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Convenience Comes To Health Care

By Peter Wehrwein

Convenience may be one of the most powerful forces in American life today. We prize it, demand it, get hooked on the dopamine surges that come when desire is met fast and with minimal hassle.

The Wawa store a few blocks from my home in Philadelphia—always humming. The laptop I am writing on—how convenient that I can sit here in the comfort of my kitchen and work. Online shopping—the shoes, the books, the you-name-its arrive on the front porch. Online dating: Friends and relatives tell me it’s so much more efficient than old school searching for love, and efficiency and convenience are peas in a pod.

In contrast, so much of health care is massively inconvenient. Any in-person encounter with the mainstream medical system can take up half the day by the time you get to the appointment, clock watch in the waiting room, see the physician extenders, and, if you’re lucky, the physician herself.

Ateev Mehrotra, MD, a member of the Managed Care editorial board and an associate professor at Harvard Medical School, wrote a blog post several years for the Rand Corp. about the “convenience revolution” in medicine. He was discussing urgent care clinics, the subject of a story in our March 2015 issue. But this month’s cover story (page 14) on telemedicine by Susan Ladika is also about convenience breaching the ramparts of health care. Busy moms and digitally native millennials are among the biggest users so far, Ladika reports. But with payers starting to cover telemedicine, I venture that a sizable percentage of the rest of us will soon discover telemedicine and the catnip of its convenience.

I have benefited from the care of some dedicated, thoughtful physicians. There’s no doubt in my mind that being in their physical presence was absolutely essential.

But for the routine stuff or the minor emergency I wouldn’t mind giving telemedicine a try. I can work at home in my kitchen. Now I can see a doctor in the comfort of my kitchen and work. Online shopping—the shoes, the books, the you-name-its arrive on the front porch.

The laptop I am writing on—how convenient that I can sit here in the comfort of my kitchen and work. Online shopping—the shoes, the books, the you-name-its arrive on the front porch. Online dating: Friends and relatives tell me it’s so much more efficient than old school searching for love, and efficiency and convenience are peas in a pod.

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New Ways to Measure Value of Cancer Drugs

Drugabacus.org, developed by Memorial Sloan Kettering’s Peter Bach, compares the pharma price to a value price based on efficacy, toxicity, and other factors. Meanwhile, ASCO is busy creating software-based tools that calculate the net health benefits of cancer drugs.

We’re Finally Ready for Telemedicine

Recall that television itself, invented in the 1920s, did not conquer living rooms until the 1950s. And telemedicine? Americans have grown accustomed to conducting transactions remotely. Why not get health care that way?

Out of Site, Out of Line

Site of service matters. Look at infusion therapy. It’s cheaper to administer at home than in a hospital, and patients are happier. But when hospitals buy independent practices, choice diminishes, and insurers and patients pay.

Money, Money, Money, Money

People might forget the tune, but never the lyrics. Health savings accounts (HSAs) are taking off, leaving health reimbursement accounts (HRAs) behind. Give workers the cash, and they will come.

Trying to Measure Cost, Quality Together

Hospital and doctor efficiency measures do not effectively link cost and quality, so the gated approach—which measures quality and cost separately—is used. Is that efficient or does another method need to be developed?
Health Plan Data Help Drive Medical Home Success Story

Health insurance data helped power a patient-centered medical home (PCMH) initiative in Pennsylvania that significantly improved care while cutting costs.

A study in *JAMA Internal Medicine* by Rand researchers states that the "timely availability of data on emergency department visits and hospitalizations may encourage and enable primary care practices to contain unnecessary or avoidable utilization."

That’s what happened in this case, says Michael Bailit, president of Bailit Health Purchasing, who provided the researchers with data on pilot intervention design and National Committee for Quality Assurance regulations. The two insurers—Geisinger Health Plan and Blue Cross of Northeastern Pennsylvania—provided regular utilization reports on the practices’ panels and sat with the practices to review them. They also provided the practices with information about when their patients were admitted.

The study looked at data from more than 17,000 patients in the Pennsylvania Chronic Care Initiative (PCCI), one of the nation’s largest regional PCMH pilots. Researchers compared data from 27 participating physician practices with 29 practices that did not participate in the program from 2009 to 2012.

Practices participating as PCMHs saw 1.7 fewer hospitalizations per 1,000 patients and 17.3 fewer specialty care visits per month than their non-PCMH counterparts. People in the PCMHs also went to the emergency department less often for problems that could be dealt with in an ambulatory setting.

This is quite a turnaround for PCMHs. The same researchers published a study last year that showed that another PCMH intervention made no difference in care or savings.

There was some overlap, lead author Mark Friedberg, MD, tells Managed Care. The intervention in the 2014 paper ran from June 1, 2008, to May 31, 2011.

The intervention in the new study began on Oct. 1, 2009, and researchers evaluated the first three years. In addition, the earlier study was of a PCMH program in a different part of the state.

“The patient populations weren’t all that different, but it is always possible that having different patient populations could have contributed to the different results,” says Friedberg.

Why the improvement? The new study wasn’t designed to parse the specific mechanisms, but the Rand researchers offered some possible explanations.

One candidate is that regular feedback from participating health plans on utilization of hospitals, emergency departments, and other medical services by patients had an effect on physician practices.

Of course, giving providers the opportunity to earn more for providing quality care never hurts. The shared savings incentive that included bonuses for meeting quality benchmarks “may have been a particularly strong motivator for practices to invest and engage more effectively in care management efforts,” say Friedberg and his coauthors.

A third possibility is the progress that physician practices have made in installing EHRs. All of the chronic care initiative had EHRs at baseline.

Researchers note that there are more than 100 medical home interventions in the United States, and that their study could offer guidance to program designers and policymakers.

Among the limitations of the study were that researchers did not have access to important financial considerations, such as how much it cost to coach providers and how much insurers paid out in bonuses.

Youths Don’t Grasp Many Insurance Terms

The search for the educated consumer has been going on for a long time. The ACA expands that effort, hoping that educated young people will rescue reform by flooding the market with healthier beneficiaries who would widen the risk pool while cutting back on expensive uncovered emergency department care.

Insurance is complex, though, full of words that can seem like answers to a Klingon crossword puzzle to the uninitiated.

A recent study in the *Journal of Adolescent Health* found that young people have a difficult time navigating the healthcare.gov website, partly because they don’t know what terms
such as deductible or out of pocket mean.

Researchers at the University of Pennsylvania observed 33 individuals in Philadelphia, ages 19 to 30, as they explored the website. A follow-up interview was conducted a month after a participant was observed to find out what he or she considered to be advantages or disadvantages of having insurance and the factors they thought were important in selecting coverage.

None of the participants rated themselves as good or very good in understanding all insurance terms presented to them. Still, they overrated their knowledge.

“Confidence in understanding was poorly correlated with actual understanding,” the study states. “For example, of those who reported ‘good’ or ‘very good’ understanding for deductible and premium tax credit, 33% and 40% defined the terms incorrectly. Cost-sharing concepts particularly confused participants.”

Researchers asked the participants to think out loud as they reacted to what they saw on the website. They then interviewed the young people to ask about issues that might not have come up during the observation period.

They also asked them to define a dozen health insurance terms. In addition to deductible and out of pocket, the list included coinsurance, HMO, and the least identified—cost-sharing reduction plan. The health care terms participants most accurately identified were monthly premium, copayment, and referral.

There was also sticker shock. “While over $100 per month was considered unaffordable by most young adults, the least expensive catastrophic plan without tax credits in Philadelphia was $187 monthly, and all participants who did not enroll in an insurance plan cited unaffordability as the main reason.”

Of the 33 participants, eight had selected a health plan on the exchange by the one-month interview; four enrolled directly with health insurance plans.

Comprehensiveness Of Care Cuts Cost

Medicare beneficiaries with primary care physicians (PCPs) who are less likely to refer them to specialists (that is, the PCPs provide more comprehensive care) are 35% less likely to be hospitalized, according to a study published in the Annals of Family Medicine.

The issue is: What difference does it make when patients see PCPs who offer more comprehensive care, as defined by the American Board of Family Medicine?

Answer: A lot. Costs for patients offered more comprehensive primary care were 10% to 13% less. “Increasing family physician comprehensiveness of care, especially as measured by claims measures, is associated with decreasing Medicare costs and hospitalizations,” the study states.

Comprehensive care varied greatly, depending on the procedure. For instance, 63% of PCPs cared for newborns while, at the other end of the scale, 2% performed major surgery. Other activities included minor office surgery (61.4%), pain management (46.4%), and palliative care (25.9%).

Researchers with the Robert Graham Center in Washington analyzed claims data from about 3,600 family physicians that contain information about hospitalizations and total costs for about 555,000 Medicare beneficiaries.

Traditionally, primary care services have encompassed care for all kinds of patients and medical problems and has included inpatient and outpatient care, obstetrics, pediatrics, geriatrics, and even minor surgery. The challenge of providing this kind of all-comers care can be daunting, requiring primary care physicians to work in multiple settings and deal with the increasing complexity of chronic care.

But the general scope of care provided by family physicians has been shrinking, the Graham Center authors note. At the same time, they add, “family physicians are being asked to acquire and employ new skills in greater population health management, administration and leadership teams, and informatics—all this while caring for an aging and increasingly multimorbid pool of patients.”

Briefly Noted

Improvement in 15 core metrics will go a long way toward bolstering the state of health care in the U.S., according to an IOM study. There are thousands of metrics in play, re-
Age, coverage erase racial, ethnic differences in men’s use of depression, anxiety treatment

Black and Hispanic men suffering from depression or anxiety are less likely to get help than white men, but the racial and ethnic differences narrow and even reverse with age and insurance coverage, according to a CDC report on men’s use of mental health treatment.

When researchers at the CDC’s National Center for Health Statistics analyzed survey data on more than 21,000 American men, they found that nearly 1 in 10 adult American men had daily bouts of depression or anxiety, but less than half (41%) of those men received treatment for their problems by either taking medication (33%) or talking with a mental health professional (25.7%).

The CDC researchers found that 26.4% of young (ages 18 to 44) black and Hispanic men with anxiety and depression sought treatment, compared with 45.4% of white men. But with age, the picture changes; in fact, among older men (ages 45 and older), a slightly greater percentage (46.4%) of black and Hispanic men seek treatment compared with white men (41.3%).

When they looked at associations with insurance coverage, the CDC statisticians found large racial and ethnic differences among the young and uninsured: White men (39.3%) were three times more likely to seek treatment as black and Hispanic men (12.7%). But among the young with insurance, the difference narrowed (48.4% vs. 38.7%) and was not statistically significant.

