online care or telemedicine to exist, where three, four years ago we never thought we would get as far as we have,” Marek says.

These days, those encounters include video over wireless carriers’ networks. “We’re able to have a high-definition videoconference consult with the doctor without having the very highest-speed network available without having to be connected into a landline,” Marek says.

Online consultation cannot and does not replace many in-office visits, Marek notes. American Well physicians perform necessary triage to advise those who should seek in-person medical help.

“Online consultation cannot and does not replace many in-office visits, Marek notes. American Well physicians perform necessary triage to advise those who should seek in-person medical help.”

““The intent has never been to take services away from the doctors or compete with them,” Marek says. “This is not a disruptive strategy. Rather, this is a strategy to better serve consumers, and also it has the potential to allow doctors to be more effective and efficient with their services, especially if you can imagine the emergency room doc who may have some downtime could also log on and serve members and patients, and so that is being explored as well.”

At Mount Sinai Health System in New York City, a relatively new but fast-growing service called Teladoc became part of the organization’s rapid response to Hurricane Sandy in 2012.

“We launched it right after Sandy had hit, and it was a direct-to-consumer
service,” says Adam Henick, senior vice president of network development for Mount Sinai Health System and Mount Sinai Beth Israel, a 1,083-bed hospital with $1.1 billion in annual revenues, which became part of Mount Sinai Health System last year.

Under the program, New Yorkers who were willing to attest to their residency could access a physician via telephone or video chat for $38.

“Teladoc’s model historically has been to either contract with an insurer to provide the service to their beneficiaries, or to contract with an employer to provide the service to their employees,” he says. “They had not done a direct-to-consumer offering, and we wanted to try that, and so we launched it.”

Despite “great media coverage,” however, customer turnout for the service was disappointing. “After about three months, we started doing focus groups to figure out what we were doing wrong, and it turned out that the model was you paid an annual registration fee of $30, and that enabled you to get visits at $38 a visit,” Henick says. Those prospective customers who had no healthcare insurance were very unlikely to prepay anything, and those who were insured wondered why Beth Israel was not participating in their own insurance. “So what intuitively seemed like a logical idea to us met resistance because of barriers, even though they were low-level barriers,” he says, adding that even for those with insurance, between copays and deductibles, traditional visits still would have cost more than accessing the service. “But I think it’s more a psychological barrier.”

Last September, Beth Israel added an option to pay $48 a visit without an annual registration fee, which Henick says is significantly less than the cost of a doctor office visit in New York. “We’re not getting a particularly robust response to it,” he says, so now Beth Israel is modeling the service with its own employees, who pay $15 per Teladoc consultation.

“Every person that goes on Teladoc, one of the initial questions is, ‘Where would you have gone for service had you not chosen this option?’ so we’re collecting that data and seeing what the cost would have been had they not accessed this service, and then balanced it against our cost of picking up the cost of the visit above $15,” Henick says.

This time, Beth Israel’s internal usage reflects a return of 7 to 8 times the investment required, and as soon as it has collected a sufficient sample, Henick believes it can return to its payers with this data and its direct-to-consumer product will be able to get insurance company participation and enable the service to take off.

Henick sees it all as an extension of Beth Israel’s earlier forays into urgent care centers. And the way Beth Israel Medical Group has arranged its Teladoc partnership, all calls go first to its own tier of doctors who have joined the Teladoc network. If call volume rises such that response times lengthen, other patients would be routed to non-Beth Israel doctors, who are licensed in New York and credentialed by Teladoc, Henick says.

“The Teladoc offering is just basically continuing down that path of saying, there are going to be some young, hip consumers that are going to want to be able to video chat with their doctor at 2 in the morning, because they’re working on some computer algorithm and don’t want to leave their office or their apartment, and they’re going to want to access it that way, and we need to be able to deliver it that way,” Henick says.

Some physicians also view services such as Teladoc as their new career path. Timothy Howard, MD, was a family practitioner in Huntsville, Alabama, for 20 years. In 2009, to earn additional income, he began working for Teladoc as one of its physicians reachable by telemedicine technology, primarily via telephone.

This January, after providing several months’ notice, the 52-year-old left private practice to work for Teladoc full time. “I want to practice actual medicine and take care of people and not a bunch of administrative things,” he says. “You’re talking directly to the patient. You don’t have a third party or someone else telling you ‘Restrictions
here, restrictions there, do this, this is preapproved,’ this kind of thing. It’s really pretty straightforward.”

At the top of the list of conditions Howard treats via telemedicine: sinus problems, urinary tract infections, allergies, flu, cough, and ear infections. Video is “exclusively requested by the patient, when they desire to either let you see them or their child,” he says.

Due to Teladoc’s low overhead, “it’s very possible to earn a living with it,” Howard says. Out of an average of 180–240 patients per week, four or five a week have problems severe enough that he refers them to seek in-person help.

“The key is that we’re episodic,” Howard says. “We are not seen as the primary care physician. The urgent may take the place of the important. But that’s one of the nuances, and I tell patients all the time, ‘I said, the best way to be cared for as a patient by a physician is a hands-on exam.’”

Services such as Teladoc also set and monitor their own quality standards, such as whether doctors are overprescribing antibiotics, Howard says.

One chief medical information officer whose health system is moving into this type of telemedicine is leery of allowing services such as Teladoc to permit health systems to outsource their primary care capability.

“Don’t ever outsource your core business,” says Shez Partovi, MD, vice president of informatics and CMIO in Dignity Health’s Arizona service area. “Our core business is delivering care. I’m not sure if health systems should outsource their core business.”

Still, Partovi is just as optimistic about the growth of direct-to-consumer telehealth services. Like many other health systems, Dignity already does thousands of internal physician-to-physician telehealth consults annually. As accountable care and patient-centered medical home efforts expand, the demand for direct-to-consumer telehealth at Dignity is the next big telehealth wave, he says.

So far, Dignity Arizona has started with a small pilot, training three physicians to respond to its own direct-to-consumer telehealth service last fall and launching the service in the fourth quarter of 2013. So far, only about 20 consults are happening monthly, Partovi says.

Part of Dignity’s approach is to deeply understand how video encounters change the doctor/patient experience, including on-site testing where doctor and patient are both on site, but in separate rooms, and Dignity studies the interaction, Partovi says. “We have a lot of focus on understanding the user experience,” he says.

Still, Dignity plans to have as many as 250 physicians trained in the next phase of the rollout, and Partovi is also chairman of the telehealth committee for all of Dignity. Partovi says there are markets where Dignity will compete with the Teladocs and American Wells of the world for the business of employers seeking direct-to-consumer telehealth options.

Ultimately, such competition may also hinge on health systems providing a broader set of offerings to employers than just telehealth, Partovi says.

“Last year we actually responded to two RFPs where it was broader,” he says. “It was about providing a medical community for the employer, and we feel that’s a key part of our strategy.”
Deborah Dahl, vice president of patient care innovation at Banner Health, headquartered in Phoenix, says “we learned early on that the telehealth tool, starting in the ICU, allowed us a platform to meet [the] Triple Aim.”

Telemedicine has been a tool in the ICU for many years, often for a consultation when a difficult case presents. But that was too episodic to make a major difference in key measures, including length of stay. Even if Banner wanted to rapidly increase the number of bedside intensivists for 24-hour coverage, there simply were not enough, Dahl says. “I believe there were about 8,000 intensivists across the country. In order to pull that off across the U.S., we needed 33,000. Telemedicine was a way to take intensivists’ amazing cognitive skills and spread them from Fairbanks to Phoenix and to focus their work on what that patient needs that is not hands on,” Dahl says.”

Launched in 2006, Banner’s teleICU operations center is in Mesa, Arizona, and added other physician sites in Tel Aviv, Israel; Santa Monica, California; and Denver, this last site in a new partnership with National Jewish. The teleICU physicians and nurses monitor ICU patients in 430 ICU beds in 22 Banner hospitals across five states.

Each of Banner’s ICU rooms is equipped with eICU technology from Philips, which includes a two-way audio-video system and a bedside monitor that sends real-time vital signs to the teleICU team. The system interfaces with the electronic medical record so the teleICU and bedside teams can view lab results or medication orders.

Dahl and Robert Groves, MD, vice president of health management for Banner Health, emphasize the teleICU team is not replacing bedside nurses or physicians. The teleICU service provides four critical backup needs, Groves says:

1. Immediate response by a specialist to a request for help from the patient or bedside team. “That immediate availability of an intensivist virtually in the room is a big piece of it,” Groves says. “They can start working on the problem immediately while we wait for the bedside team to arrive or in lieu of the bedside team in certain circumstances.”

2. Monitor for adverse trends before they become adverse outcomes.

3. A safety net to ensure compliance with best practices and to prevent unnecessary testing. “So when I say that 30% is waste, well, it’s because we run tests we don’t need to in some cases and because we don’t run tests we do need to in other cases. So the third role of a telemedicine strategy is to make sure that we’re aligned with evidence-based practice.”