The researchers noted that in focus groups, young men of color were much more likely to say that seeking treatment for mental illness is a sign of weakness but, again, “Having health insurance appeared to reduce the impact of such barriers …. Recent expansions of health insurance coverage may consequently reduce these racial and ethnic disparities.”

Racial and ethnic disparity changes with age, insurance
Percentage of men reporting symptoms of depression or anxiety who received treatment

![Chart showing percentage of men reporting symptoms of depression or anxiety who received treatment by race and age group.](chart)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage of Men Reporting Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>All ages</td>
<td>43% (White) 36% (Black and Hispanic)</td>
</tr>
<tr>
<td>Young (18–44)</td>
<td>45% (White) 36% (Black and Hispanic)</td>
</tr>
<tr>
<td>Older (45 and over)</td>
<td>41% (White) 33% (Black and Hispanic)</td>
</tr>
<tr>
<td>Young and uninsured</td>
<td>46% (White) 39% (Black and Hispanic)</td>
</tr>
<tr>
<td>Young and insured</td>
<td>48% (White) 39% (Black and Hispanic)</td>
</tr>
</tbody>
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Source: CDC/NCHS, National Health Interview Survey, 2010–2013

searchers note, saying that focusing on the important ones is one way to cut to the chase of actually improving the quality of American health care…. The first major revision of the Medical College Admission Test in 25 years was sprung on applicants in April. According to the Wall Street Journal, a quarter of the new test covers psychology, sociology, and the biological foundations of behavior. Official review material includes concepts such as social inequality, class-consciousness, racial and ethnic identity, institutionalized racism and discrimination and power, privilege and prestige…. Whole-genome testing of infants admitted to neonatal and pediatric intensive care units is useful for guiding treatment and, in some cases, gives doctors enough information to recommend end-of-life care, according to physicians at Children’s Mercy Hospital in Kansas City, Mo. The hospital’s whole-genome test diagnosed genetic diseases in 20 of the 35 infants, and the diagnosis was clinically useful in 13 cases, the doctors report…. More births are occurring at home without the aid of a doctor, midwife, or any other provider, according to research presented at the annual meeting of the American College of Obstetricians and Gynecologists. Such unattended births increased 79% from 2007 to 2012, the researchers reported. That’s a large relative difference but the absolute number of such births—8,800 in 2012—is still only a small fraction of the roughly 4 million births that occur annually in the country…. Routine care for cardiovascular disease provided by a nurse practitioner or physician assistant is just as good as care provided by primary care physicians, according to a study in Circulation: Cardiovascular Quality and Outcomes. Care delivered by the nonphysician providers met standards for blood pressure control, treatment with statins or beta blockers, and cholesterol control…. Colorectal cancer screening of older Americans is an upside-down mess. According to a study in the Journal of the American Geriatrics Society, more than half of community-dwelling adults older than 75 were screened for colorectal cancer, even though they are unlikely to benefit from screening. But about 40% of adults ages 65 to 75 with a life expectancy of more than 10 years were not screened—and there’s good evidence that they would benefit from screening…. Implantable cardioverter-defibrillators (ICDs) are underutilized in heart attack patients, according to a study led by Duke researchers and partially funded by Boston Scientific, which makes ICDs. The retrospective study of about 10,000 MI patients showed that 8.1% received an ICD and that the devices were associated with a lower two-year mortality rate.

— Frank Diamond
How much is a cancer medication really worth? The answer can depend upon whom you ask. But now, there is a new pair of tools to help sort out this vexing and contentious issue.

One is a website that serves as an online calculator that can compare the cost of 54 cancer drugs with hypothetical prices based on certain considerations that are supposed to reflect value. Called drugabacus.org, the site is run by Peter Bach, MD, an oncologist who heads the Center for Health Policy and Outcomes at Memorial Sloan Kettering Cancer Center in New York.

The other is a formula developed by the American Society of Clinical Oncology (ASCO) that is based on the cost for individual patients as well as the benefits and side effects found in clinical trials. For now, this amounts to a preliminary step toward creating software-based tools that physicians and patients can use to decide which cancer treatments to pursue.

“The reality is that many patients don’t get this information from their doctors and many doctors don’t have the information they need to talk with their patients about costs,” Richard Schilsky, MD, chief medical officer at the American Society of Clinical Oncology told the media last month.

Separately, Bach says, “The real question is ‘How do we arrive at a fair, appropriate price?’ We’re seeing signs that many participants in health care decisions—from insurers and patients to pharmaceutical manufacturers—want value as part of the discussion.”

Defining value
Bach’s drug abacus has a sliding scale to assign value to different criteria, such as side effects and efficacy, defined as the amount of extra life a drug may provide. Efficacy is multiplied by a dollar per life-year amount that can be set from $12,000 to $300,000. Discounts can be taken for toxicity and premiums added if the drug is novel or approved to treat a rare disease.

The tools arrive as drug prices have become a flashpoint in the running national debate about reining in health care costs. Last year, the attention was on Sovaldi and the new generation of hepatitis C drugs, which are priced high but are remarkably effective at clearing the infection.

This year, the focus has shifted to oncology drugs (see page 30). Some cancer drugs have also been priced to be fantastically expensive, and there are questions about how much benefit they really have because of modest gains in survival, side effects, and other factors.

A recent report by Express Scripts found that among Americans with annual costs of $100,000 or more, 32% used a cancer medication. Avalere Health estimates that 10 breakthrough drugs—including five cancer treatments—will cost the U.S. government nearly $50 billion over the next decade.

Meanwhile, the price of new cancer drugs averages about $10,000 a month, which is double what it was a decade ago, according to Schilsky. At the same time, patients are asked to absorb a larger share of the cost through higher copayments and deductibles. “Even a well-insured patient may have to pay $2,000 a month for some of these newer treatments,” he says. “That’s going to exact a toll over time.”

The ASCO formula would give a drug a higher score if it can extend survival but would receive a lower score if trial data indicate that the efficacy is limited to disease progression. Points are added or subtracted based on whether side effects are better or worse than existing treatments. The idea is to calculate a net health benefit.

Bach describes this version of his abacus as a conversation starter and “a perfectly viable first draft” of a tool to calculate the value of cancer drugs. Other factors like life expectancy might be added to future versions, he says.

“We needed to come up with a way of determining whether a price is based on someone’s assumptions of what is important,” explains Roger Longman of Real Endpoints, a research firm that helped Bach develop the site. “The point of it is to be able to create a common set of metrics around which you can talk about value.”

“Tools for Taking the Measure Of Cancer Drugs”

By Ed Silverman

Ed Silverman founded the Pharmalot blog and has covered the pharmaceutical industry for 20 years.
The Supremes Have Spoken And ACA Keeps On Hangin’ On

Court challenges have failed. Repeal bills will be vetoed. The next major chapter in the ACA’s history may depend on who wins the White House next year.

By Richard Mark Kirkner

Now that the Supreme Court has handed down its ruling in the much anticipated King v. Burwell case, upholding ACA and premium subsidies, the head-scratching and soothsaying about what’s next for the health care law commenced.

The day the ruling came down President Obama declared that “this law is working—and it’s going to keep on doing that.” But the Congressional Budget Office (CBO) estimates that there are still 35 million uninsured Americans, and the Kaiser Family Foundation estimates that just 36% (10.1 million out of 28 million) of Americans who could buy insurance on the public exchanges have done so.

King v. Burwell leaves the heart of the ACA (premium subsidies, the individual mandate, guaranteed issue) intact. But some components of the law may yet get picked off by remaining legal challenges or legislative action. The employer mandate, the sustainability of the state-operated exchanges, and funding for the law are still very much in the crosshairs of partisan debate.

Both the House and Senate have advanced budget plans that would defund the ACA. Battles over health care are continuing to be waged at the state level. For example, myriad lawsuits have been filed challenging the requirement to provide women contraceptive coverage without copayments or deductibles.

Meanwhile, the lawsuit that House Speaker John Boehner and congressional Republicans filed that claims the administration is illegally providing tax credits and cost-sharing payments to health plans without a congressional appropriation is moving forward in the federal courts.

But Nicholas Bagley, a University of Michigan law professor who has written extensively about the ACA and health care, does not expect the post-King v. Burwell legal challenges to amount to much: “The challenges are unlikely to succeed or target parts of the ACA that don’t really go to its heart.”

Washington may not be done yet

Even if the ACA proves to be relatively impervious to court challenges, political challenges and legislative action might still undo the law. Say a Republican wins the presidential election next year and the GOP retains control of Congress as expected. Then, says Bagley, there will be political pressure to either amend the ACA or repeal and replace it. “So we’re going to see yet another referendum on the Affordable Care Act during this presidential campaign,” he says.

Meanwhile, Senate Majority Leader Mitch McConnell has said his caucus has not given up on using budget reconciliation to repeal the ACA. Reconciliation would allow repeal with a simple majority rather than the 60 votes typically needed to get legislation through the Senate. But the CBO put an obstacle in the way of those plans when it said that repeal would add $137 billion to the federal deficit over the next 10 years. As Paul Krawzak, a staff writer for CQ Roll Call has reported, the CBO’s budget figures mean the Republicans would have to write repeal legislation, which, unlike the generic repeal bill, would also need to reduce the deficit between 2016 and 2025.

“Congress passed the Affordable Care Act to improve health insurance markets, not to destroy them,” Chief Justice John Roberts wrote in the majority opinion in King v. Burwell.
President Obama’s veto pen almost certainly awaits any attempt to derail his signature legislation. Repeal seems a very long shot, at best.

Paul Keckley was involved in the background negotiations of the ACA, facilitating dialogue between the White House and health industry trade groups. Now managing director of the lobbying and consulting firm Navigant, he says the cutoff for the Obamacare employer mandate, whether it’s 50 or 100 employees, is ripe for amendment. “Some folks like the U.S. Chamber of Commerce and others are questioning if there should be a mandate at all,” he says. “That’ll be a hot spot for dissension.” Currently, the mandate applies to employers with 50 or more employees. Full implementation of the mandate has been delayed until next year.

**King v. Burwell raises the interesting question whether states that operate their own exchanges might abandon those efforts and depend on the federal government instead.**

Governors, legislatures in the fray
The National Conference of State Legislatures says 38 states and the District of Columbia this year have enacted 178 health care laws. Among the anti-ACA bills that have been introduced include one in Arizona that would prohibit the state insurance department from enforcing the ACA and another in Arkansas that would deny funds to advertise or promote health plans in the state insurance marketplace.

Then there’s the issue of states expanding Medicaid coverage to pick up some of those 35 million who still do not have health insurance. Twenty-one states have yet to sign on to any form of Medicaid expansion. Now that the ACA has weathered legal challenges, and political reality argues against major changes unless a Republican wins the White House next November, will some of those holdouts expand their programs? Jennifer Tolbert, director of state health reform for the Kaiser Family Foundation, isn’t sure. Full federal funding of Medicaid expansion is available through 2016, but beyond that “there is still a great deal of federal funding available to states if they should choose to implement the expansion,” she notes.

**Where does this leave state exchanges?**
The *King v. Burwell* decision in favor of premium subsides raises the interesting question whether states that operate their own exchanges might abandon those efforts and depend on the federal government instead.

Several states are having trouble maintaining their marketplaces, notes Rand senior economist Christine Eibner. Vermont’s health exchange has had numerous technology problems. New Mexico and Hawaii have turned to the federal exchange to operate the backend technology. Eibner questions whether small states, like Vermont and Delaware, which had been exploring setting up an exchange leading up to the Court ruling, have large enough populations to generate sustaining administrative fees for an exchange.

But state exchanges have some redeeming qualities. “I think its fair to say that the state-based exchanges see themselves as having a greater role in engaging consumers, in coordinating with Medicaid, in being value-based purchasers and really moving the market with creative new products,” says Trish Riley, the executive director of the National Academy for State Health Policy.

Sally Poblete, CEO and founder of Wellthie, a company that provides technology and analytics to health plans, says now insurers and other stakeholders can turn their focus to signing up the millions of uninsured still out there. “Just because the Supreme Court said you can get tax credits doesn’t mean consumers will do so,” Poblete says. “That work is still ahead of us—to help consumers understand it, understand their eligibility for it, understand how to get it, and I think, importantly, when they get coverage how best to use their coverage.”

Next up is the open enrollment period, which begins in November. Insurers have already filed their rates for next year. An Avalere Health survey of insurers in seven states and Washington, D.C., found that the premiums for silver plans are going to increase, on average, by 5.8%. “It’s going to be quite a busy open enrollment,” says Poblete.

Probably much busier than it would have been had King in *King v. Burwell* prevailed.
Big data is a big deal, or so the health care IT vendors say. As revenue from the sale of electronic health records falls off and complaints soar about EHRs and CMS’s meaningful use program, health IT vendors have stepped out to tout the power of big data analytics. Slicing and dicing gobs of data stored in EHRs, insurance claims, and external databases such as the Geographic Information System (GIS) database is supposed to transform the health care delivery system.

Here’s the problem: Big data doesn’t exist outside the capabilities built by a few sophisticated organizations. You may have heard of one: the United States, which has 84 big data programs spread over six federal agencies.

In health care, most data are locked up in siloed databases, trapped by electronic medical records that don’t talk to each other. Moreover, the quality of patient data is often questionable. Simple fields such as a patient’s gender may not be usable because some systems may have more choices than male and female. Critical fields like a diagnosis code can be tainted by billing and reimbursement considerations, such as upcoding.

The barriers to creating a big data environment remain despite huge efforts by CMS’s Office of the National Coordinator (ONC), the American Health Information Management Association (AHIMA), myriad IT professional organizations, and many voluntary work groups. The $30 billion in federal EHR incentive payments, which was a bonanza for IT vendors, hasn’t solved the problem.

Big data analytics will require interoperability and aggregation of data across providers, health plans, PBMs, and pharmacies, but that is not widely happening. In March, a Senate committee hearing examined the problems of interoperability and found that there is no business case for EMR vendors to make their systems interoperable—nor do providers have a reason to bear that expense.

The EMR vendors at the hearing said it was too costly for them to standardize their systems and create interfaces. Miffed by what they saw as arrogance on the part of vendors, the senators were not shy in their criticism of the meaningful use program’s failure to achieve interoperability. “The technology for exchanging information exists, but there are all sorts of disincentives, particularly among competitors, and there are few incentives for them to do so,” says David Kibbe, MD, CEO of DirectTrust, a health care consortium that provides a standardized Internet based data exchange network. “The bottom line is that it will take payment reform to reward providers for exchanging info and penalizing them for hoarding it.”

Pharmacy data gets some respect
Health care analytics is often limited to the data in medical and pharmacy claims. “Claims data rule the world,” says Jonathan Weiner, PhD, a codeveloper of Johns Hopkins University’s Adjusted Clinical Groups (ACG) System, a widely used population-based, case mix/risk adjustment methodology. Weiner is also a member of Managed Care’s editorial board.

Unfortunately, claims have very few truly useful data fields, so insight must be gleaned and inferred. Nevertheless, progress is being made. Pharmacy data plays a central role in analyzing health care services, and health plans, PBMs, and others are working to build and use analytic tools that process it. As pharmacy becomes a larger piece of total health care expenditures, and as new high-cost specialty drugs—like the hepatitis C agents—rattle the system, predicting pharmacy costs and managing pharmacy utilization has emerged as a top priority.
Johns Hopkins gets into the game

Health plans and PBMs recognize that pharmacy data can aid in identifying high risk patients and gaps in therapy. It can also be used in some nifty, reform-minded ways for predicting pharmacy costs in risk-based payment arrangements, supporting population health management in ACOs and modeling medical care for specific diseases.

The ACG system at Johns Hopkins has these capabilities. Its primary inputs are medical and pharmacy data and patient demographics from claims, but it is beginning to incorporate data from other sources. The system organizes patient data into morbidity groups, one based on diagnosis and the other on pharmacy usage.

The ACG system maps more than 90,000 NDCs into a set of 60 pharmacy-based morbidity groups. These morbidity groups are then fed into a predictive model that uses a reference database of millions of health plan enrollees. The predictive model has flexible output parameters, such as predicting pharmacy adherence or hospitalizations. Hopkins is working to focus the ACG system on population health analytics by incorporating data, such as the GIS database.

Data analysis with a purpose

Analysis should never be an end in itself. The acid test for big data analytics in pharmacy services or any other area of health care is how that data is used to improve quality and efficiency.

Earlier this year, Prime Therapeutics won the Pharmaceutical Benefit Management Institute’s 2015 Rx Benefit Innovation Award for an analytic tool it developed that incorporates medical and pharmacy claims. The company’s tool provides early warning and trend forecasting for emerging high-cost or high-utilization drugs.

“It serves as the front end for providing actionable clinical utilization management recommendations to our Blue Cross plans,” says David Lassen, PharmD, chief clinical officer.

Prime Therapeutics provided the Pharmaceutical Benefit Management Institute the results of a case study of the cost and utilization of sofosbuvir (Sovaldi). The tool’s predictive modeling analyzed medical claims for a commercially insured population of 12 million members, looking at the incidence of hepatitis C virus screening as an early indicator of diagnosis and possible treatment. The incidence of screening was quantified for three separate 10-month intervals coinciding with the releases of updated screening and treatment recommendations from the CDC and the U.S. Preventive Services Task Force.

Prime Therapeutics then used screening, diagnosis, and trend data to calculate the number of new members diagnosed with HCV. The results showed an increase in the estimated number of new diagnoses resulting from screening. They estimated that 42,284 of its 14.8 million (0.2%) member base had hepatitis C at the end of 2013.

The Minnesota PBM then updated the estimate of hepatitis C cases to 2015 and modeled its cost trends. The cost of hepatitis C treatments drugs shot up from $0.13 PMPM in 2013 to $4.28 PMPM, a 32-fold increase. By incorporating the approval of additional new HCV agents and other factors, Prime also modeled continuing cost increases that ranged from 20% to 50% for 2015.

Prime Therapeutics’s watch list tool is integrated with its therapy management program, says Lassen. Claims data are fed into software that finds gaps in therapy, drug interactions, overutilization, poor adherence, and other situations. Alerts target providers and patients.

Active Health Management, Aetna’s disease management subsidiary, also has software with capabilities for incorporating pharmacy data and guiding pharmacy management.

The future is now-ish

Narrow, targeted data-networking efforts are producing success, and Aetna’s IT subsidiary, Medicity, is driving some of that success. Medicity provides data networking and exchange services to state health information exchanges, EHR vendors, and other clients.

Health care organizations are coming together to develop custom interfaces. Nancy Ham, Medicity’s CEO, says Medicity is working with more than 100 enterprise clients to develop interfaces that connect data systems and meld data into meaningful databases. The types of data exchange networks that Medicity is developing may provide the vehicle for health plans and PBMs to obtain the expanded data they have been seeking from providers, allowing them to manage care more effectively.
A study in *Health Affairs* last month made headlines by listing the 50 hospitals in the United States with the highest markups in 2012. Some in the group hike their prices by more than 12 times Medicare-allowable costs, and the average was 10.1 times, which is much higher than the average markup of 3.4.

The researchers—Ge Bai at Washington and Lee University in Richmond, Va., and Gerard F. Anderson at Johns Hopkins—say their purpose in highlighting the top 50 outliers is not so much to shame individual institutions, but to alert state and federal authorities that the lack of any sort of price regulation in health care continues to be a major problem.

Bai and Anderson used data collected by CMS to make their calculations. They obtained gross charge data for 4,483 hospitals from form CMS-2552-10, Worksheet C, and divided the gross charges by the hospital’s Medicare-allowable cost (which is listed on the same worksheet) to arrive at a charge-to-cost ratio—or more simply, the hospital’s markup.

Citing previous research by Anderson, they noted that hospital markups crept up in the late ’80s and started to take off in 2000.

All but one of the hospitals in the top 50 are for-profit hospitals. Half are operated by Community Health Systems and more than a quarter are operated by Hospital Corporation of America. Both companies have headquarters in the Nashville area.

Hospital administrators justify high markups in a couple of ways: High prices are necessary because payment from public payers is slow and that markup is just a sticker price that doesn’t reflect what patients and payers actually pay after discounts have been negotiated.

But in their *Health Affairs* article, Bai and Anderson argue some people and payers do pay the markup price, or close to it, because they lack bargaining power—a group that includes people without health insurance, those with insurance who get care outside of their health plan’s network, and casualty and workers’ compensation insurers. “Hospitals’ high markups, therefore, subject many vulnerable patients to exceptionally high medical bills, which often leads to personal bankruptcy or the avoidance of needed medical services,” they write.

The federal government doesn’t regulate hospital markups, and Maryland and West Virginia are the only states that do, according to Bai and Anderson.