4. Continuously measure “so that we can continue to improve it.”

It took some time, but the workflow of the teleICU and bedside teams have become complementary, says Dahl. The nature of intensive care is a balance between constant monitoring and urgent intervention. With the teleICU team support, the bedside team can deal with the immediate issues and still have time to develop a comprehensive plan of care, she says.
Arising out of the eICU movement, healthcare systems are now tackling problems with telemedicine solutions. The thinking is to provide a virtual care system whereby sophisticated analytics integrated with remote monitoring systems and video allow remote personnel to track patient stability. This technology comes with challenges, but the economics of care, combined with the Internet’s power and sophistication, are driving it forward anyway.

Leaders from Mercy Health System and Nemours reveal how they are using internal telemedicine and remote monitoring to reduce medical errors, improve response times, and alleviate alarm fatigue in frontline healthcare personnel.

At the conclusion of this program, participants will:

- Understand the untapped value of remote patient monitoring as a way to improve care
- Learn key performance indicators of using remote monitoring effectively (i.e., reduced alarms, improved staff morale, reduced medication errors, improved response time, increased interventions)
- Determine care areas uniquely positioned for telemedicine in the continuation of care
- Discover strategies for changing behavior of frontline healthcare personnel toward alarm response technology

AGENDA

- New tools in use to reduce unnecessary alarms in hospitals
- Effective ways to use technology to extend the efficiency of unit-based personnel
- The variety of ways in which telemedicine is in use throughout the healthcare system (i.e., not just video appointments)
- Challenges of remote monitoring

MEET THE SPEAKERS

Wendy Deibert, RN, BSN  
Vice President, Mercy Virtual

In her 29 years of nursing, Wendy Deibert has served as a bedside clinician, manager, senior consultant, and operations director. Currently, she oversees and supervises the daily operations, nursing staff, and support personnel for Mercy SafeWatch and Mercy Telehealth Services. Since 2006, she has converted 450+ critical care and step-down beds to electronic ICU technology at 15 hospitals across five states. Mercy has launched 70+ telehealth projects across the healthcare continuum and beyond the Mercy Health System.

Deibert is the recipient of the 2011 Cindy Gregory Excellence in Leadership Award presented by Philips Healthcare and is a member of AACN, American Association of Critical-Care Nurses TeleICU Task Force, American Telemedicine Association, Telehealth Alliance in Oklahoma, Tele Acute, and Critical Care.

Stephen Lawless, MD, MBA  
VP of Quality and Safety, Nemours

Stephen T. Lawless earned his BS in biology from Fordham University and his medical degree from UMDNJ Robert Wood Johnson Medical School. He completed a pediatric residency at St. Christopher’s Hospital for Children and a pediatric critical care fellowship at Children’s Hospital of Pittsburgh. Dr. Lawless subsequently earned an MBA from the Wharton School of Business at the University of Pennsylvania.

Since 2006, he has served in the role of the vice president of quality and safety for Nemours. In this role, Dr. Lawless is charged with the oversight and coordination of quality and safety within all of Nemours. In addition, he seeks to use Nemours’ combined technologies and knowledge to make systems simpler and error-free, whether those systems are used for business or healing.
LEADERSHIP COLLECTIONS
HealthLeaders Media Leadership Collections combine our best-selling resources on key topics. This packaged approach gives you the most value for your investment and allows you to glean and adapt strategies from multiple organizations.

To order, visit http://promos.hcpro.com/collections, or call 800-753-0131.

AWARD-Winning RESEARCH REPORTS
Each month, HealthLeaders Media releases a new comprehensive report featuring cutting-edge strategies, benchmarks, and lessons learned from leaders at provider organizations across the country. Data is sourced from our 8,000-member executive Council.

To browse or order current reports, visit http://promos.hcpro.com/intelligence, or call 800-753-0131.

HEALTHLEADERS MEDIA LIVE E-CONFERENCES
Executive teams at the nation's most progressive organizations host powerful discussions around critical industry topics. Facilitated and moderated by HealthLeaders Media, participants reveal their model for success, outlining specific clinical and business strategies. Our audience can join these live discussions in person or through our digital platforms. These are unique opportunities for leaders to engage with their peers and hear how they are addressing industry concerns.

To download event case studies and register, visit http://promos.hcpro.com/LIVE or call 800-753-0131.

EXPERT VIRTUAL WEBCASTS
In these virtual presentations, moderated by HealthLeaders Media, senior executives from top organizations discuss an area of healthcare in which they have made significant progress. Topics range from healthcare marketing to physician-hospital alignment to specific service line strategies, all aimed at informing the audience on how to make improvements and replicate their success.

To register, visit http://promos.hcpro.com/webcasts or call 800-753-0131.

TAKE $50 OFF ANY PRODUCT!
Enter discount code HLMIT50 upon checkout!