“The easiest solution would be to impose a price ceiling of, let’s say, 300% of what Medicare would pay,” Bai tells *Managed Care*. Other fixes he and Anderson discuss in their *Health Affairs* piece include a requirement that hospitals publicly disclose their markup rate and make markups uniform throughout the hospital. Bai and Anderson discovered huge variations within hospitals, with the average charge-to-cost ratio for anesthesiology reaching 112, while the ratio for nursery services was just 3.

Health insurers should be pushing for regulation of hospital charges, in Bai’s opinion. If prices didn’t start so high, then they wouldn’t have to pay such outrageous prices for out-of-network services, which puts upward pressure on premiums.

<table>
<thead>
<tr>
<th>Year</th>
<th>Average charge-to-cost ratio*</th>
</tr>
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<tbody>
<tr>
<td>1984</td>
<td>1.35</td>
</tr>
<tr>
<td>2004</td>
<td>3.07</td>
</tr>
<tr>
<td>2011</td>
<td>3.30</td>
</tr>
<tr>
<td>2012</td>
<td>3.40</td>
</tr>
</tbody>
</table>

*Ratio of average hospital charges to the Medicare-allowable cost

Source: Bai G and Anderson GF, *Health Affairs*, June 2015
# List of 50 hospitals with highest charge-to-cost ratios, 2012

<table>
<thead>
<tr>
<th>Rank</th>
<th>Hospital Name</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>North Okaloosa Medical Center</td>
<td>Fla.</td>
</tr>
<tr>
<td>2.</td>
<td>Carepoint Health-Bayonne Hospital</td>
<td>N.J.</td>
</tr>
<tr>
<td>3.</td>
<td>Bayfront Health Brooksville</td>
<td>Fla.</td>
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<tr>
<td>4.</td>
<td>Paul B Hall Regional Medical Center</td>
<td>Ky.</td>
</tr>
<tr>
<td>5.</td>
<td>Chestnut Hill Hospital</td>
<td>Pa.</td>
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<tr>
<td>6.</td>
<td>Gadsden Regional Medical Center</td>
<td>Ala.</td>
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<tr>
<td>7.</td>
<td>Heart of Florida Regional Medical Center</td>
<td>Fla.</td>
</tr>
<tr>
<td>8.</td>
<td>Orange Park Medical Center</td>
<td>Fla.</td>
</tr>
<tr>
<td>9.</td>
<td>Western Arizona Regional Medical Center</td>
<td>Ariz.</td>
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<tr>
<td>10.</td>
<td>Oak Hill Hospital</td>
<td>Fla.</td>
</tr>
<tr>
<td>11.</td>
<td>Texas General Hospital</td>
<td>Tex.</td>
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<td>12.</td>
<td>Fort Walton Beach Medical Center</td>
<td>Fla.</td>
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<td>15.</td>
<td>National Park Medical Center</td>
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<tr>
<td>19.</td>
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<tr>
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<td>Fla.</td>
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<td>Osceola Regional Medical Center</td>
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<td>23.</td>
<td>Decatur Morgan Hospital–Parkway Campus</td>
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<td>24.</td>
<td>Medical Center of Southeastern Oklahoma</td>
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<td>Gulf Coast Regional Medical Center</td>
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<td>26.</td>
<td>South Bay Hospital</td>
<td>Fla.</td>
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<td>Fawcett Memorial Hospital</td>
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<td>28.</td>
<td>North Florida Regional Medical Center</td>
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<td>29.</td>
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<td>30.</td>
<td>Doctors Medical Center</td>
<td>Calif.</td>
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<td>31.</td>
<td>Lawnwood Regional Medical Center &amp; Heart Institute</td>
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<td>32.</td>
<td>Lakeway Regional Hospital</td>
<td>Tenn.</td>
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<td>36.</td>
<td>Stringfellow Memorial Hospital</td>
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<td>37.</td>
<td>Lehigh Regional Medical Center</td>
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<td>38.</td>
<td>Southside Regional Medical Center</td>
<td>Va.</td>
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<td>39.</td>
<td>Twin Cities Hospital</td>
<td>Fla.</td>
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<td>40.</td>
<td>Olympia Medical Center</td>
<td>Calif.</td>
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<td>41.</td>
<td>Springs Memorial Hospital</td>
<td>S.C.</td>
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<td>42.</td>
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<td>43.</td>
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<td>45.</td>
<td>Bayfront Health Dade City</td>
<td>Fla.</td>
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<tr>
<td>46.</td>
<td>Pottstown Memorial Medical Center</td>
<td>Pa.</td>
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<tr>
<td>47.</td>
<td>Dyersburg Regional Medical Center</td>
<td>Tenn.</td>
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<td>South Texas Health System</td>
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<td>49.</td>
<td>Kendall Regional Medical Center</td>
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</tr>
<tr>
<td>50.</td>
<td>Lake Granbury Medical Center</td>
<td>Tex.</td>
</tr>
</tbody>
</table>

Shaded rows are hospitals operated by Community Health Systems. Source: Bai G and Anderson GF, *Health Affairs*, June 2015
Tuning in to Telemedicine

With videoconferencing, text messaging, email, and the good old phone call, a treatment method that “spent many years in the desert” has now reached an oasis of acceptance—and savings may result.

By Susan Ladika

Sure, Cigna spokesman Joe Mondy is paid to talk about telemedicine—even to sing its praises now that the insurer has a contract with MDLIVE to provide the service to some of its customers. But Mondy is also a first-time user who talks about the experience with the conviction of a convert.

During the heart of this spring’s brutal allergy season in Connecticut, his eyes were nearly swollen shut. Mondy called his family doctor, and the news was both what you would expect and what you wouldn’t want to hear: No appointment was available for a day or two. “I might have been blind by that time,” Mondy says, joking—but not completely.

So he dialed into MDLIVE, Cigna’s telehealth provider, from his office phone. After discussing his symptoms, the doctor on the other end of the line prescribed eye drops. They worked almost instantaneously. Sight restored. Blindness averted. And Mondy didn’t have to miss any time at work.

The spokesman for Cigna couldn’t have scripted the experience any better. “Telemedicine doesn’t replace visits to the doctors, but supplements them,” says Mondy, as if reading from the script.

Strong positive signals

Telemedicine has been talked about and talked about. But, aside from some early adopters and a few special situations, it’s largely been on the fringes of the day-to-day reality of American health care.

“Nothing really moved for many, many years,” says Ido Schoenberg, MD, chairman and CEO of American Well, a Boston telemedicine company and one of the

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Percentage of employers offering telemedicine to employees

<table>
<thead>
<tr>
<th>Year</th>
<th>Offer or expect to offer</th>
<th>2016–2017 Offering or considering</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>22%</td>
<td>71%</td>
</tr>
<tr>
<td>2015</td>
<td>37%</td>
<td>71%</td>
</tr>
</tbody>
</table>

Source: Towers Watson

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Telemedicine could help a doctor spot that a congestive heart failure patient has gained some extra weight, says Ido Schoenberg, MD, CEO of American Well. A more effective diuretic could be ordered; an ED visit, avoided.
top companies in the sector. “We spent many years in the desert.”

But that seems to be changing—perhaps enough to point us to a whole new way of delivering health care. Some smart money seems to think so: Schoenberg’s company and other leading vendors (Teladoc in Dallas and Doctor on Demand in San Francisco) have raised tens of millions of dollars in the past year from investors betting on telemedicine’s future. Towers Watson and Deloitte chimed in last year with glowing assessments. Drawing on a survey of 1,000 employers, Towers Watson said the percentage of companies offering telemedicine as part of their health benefits was expected to increase to 37% this year from last year’s 22%. Deloitte predicted that the number of telemedicine visits (broadly defined) conducted around the world would reach 100 million in 2014. In the consulting firm’s estimation, fully half of the roughly 600 million in-person visits to general practitioners that Americans and Canadians make each year could be conducted via telemedicine.

Of course none of this would be happening unless someone were paying for it, and one by one and step by step, both the public and payers are deciding that telemedicine is worth covering. Late last year, Anthem said it would start offering telemedicine services to its Medicare Advantage members in a dozen states. Highmark, the Pittsburgh-based insurer, started covering web-based visits with DermatologistOnCall this year. UnitedHealthcare is the most recent insurer to join the cresting trend. This spring, it began providing coverage for virtual doctor’s visits to members in self-funded employer plans. Starting next year, the service will be rolled out to the other plans, including those sold in the individual market.

Some of telemedicine’s cheerleaders see CMS as being more foe than friend because, by law, fee-for-service Medicare payment for telemedicine is restricted to certain circumstances (although Medicare Advantage plans are free to make their own decisions about telemedicine coverage). Under CMS rules, the providers can be anywhere, but the beneficiaries receiving the service can’t be at home or at work, as Cigna’s Joe Mondy was. Instead, they must be in a hospital, a clinic, a physician’s office, or another “eligible facility” during the interaction. Moreover, that facility must be in a rural area. The rationale underlying these rules is that telemedicine is only necessary for people who can’t get to the doctor in person because of distance.

But CMS does seem to be stepping gingerly toward a broader, more accepting view of telemedicine. For example, organizations participating in its Next Generation ACO program will be allowed to provide telemedicine services without the cumbersome rural or institutional restrictions. CMS also made some adjustments to its 2015 reimbursement codes for remote patient monitoring that some see as friendly to telemedicine. The agency also added seven new telemedicine procedure codes, including those for annual wellness visits and psychotherapy.

Telemedicine seems to be coming into its own for a variety of reasons; as they say, success has many
fathers. There’s the instantaneous, digitized zeitgeist working in its favor: Americans have grown accustomed to conducting many interactions remotely and online, so why not get your health care that way? That brainy phone in your hand is so whip-smart that it can handle complicated health information without breaking a digital sweat. Physicians are in short supply and, therefore, in-person appointments are hard to get—and that is only going to get worse. A recent report by the Association of American Medical Colleges predicted that there will be a shortage of between 12,500 and 31,100 primary care physicians by 2025, and specialists are expected to be even scarcer. Even with physician extenders like nurse practitioners and physician assistants in the picture, telemedicine can be a more efficient way for a physician to see patients.

Worry that telemedicine will make health care impersonal and further erode the doctor-patient relationship is legitimate and deeply felt. At the same time, there’s a growing body of literature that shows that telemedicine can improve health outcomes. One of the best examples is “telestroke,” the remote evaluation and diagnosis of stroke. With increasingly sophisticated communications technologies, neurologists can diagnose a stroke patient in an emergency department hundreds of miles away and order treatment with intravenous tissue plasminogen activator (tPA) if needed. Several studies have shown that treatment rates with tPA increase after telestroke programs are put in place, and there’s good evidence that early treatment with tPA improves stroke outcomes.

For payers, cost is a huge factor. Well-delivered telemedicine can presumably (yes, there’s some question about the strength of the evidence for cost saving) prevent trips to the emergency room. Even cutting down on the number of visits to physicians’ offices could yield some savings. And in an era when ACOs, bundled payments, and other arrangements are shifting financial risk to providers, cost-consciousness is no longer limited to the payer side of the payer-provider divide.

3 different categories

Amid the enthusiasm, there is some confusion about exactly what we are talking about when we talk about telemedicine. The terms telemedicine and telehealth are often used interchangeably, although some insist rather pedantically that telehealth is broader and takes in all of health care while telemedicine should be reserved for when the delivery of clinical medicine is involved. The tele- in telemedicine conjures up images of videoconferencing, but pretty much any form of electronic or digital communication can wind up in the telemedicine bucket: E-mail, text messaging, apps, the telephone call.

The American Medical Association’s 2014 tele-

medicine policy divided telemedicine into three parts as the Romans did Gaul: interactive services, remote monitoring, and store-and-forward. Not everyone is going to follow this taxonomy, but it’s a helpful way to organize a definitionally challenging subject.

With interactive telemedicine, there’s real-time interaction between the provider and the patient. The encounter can be handled over the telephone or by way of video chat and can have a wide range of uses, including diagnosis, consultation, treatment, patient education, and care management. Although video chatting would seem to be desirable because it is the closest to an in-person encounter, many people prefer to use the phone for telemedicine, perhaps because they are more at ease if they are not being watched, particularly by a doctor who is working for a telemedicine company that provides call-in services.

The use of interactive telemedicine has taken root, and last year about 800,000 patients made use of telemedicine consults, says Jonathan Linkous, CEO of the American Telemedicine Association (ATA). “In the last two years, it’s gone beyond the tipping point,” he says. “It’s convenient. That’s what patients want.”

With remote monitoring, medical professionals can monitor a patient from afar. Telestroke is one example, although remote monitoring is also often used to manage chronic diseases, such as asthma, congestive heart failure, or diabetes. Patients make use of devices at home to record indicators such as their blood pressure and blood sugar levels. Smartphones and smartwatches have apps that are automating both the taking and the sending of several kinds of measurements.

Naturally, telemedicine vendors hawking their wares to payers tout the money-saving potential of remote
monitoring for chronic conditions. Schoenberg, at American Well, presents the scenario of the congestive heart failure patient under telemedicine’s watchful eye. Say the monitoring showed that he was gaining weight. That could be a symptom of edema, which would prompt his physician to consider switching him to a more effective diuretic. An expensive hospital admission might be avoided.

The third category, store-and-forward telemedicine, involves the transmission of medical data, such as images, to a physician for assessment. This is commonly used by specialties such as radiology and pathology. The AMA says the practice can provide diagnostic and therapeutic assistance for patients who lack timely access to specialty care.

### What payers are doing

With UnitedHealthcare’s new service, members can make video-based virtual visits around the clock through their smartphone, tablet, or computer for assistance with minor medical ailments, such as bronchitis and sinus infections. In effect, it’s low-cost urgent care but with a different delivery system. Members can choose among in-network health care providers from Doctor on Demand, NowClinic, and American Well. UnitedHealthcare aims to offer consumers “access to a network of virtual care providers in a way that is similar to how they access care through traditional bricks and mortar,” says Karen Scott, senior director of product and innovation.

Anthem Blue Cross and Blue Shield introduced LiveHealth Online in 2013. Members connect via two-way video chat for nonemergency care from board-certified doctors who are licensed in their state. More than 40% of doctor-patient consultations occur using mobile devices. The service is available for members in 11 of the 14 states in which Anthem operates. In the other three, the state medical board or state law either prevents telemedicine in general or does not allow a doctor to prescribe medication after a virtual visit, says John Jesser, vice president of provider engagement and cost of care for Anthem Blue Cross and Blue Shield. He says Anthem has found that typical telemedicine users are busy moms, tech-savvy young adults, and business and leisure travelers. If someone calls in with an emergency, he or she is directed to the emergency room.

About 13 million Anthem members currently have access to telehealth services, and that number will increase to almost 20 million by the end of the year. Jesser’s crystal ball: “In five years, this will just be a common way people get care.” The mobility of telemedicine is one reason why it is poised to take off, in Jesser’s opinion. He recounts the story of a woman with depression who left her office and went to her car to call LiveHealth Online from her smartphone. The physician she spoke with immediately renewed her prescription for antidepressants. “The fact it’s so portable is very powerful,” Jesser says.

A telemedicine visit costs Anthem members $49, but they could pay less out of pocket, depending on their health plan. “It’s one of the least expensive ways you can consult a doctor,” Jesser says. If someone has a $10 copayment for a doctor’s office visit, he or she would have the same copay if using a telemedicine provider. When a patient whose insurance covers telemedicine uses the LiveHealth Online app, a claim for reimbursement is automatically filed.

Cigna’s MDLIVE offers consumers in the insurer’s self-funded or employer-sponsored health plans the ability to connect to a physician via the telephone or using video. To ensure continuity of care, the details of the telemedicine consultation are then passed on to the patient’s primary care physician. A virtual visit costs Cigna $38, Mondy says. In comparison, an office visit typically costs $65 to $85, while a visit to an urgent care clinic costs $160.

At Meritus, an Arizona-based cooperative that offers health insurance both on and off of that state’s health exchange to both individuals and businesses, both members and employees can access telehealth services through MeMD. No one is charged a copayment for making use of telemedicine for minor health care matters, says Veronica Piotrowski, vice president of Meritus, because “sometimes a copay can prevent people from seeking care.”

In its 2014 report on telemedicine, Towers Watson says telemedicine has the potential to generate more than $6 billion annually in health care cost savings. That’s undoubtedly a high-end estimate based on the
assumption that every employee and his or her dependents will take full advantage of telemedicine services. In fact, Towers Watson and others have noted that there's a horse-to-water problem with telemedicine currently: Employers and health plans may offer telemedicine services, but relatively few employees actually use the service. Still, realistic estimates suggest that there are savings to be had from telemedicine. Contrarians point out that telemedicine will add yet another health service and not necessarily achieve the reduction in utilization of other health care services needed to offset the new added layer.

Jeffrey Levin-Scherz, MD, lead of Towers Watson Health Management practice, sees telemedicine services as helping to solve American health care's access problems by meeting the demand for urgent and emergency care. He expects word of mouth to win people over to telemedicine's ways. Once one employee uses it and has a good experience, he or she is likely to share that experience with coworkers, friends, and family: “The social buzz actually will drive more volume of services to telehealth,” says Levin-Scherz.

When telemedicine fosters continuity of care and care coordination, “we are likely to see savings from reducing existing redundancies that occur as a result of fragmentation,” says Jack Resneck Jr., MD, a member of the AMA Board of Trustees. It can also help providers manage care for patients with chronic conditions and assist with early diagnosis and treatment, he adds.

Telemedicine is already a major force in the Veterans Administration system. During the 2014 federal fiscal year, more than 690,000 patients in the VA system received care via telemedicine, and the number of veterans making use of such care is increasing by about 20% each year. A VA report from fiscal year 2013 says that more than 40,000 telemedicine patients were being treated for chronic conditions, allowing them to remain at home rather than needing long-term institutional care. Overall, more than 144,000 veterans made use of what the VA calls “home telehealth,” which reduced hospital admissions by about a third in 2013.

Static on the line

The AMA has expressed some reservations about telemedicine and has called for a “valid physician-patient relationship” to be established.

“We want patients with an acute problem like a sore throat to have more options about how they seek care and communicate with their doctor,” says Resneck. “But it is important that care is coordinated, safe, and high-quality.” To further that, he says the physician should have access to the patient’s medical records.

The AMA wants telehealth consultations to be coordinated with patients’ existing physicians, Resneck says. “As systems become more interoperable, telehealth technologies will allow for integration with a patient’s electronic health record, improving care coordination across all of a patient’s health care providers.”

The ATA’s Linkous says many of the concerns hinge on the issue of a prior relationship between a patient and physician. “There’s widespread agreement that if a patient has already seen a physician, you can do a lot of services over the telephone,” he notes. Video, though, allows a doctor to see the patient and possibly some signs and symptoms. “How much a physician can do by telephone is a debated topic,” Linkous says.

“As systems become more interoperable, telehealth technologies will allow for integration with a patient’s electronic health record,” says Jack Resneck Jr., MD, of the AMA.

The Texas Medical Board made headlines this spring with rules that were widely viewed as fencing in telemedicine. However, a federal judge ruled that the medical board’s decision was anticompetitive and prevented it from taking effect.

Another problem for telemedicine is state licensing laws that restrict a physician from practicing medicine—even the “tele” variety—across state lines. The Federation of State Medical Boards’ Interstate Licensure Compact may remove that obstacle in some states.

As telemedicine usage becomes more widespread, do the traditional bricks-and-mortar physicians need to worry that they will go the way of video rental store? Researchers at Rand have said telemedicine could reduce the demand for physician services by as much as 25%. Physicians and other providers may need to hustle up and adapt.

American Well has introduced what it calls Telehealth 2.0, which allows physicians to use telemedicine to provide care and follow up with their patients. Practices pay a monthly licensing fee for use of the service. Using the new app for providers, the physician can initiate the call. A doctor’s office can send a patient an invitation to speak with the physician. The app also allows the physician to review data from a patient’s biometric devices. “The provider can be available anywhere, any time,” Schoenberg says.

Work-weary physicians may wonder if that is such a good thing, but that kind of accessibility is part of the connected, convenience-first times we’re living in. 

Susan Ladika is based in Tampa, Fla., and has been a freelance writer for almost 20 years.
Cost, Outcomes Mixed for Tele-ICU

ICUs are expensive, intensivists in short supply. Bringing telemedicine to the ICU may help the situation, but doubts linger about what that will achieve.

By Nan Myers and Peter Wehrwein

Picture this scene: A middle-aged man who is having difficulty breathing is brought to the emergency room of a community hospital. His condition is serious, and he is immediately put on a ventilator and admitted. It's Saturday, so the ICU has a skeleton staff. But an experienced intensivist is patched through. She asks the nurse to swivel a camera, so she can get a close-up view of the patient.

Or this: A nurse contacts a doctor at 5 am and describes an agitated ICU patient. With a click of the button, a virtual intensivist is “in” the patient’s room and can see her thrashing around. The doctor speaks to the nurse and orders medication to treat the agitation.

These are not fantasy situations. Scenarios like this are occurring every day in hospitals throughout the country. With intensivists in short supply, the cost of maintaining a fully staffed ICU extremely high, and an aging population that is likely to mean a growing demand for ICU care, hospitals have turned to telemedicine to staff their ICUs. According to a study published last year in *Critical Care Medicine*, the number of tele-ICUs increased from just 16 in 2003 to 213 in 2010, and the number ICU beds involved increased from 598 to 5,799, a 10-fold increase. Most (91%) of the tele-ICUs were established in not-for-profit hospitals, the study found, and about half were located in the Midwest.

Meta-analysis is mixed

When researchers have looked at the outcomes from tele-ICU care, the results have been somewhat mixed, although results from one of the largest studies so far were encouraging. Published last year in *Chest*, the study showed that tele-ICU care is associated with lower ICU and hospital mortality rates and shorter ICU and hospital lengths of stay. When the investigators teased apart the data to identify the effects of different aspects of tele-ICU, they found that some of the key components included having an intensivist review the case within an hour of admission and quicker alert response times.

Other studies, though, have not been so clear cut. A 2011 meta-analysis that included 13 studies and a total of 41,000 patients rendered what might be considered a split decision: Tele-ICU was associated with lower ICU mortality and shorter lengths of stay in the ICU but not with lower in-hospital mortality or shorter hospitalizations. A 2012 meta-analysis that included 11 studies puts a check in the plus column: It found that tele-ICU care was associated with lower ICU and hospital mortality.

Signals from the cost-effectiveness research have been similarly mixed. Shorter stays in the ICU should translate into lower costs, but there's also the added cost of the service itself to consider. Some studies have suggested that tele-ICU care is most cost-effective for the sickest patients, while others indicate that it's a better investment when the tele-ICU involvement in the hospital's ICU is high. A 2013 review of eight studies of Department of Veterans Affairs tele-ICUs found large swings in cost within the VA system—which can't please the providers and payers who prize predictability. Implementation and first-year operational cost ranged from $50,000 to $100,000 per monitored bed. Changes in patient-care costs ranged from $3,000 in savings per patient to $5,600 in additional costs.

Variations on the theme

In an article in the April 2015 *Critical Care Clinics*, an issue devoted to telemedicine, H. Neal Reynolds, MD, and Joseph J. Bander, MD, grouped tele-ICUs into two categories, centralized and decentralized. The centralized version has a hub-and-spoke organization with the hub a physical location staffed by the consulting intensivists and nurses. They are connected to ICUs—the spokes—with two-way audio and video communication. According to Reynolds and Bander, the vast majority of the centralized systems depend on the technology developed by Visicu, a company founded by a pair of Johns Hopkins intensivists that is now owned by Philips (Reynolds is former employee of Visicu).

In the decentralized model, there's no central monitoring facility or staff that works there. The remote intensivists and nurses can work from their offices or at home—or anywhere that has an Internet connection—and are linked to ICUs through encrypted connections and cloud computing. Reynolds and Bander say most decentralized tele-ICU systems use the technology of InTouch Health, a Santa Barbara, Calif., company. Jackie Busch, RN, clinical services
director for the InTouch, says that over 100 ICUs are using the company’s tele-ICU services and most use the version that lets the remote experts control a robot-like device that can travel from bed to bed in the ICU.

Busch says decentralized tele-ICU services are less expensive than the centralized model, and she puts her company’s costs at about $7,200 per bed during the first year of operation. Still, she says the ROI remains a big challenge to demonstrate because it is a matter of cost avoidance.

The American Telemedicine Association’s 2014 guidelines for tele-ICU operations describes three modes of delivering tele-ICU care. The continuous model is what many people have in mind when they talk about tele-ICUs. Patients are monitored remotely without interruption for a set period of time (sometimes 24/7 but often just during the night).

There’s also the scheduled care model, which involves regular, periodic consultation that allows the staff to tap into the expertise of the remote intensivists, and the responsive model, when the virtual visits are prompted by an alert or emergency of some kind.

Busch says InTouch Health doesn’t monitor ICU patients like a centralized system might. Instead, the company provides “round and respond” services that include a regular check-in at the beginning of a shift and consults as needed at other times.

Nurses on board
The American Association of Clinical Nurses (AACN) hopped on the tele-ICU bandwagon in 2011 in recognition of the rapidly changing and diverse nature of ICU nursing practice. It created a tele-ICU subspecialty, the CCRN-E, the first credential designed for tele-ICU nurses.

“We see tele-ICU nursing as an emerging subspecialty of critical nursing,” says Connie Barden, first chief clinical officer of AACN. “Nurses who work at a tele-ICU must already have hands-on experience with patients in intensive care units. Tele-ICU nurses provide a welcome second pair of eyes to monitor patients, coach and consult with bedside clinicians, and help implement evidence-based practices.”

Today it is estimated that there are about 1,800 tele-ICU credentialed nurses. “As a tele-ICU nurse, she (or he) is applying knowledge and ability to the same patient in a different way,” observes Barden. “Aside from putting their hands on the patient, telemedicine can do everything.”

Barden estimates that a tele-ICU nurse can safely monitor 30 or 40 patients at a time. That’s consistent with the American Telemedicine Association guidelines, which say the current national trends for staffing levels are 1 nurse for every 30 to 35 patients.

According to an AACN report, the advent of tele-ICUs “has changed the way we assess patient needs, communicate issues, make decisions, mentor clinical staff, and interact with patients and families.”

Carol Olff, who directs the critical care services and tele-ICU at the Concord, Calif., campus of John Muir Medical Center, says “tele-ICU introduced a new member to the team. In addition to monitoring a patient, the nurse, who is looking through a camera, can also provide pre-emptive care. For example, the nurse may recognize a problem before it actually happens, or during a procedure, like when a central line is being inserted.”

“Tele-ICU also changes rounding a bit; we call it rounding with a purpose,” Olff continues. “When checking each patient, the nurse looks at the patient’s data first, then focuses the camera on the patient. A conversation can then be started with the patient and the on-site nurse.”

Is the bloom off the rose?
Telemedicine, in general, seems to be coming on strong. But the study about the adoption of the tele-ICU mentions that 10 hospitals dropped the technology and that after an initial burst of enthusiasm, the pace of adoption slowed considerably. The ROI may be main the problem, and some on-site doctors and nurses find tele-ICU services intrusive. Interestingly, though, when University of Pennsylvania Health System nurses were surveyed several years ago about ICU telemedicine, a small minority (11%) indicated that they found it intrusive. On the other hand, fewer than half (44%) regularly incorporated suggestions by the tele-ICU staff into their care of patients and contact with the staff was infrequent—on average less than one time per month.
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LOCATION, LOCATION, LOCATION
Site of Service and the Search for Value

When infusion therapy, for example, is given at home—a less costly setting—both patient comfort and health plans’ bottom lines benefit. But if hospitals buy up all the practices, payers may lose the chance to save.

By Joseph Burns
Contributing Editor

It seems outrageous when you think about it. During a trial in U.S. District Court last year, a consultant for Blue Cross of Idaho testified that St. Luke’s Hospital in Boise should not be allowed to acquire a 40-member physician group in a nearby town because the acquisition would jack up health care costs. Even though nothing about the care would change in the doctors’ offices except the ownership, the Blues plans would end up paying 60% more for services from that physicians group if it were owned by the hospital. The judge in the case ruled to stop the acquisition, citing the site-of-service payment differential as one of the reasons. The Federal Trade Commission has sided with the judge. St. Luke’s has filed an appeal.

The situation in Boise is hardly unique. Ownership and site-of-service differentials drive up costs for health plans—and patients—throughout the country. A PricewaterhouseCoopers report last year said that the payment per claim for Herceptin, the breast cancer drug, almost doubles ($2,750 vs. $5,350) if the drug is delivered in the hospital instead of in a doctor’s office. The site-of-service math is roughly the same for other cancer drugs, such as Avastin ($6,620 vs. $14,100) and Almita ($5,460 vs. $9,710), according to the consulting firm.

Finding other examples in which the “where” and who owns it matters almost as much as “what” in determining the price of a medical service isn’t difficult. Figuring ways to change the site of service to one where the care is less expensive but just as safe and effective—that’s the hard part for health plans and other payers. It is only going to get more so as hospitals continue to buy up physician practices at a rapid rate.

Home-based care is often the least expensive alternative, and government and private payers are having some success in using networks, tiers, and other tactics to increase the amount of care that people receive right in their homes. In June, CMS reported that 17 physician practices participating in its Independence at Home program saved more than $25 million—or about $3,000 per beneficiary—in the program’s first year. The demonstration program provides chronically ill Medicare beneficiaries with in-home primary care. Quality did not suffer and hospital readmissions decreased.

For many years, Express Scripts and other pharmacy benefit managers have moved infusion therapy into patients’ homes whenever possible because the cost of delivering medications there is much lower than in a hospital, says Jo-Ellen Abou Nader, the senior director of drug waste solutions at Express Scripts. Now the company is working with health plans to move as many patients as appropriate and possible to home care settings.

“Where care is delivered depends on the type of care given the patient and the type of drug and treatment,” says Jo-Ellen Abou Nader, senior director of drug waste solutions at Express Scripts.

“Of course, where care is delivered depends on the type of care given the patient and the type of drug and treatment,” observes Abou Nader. “Does it make more sense for that patient to be in the hospital or at home getting infusion therapy?”

Express Scripts has calculated that a shift to home infusion alone would cut American health care costs by $1.7 billion simply by moving patients out of costly hospital settings and into their homes, says Abou Nader. Intravenous immunoglobulin therapy, which is used to boost the immune system, is a good example. According to Abou Nader, one course of this treatment in the hospital is typically priced at almost $12,000, while in a physician’s office it would be $7,500 and, in patients’ homes, $5,500.
Significant savings
For someone needing many treatments over six months, the savings from using home-based instead of hospital-based infusion could easily be more than $35,000. Hospitals are fundamentally more expensive than other settings because of overhead and other factors, but competition among the proliferating number of home-infusion providers also helps to bring prices down, she says.

Some health plans have contracts that allow physicians to choose the site for infusion therapy. These contracts typically are structured so that physicians have an incentive to deliver care in lower-cost settings but still can choose the most appropriate site, Abou Nader says.

Many individuals would prefer to receive care at home anyway, she says. “Our research and experience show that most patients are happier getting this treatment at home, where it’s most convenient for them,” she says, adding that there’s good evidence that home-based infusion results in fewer errors. As Abou Nader sees it, home infusion adds up to a trifecta for health plans: “There’s the cost savings, the increase in patient safety, and improvements in patient satisfaction levels.”

Insurers should do what they can to nurture physician practices so that practices can stay in business and be a lower-cost alternative to hospital systems, says consultant Paul von Ebers. Before signing the Vivity contract, the health systems had to agree to take a lower payment than they had been getting from Anthem in return for more volume. In the past, hospitals that focused on “heads in beds” had no incentive to take lower payments. But Vivity promised the seven health systems increased market share and the opportunity to work together to improve quality for Anthem’s patients, Ginzinger explains. “It’s a narrow-network HMO product in which all of us are aligned to do the right thing.”

Ginzinger continues: “Even though it’s a narrow network, we wanted to balance that with high quality, and that’s why having access to these elite health systems was critical. We didn’t want the perception that we were delivering a very narrow, less-than-high-quality network or that we were shifting costs to patients.”

Ownership and site-of-service differentials drive up costs for health plans and patients. Hospitals buying more physician practices will only exacerbate the problem.

When providers share risk
Site-of-service prices may also be tamed by the trend toward payers and providers sharing financial risk rather than payers shouldering it alone. The thinking is that providers who stand to gain from cost savings won’t want to squander their hard-earned money on paying for an expensive site of care when the site has little demonstrated effect on health outcomes.

A new entity called Anthem Vivity Health Care is one of these new payer–provider risk arrangements that proponents are hoping have a corrective effect on site of service spending—and perhaps on many other wasteful aspects of American health care. To create Vivity, Anthem Blue Cross has contracted with seven Southern California health care systems, including big names like Cedars-Sinai Medical Center and University of California–Los Angeles Health. It’s a narrow network that’s plenty big: 6,000 physicians, 14 hospitals, and all of the seven health systems’ affiliated clinics, doctors’ offices and surgery and outpatient centers are part of Vivity.

The key to achieving cost savings will be Anthem’s sharing of any profits and losses with the member health systems, says Beth Ginzinger, RN, the health insurer’s vice president of provider joint ventures. Even before signing the Vivity contract, the health systems had to agree to take a lower payment than they had been getting from Anthem in return for more volume. In the past, hospitals that focused on “heads in beds” had no incentive to take lower payments. But Vivity promised the seven health systems increased market share and the opportunity to work together to improve quality for Anthem’s patients, Ginzinger explains. “It’s a narrow-network HMO product in which all of us are aligned to do the right thing.”

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Another way to fight high site-of-service prices is to make sure there are less expensive alternatives available. Health plans should do what they can to nurture physician practices so they can stay in business and be the lower-cost alternative to hospital systems, argues Paul von Ebers, a consultant and former president and CEO of Blue Cross Blue Shield of North Dakota. If they don’t, they are likely to foster consolidation among hospitals and physician groups that may deprive payers of any chance of shopping around for cheaper sites of service. “As hospitals buy physician practices, they tend to treat them like an outpatient services department of the hospital and to charge facility fees, increasing costs to the health plans and consumers,” says von Ebers.

Important model for urban areas
For this reason, he says, the strategy that Anthem is using in Los Angeles to develop Vivity so that former
For oncologists, it is bye to buy-and-bill and hello to value-based care

Among all specialists, oncologists may be the most focused on site-of-service issues, especially shifting the care of patients receiving intravenous therapy from hospitals to physician offices. Is this self-interest masquerading as good stewardship of the payer and patient dollar? After all, for a long time, oncologists reaped the benefits of big margins from buy-and-bill prescribing. But now the margins on buy-and-bill are smaller, and many oncologists are leading the way on value-based contracting that moves financial gains away from buy-and-bill and toward cost and quality targets.

In 2011, UnitedHealthcare conducted a study with five medical oncology groups to see if bundled payments could be used to replace the financial incentives oncology practices had to buy-and-bill for medications. According to a report published last year in the Journal of Oncology Practice, UnitedHealthcare and physicians from the five groups found that bundled payment for 810 patients with breast, colon, and lung cancer lowered medical costs by 34%. Moreover, quality did not suffer. This year, UnitedHealthcare and the University of Texas MD Anderson Cancer Center instituted bundled payment for patients with head and neck cancers.

Nurture physician practices
Such value-based payments may help oncologists to stay in private practice instead of selling out to hospitals. Lee Newcomer, UnitedHealthcare’s senior vice president of oncology and a coauthor of the Journal of Oncology Practice paper, says they will also help the insurer keep medical costs in check: “UnitedHealthcare averages 22% more than Medicare for drug payments to private practices, but our average payment to hospital-owned facilities is 146% more than Medicare for the same drugs.”

But value-based payments alone are not enough to allow private-practice oncologists to remain independent, in Newcomer’s opinion. They also need to be highly efficient in delivering care, he adds. “Many private practice oncologists are having difficulty keeping their practices open largely due to decreased Medicare payments and bad debt from patients.”

“A bundled payment may be a way for efficient practices to stay open, but they won’t be beneficial for practices that are overutilizing resources,” says Newcomer.

Aetna’s approach
Michael Kolodziej, MD, Aetna’s national medical director for oncology, says his company’s value-based contracts also require a new efficiency from oncologists. One aspect of that efficiency is delivering care in low-cost settings if it’s appropriate. Delivering routine care in a physician’s office is just one example of being smart about site of service.

“We measure the impact of what practices are doing and report to them about whether they are successful in keeping people out of the ER,” he explains. Aetna also shares length of stay and hospitalization data with oncologists with whom it has contracts. The company’s value-based payment models can also provide the support that oncologists need to hire staff and collect necessary data.

In Aetna’s value-based contracts, oncology practices are encouraged to have patients call their physician’s office before going to the ER. “We want to make sure patients’ questions get answered so we can fix problems before they escalate and require more costly care. We want to keep patients healthy and out of the hospital,” Kolodziej says.

Supporting oncology practices in these ways helps to keep them financially viable, says Kolodziej, who practiced in a community oncology group before joining Aetna. “Community oncology blood runs through my veins,” he says. “That’s why I believe the community oncology practice model is highly efficient.

Oncologists often feel compelled to sell their practices to hospitals if they think health plans have not rewarded them sufficiently.

It allows patients to be treated closer to home, and it happens to be a lot less expensive to deliver care in physicians’ offices. That’s why we’re developing new payment models to support community oncology practices.”

In Texas, UnitedHealthcare has contracts with Texas Oncology, a 370-physician group practice in the US Oncology Network serving cancer patients statewide. Lalan Wilfong, MD, a medical oncologist and quality director for the group, says UnitedHealthcare offered the group’s physicians a value-based contract that replaced drug margins with management fees used in the past. The group also has value-based contracts with Cigna and Aetna.

Wilfong says there is a reason his group is courted: “We know that health plans prefer working with us because it costs them a lot less to work with us than it does for them to contract with hospitals.”
None of the insurers has said that the site-of-service cost differential is the reason they work with Texas Oncology, but value-based payments and the opportunity to share in any savings at year-end are incentives to deliver care in lower cost, high quality settings, according to Wilfong. The shared savings could be significant but, because the contract has been in place for less than a year, how much the group will benefit is unknown.

In a report last year for the Community Oncology Alliance, a lobbying group for oncologists who practice independently from hospitals, consultants from the Berkeley Research Group found that community oncologists are open to innovative payment models, such as risk sharing and pay for performance. Oncologists in private practice believe they understand their patients’ needs better than oncologists in hospitals and so they welcome a payment model that rewards performance for reducing costs and improving quality, says Aaron Vandervelde, BRG’s managing director and one of the authors of the report.

“That’s why so many of these practices were actively seeking opportunities to participate in alternative payment models,” he adds.

Traditionally, the old-fashioned community oncologists competed for patients partly because of the higher margin they could get from the buy-and-bill method of purchasing chemotherapeutic agents. But after Medicare implemented a reimbursement method based on average sale price (ASP) plus 6% in 2006, those margins narrowed considerably for Medicare patients, and for some members of commercial plans that followed CMS’s example.

Federal cuts under the 2013 sequester reduced payment to physicians for chemotherapy drugs still further to ASP plus 4.3%, and payment has stayed at that level.

“The incentive to buy and bill is still present because a fixed percentage margin encourages the use of the most expensive medicines,” Newcomer says. “But for us, it’s a matter of simple arithmetic: 6% of $100 in a physician’s office is far less than 6% of a $5,000 drug in a hospital.”

Even with the downward pressure, the pricing of chemotherapy still favors hospitals, says Vandervelde. “When it comes time to negotiate, the reality is that hospitals have a lot more leverage than community oncologists have and so that difference is reflected in higher reimbursement rates to hospitals,” he says. Meanwhile, much of cancer treatment has changed so it can be safely delivered in a physician’s office.

An independent streak
Many specialists, oncologists included, prefer to practice independently and would rather not sell their practices to hospitals. But when they feel that health plans have not rewarded them sufficiently for the work or make it difficult to care for patients, they often feel compelled to sell their practices to hospitals. But there’s a danger that accretion of health care into larger and larger systems will drive up health care costs. Some health plans have recognized this problem, particularly because of the willingness of independent oncologists to try various kinds of value-based contracts, says Vandervelde.

Oncologists are a good deal
In Berkeley Research Group’s report last year on the cost of delivering cancer care in physicians’ offices versus the cost of similar care in hospitals, Vandervelde and co-author JoAnna Younts identified research from a variety of consultants showing costs were higher in hospitals than in oncologists’ practices. Here are three examples from their report:

- For 10 routinely prescribed chemotherapy drugs, the average cost to a variety of payers was 189% higher in hospital outpatient departments versus costs in oncologists’ offices, according to a study IMS Health published last year based on data from 2010 to 2012.
- For Medicare fee-for-service patients, a study in 2013 by the Moran Co. of Arlington, Va., showed that chemotherapy spending per patient day ranged from 24.3% to 40.1% more in hospital outpatient settings than costs for care in physicians’ offices. The study, “Cost Differences in Cancer Care Across Settings,” is available online from the Community Oncology Alliance.
- Milliman showed that in 2011, Medicare paid $6,500 more per patient per year for chemotherapy for 10 common types of cancer when care is delivered exclusively in hospitals than when it was done in physician offices. This report, “Site of Service Cost Differences for Medicare Patients Receiving Chemotherapy,” was published in October 2011 and is available online from Milliman.
competitors are now working together could be an im-
portant model in urban areas where health insurers can
choose among several health systems. This strategy might
not work well in areas, many of them rural, where there’s
less competition. Having worked in Iowa, upstate New
York, and North Dakota, von Ebers knows the problem
well. “In all those areas and in many of the Plains states,
there are only one or two local health systems,” he says.
If there’s just one health system in a radius of 50 to 100
miles, health plans have few options and so may not be
able to exclude any hospitals or physicians. “Plus, one
hospital may have a very strong heart program, and
another one may have a strong cancer program,” he adds.
Either way, negotiations will revolve around price, and
the providers are likely to have the leverage they need
to extract higher payments than they would in an area
with more competition.

Some plans have contracts that allow physicians to choose the site for infusion therapy, and doctors will often pick the patient’s home, thereby lowering costs.

Recognizing this inherent weakness in some markets, health plans are working more closely with primary care and specialty physician practices to make sure they have the payment and resources they need to remain financially viable for many years to come, von Ebers explains. Florida Blue, for example, is investing in the development of patient-centered medical homes, says Brian Kiss, MD, the insurance company’s vice president for health transformations. Like Anthem, Florida Blue is focused on overall costs of care. Keeping an eye on site-of-service spending still mattered, though, because treating patients in less expensive settings is one of the most direct ways of pulling down spending levels without unleashing quality problems.

Physicians and hospitals in Florida Blue’s networks can get a financial reward for keeping costs low from one year to the next. With each provider under contract, Florida Blue asks that physicians and hospitals get their costs down each year. “We look at the previous costs and the cost trend in the most recent period and ask them to make improvements in that trend,” he says.
HSAs Surge, Leaving HRAs in a Niche

Health reimbursement arrangements (HRAs) have fewer rules, but health savings accounts (HSAs) create more of an incentive to shop for health care.

By Jan Greene

The increasing popularity of account-based health plans poses a problem for anyone in the position of having to explain what they are and how they differ. The two main versions, the health savings account (HSA) and health reimbursement arrangement (HRA), have similar acronyms and get lumped together in surveys. But they are really quite different.

Jay Savan, a consultant for Mercer, runs into this problem all the time. So he’s taken to using a breakfast-related analogy to explain the difference: “They are like bagels and donuts. They may appear outwardly similar, but when you bite into them they are different.”

Employers—particularly the larger ones—are snacking on HSAs and HRAs as never before—especially HSAs. Mercer’s 2014 employer survey showed 41% of employers offering an account-based plan to their employees, up from 32% the year before. The preference among large employers is even stronger: 85% of the large companies surveyed by the National Business Group on Health earlier this year are offering HSAs (the savings account is provided along with a high-deductible health plan).

The trend is expected to continue in the next few years as employers seek to keep a lid on health care spending by turning to account-based plans (the term “consumer-directed health plan” is also used). They cost employers 18% less than a PPO and 20% less than an HMO, according to Mercer’s 2014 numbers.

An HRA is funded completely by the employer; the money it sets aside can be withdrawn to cover deductibles, copays, and other out-of-pocket expenses. Employees don’t contribute to their HRAs, and typically they don’t take any of the money with them if they leave the company. In the Mercer survey, the median employer contribution to an HRA was $750 for an individual plan and the average in-network deductible was $1,500. Because the money can be rolled over, employees can accumulate enough money in their

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**HRAs and HSAs compared**

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<tr>
<td>Balance carryover year to year</td>
<td>Yes, at discretion of employer</td>
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Source: Based on a chart created by MCG Group consulting
HRAs to cover their entire deductible. That possibility tends to operate as a disincentive to run through money that comes from the employer.

The HSA is used to cover similar expenses, but it is funded largely by the employee, to whom it belongs. Some employers make arrangements for their employees to fund their HSAs through payroll deductions. It’s a tax-free account that can be maintained throughout life. Some people even use their HSA as part of retirement planning.

Because HSAs are tax-free, the IRS regulates the design of the health plans that go along with them, so they have minimum deductibles and out-of-pocket limits. (For 2015, the minimum deductible is $1,300 for an individual and $2,600 for a family; the maximum out-of-pocket is $6,450 individual and $12,900 family; and the contribution limit is $3,350 individual and $6,650 family.)

Health plans packaged with HRAs are not subject to the same rules, so there’s much more flexibility. They needn’t have a high deductible, and employers are free to add some bells and whistles to make them attractive alternatives to more expensive HMO or PPO plans.

The HRA concept was in use by big employers for decades before the IRS formally recognized it in 2002. Employers used HRAs to shield their employees from medical costs not covered by their health insurance. HRAs, never hugely popular, were more so in the aughts, but stalled out by the end of the decade. According to the Kaiser Family Foundation Employer Benefits Survey, just 4% of companies offered HRAs in 2014, compared with 7% three years earlier.

The HSA, on the other hand, has seen the number of companies offering the accounts more than double since 2010 and enrollment has grown 15% per year since 2011; HSA consulting firm Devenir expects the number of accounts to more than double to 30 million by 2017. The bump gets its bounce, in part, from employers turning to the combination of high-deductible health plans and HSAs to avoid triggering the ACA’s excise tax on expensive health plans (the so-called Cadillac tax), scheduled to go into effect in 2018. The less employers spend on an employee’s health benefits, the less likely they’ll pay the tax, and high-deductible plans are cheaper.

Very few employers—about 4% of large employers, according to the Mercer survey—offer both an HRA and an HSA. The number is small mostly because it’s too difficult to educate employees about the differences between HRAs and HSAs, says Mercer’s Savan. His advice is to pick one and, perhaps, add the other variety once participants are grounded in the concept, he says. “Getting people to understand the subtle differences between the two can be a real challenge—particularly when introduced simultaneously.”

HRAs are also losing out to HSAs as part of a larger trend of employers offering their employees fewer health benefit choices. Yesterday’s benefit smorgasbords often had an HMO, PPO, an indemnity plan and perhaps an HSA or an HRA. They’re being replaced by offerings of just one or two plan options and, most likely, an HSA not an HRA.

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**Trends in account-based plan use**

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*In 2015, up from 22% in 2014*  
*Projected for 2018**

**% of all covered employees enrolled in an HRA or HSA**

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<tr>
<td>Large employers</td>
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<tr>
<td>Small employers</td>
<td>6%</td>
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<table>
<thead>
<tr>
<th>HSA</th>
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<tr>
<td>Large employers</td>
<td>15%</td>
</tr>
<tr>
<td>Small employers</td>
<td>17%</td>
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</tbody>
</table>

Large employers = 500+ employees  
Small employers = 10–499 employees  
Sources:  
Mercer National Survey of Employer-Sponsored Health Plans 2014  
National Business Group on Health Large Employers 2015 Health Plan Design Survey  
Towers Watson 2015 Emerging Trends in Health Care Survey
Pros and cons of HRAs

One advantage of HRAs is that they provide more flexibility, making it possible to offer a richer health plan with lower deductibles. Also, employers with heavy turnover may prefer the HRA so that any money that they contribute to a short-term worker comes back into company coffers when he or she leaves.

But HRAs can be challenging to manage on a corporate balance sheet, Savan says. Because an HRA is typically a “notional” account, kept simply on the company books as reserved for the employee until it’s used, the company has to set aside that money even if it doesn’t get used. Even more complex is when the dollars are unused so they roll over to the employee’s account the following year. The employer is left with a level of uncertainty on its books, and dollars that may or may not get spent sometime in the future. Savan notes, “That insecurity or volatility gives some employers some heartburn.”

HRAs also took a hit in 2013 when the IRS issued an opinion that the ACA prohibits employers from using HRAs as stand-alone health coverage. This eliminated the option of employers using an HRA to give their employees money so they could buy coverage on a public exchange rather than signing up for an employer-sponsored health plan.

Finally, and perhaps most tellingly, it is argued that HRAs don’t give an employee an incentive to shop for health care prudently because HRA money is the employer’s, not the employee’s.

Proponents of HSAs say they will make Americans smarter consumers of health care and more attentive to lifestyle choices that affect their use of the health care system because with HSAs it’s their own money at stake. Skeptics see cost shifting and an incentive to skimp on health care that may lead to inexpensive, treatable problems becoming expensive ones.

As employers roll out more account-based plans, they’ll be watching for consumer activation and cost-consciousness, seen as twin goals that are in delicate balance, says Brian Marcotte, CEO of the National Business Group on Health. More employers are attempting to encourage healthy behaviors through their health and well-being programs by linking employee participation and outcomes to an employer’s contribution to an account, he adds.

People enrolled in high-deductible plans with a tax-advantaged HSA were more likely to be aware of the cost of services and also to take advantage of employer wellness programs, according to a 2014 survey by the Employee Benefit Research Institute (EBRI). At the same time, there’s good reason to worry that many Americans really don’t understand what they are getting in high-deductible plans and HSAs. A 2013 survey of consumers by Fidelity Investments found that two-thirds did not understand how an HSA works, often mixing them up with flexible spending accounts.

Employers have a captive audience, notes Marcotte, and are in the best position to help employees understand the mechanics of high-deductible plans and HSAs. But it can be hard to get into employees’ heads to know for sure whether they understand these plans well enough to use them to their advantage. Relevant measures to consider include the percentage of employees who use the online tools, phone lines, and concierge services made available to them; how many people get help during enrollment time; and how many with HSAs actually contribute to the account. Marcotte’s not sure how many companies actually circle back to learn how well the message is getting through.

HRAs: They will survive

Meanwhile, the HRA isn’t likely to go away. Julie Stone, a senior consultant for Towers Watson, sees the HRA continuing to offer value as HMOs and point of service plans lose market share, at least in the near term. “There’s often a transition stage to an HRA on the way to an HSA,” she says. “They will be around and add value in the short- to medium-term, but we see more movement to other plan options.”

Paul Fronstin, PhD, a top official at EBRI, sees the HRA continuing to fill a niche for employers that want to use it for flexibility in plan design. “I don’t think it will disappear, but it may decline,” he says. “At this point, employers have had 10 years to switch from HRA plans to HSAs, and for the most part they haven’t.” Employers that want flexibility in plan design will likely continue to use the HRA, benefits advisers say.

“The HRA plans tend to be more costly, but very accommodating from a plan perspective,” says Savan. “They allow you to do things HSA-compatible plans don’t.”

Jan Greene is a veteran health care journalist based in northern California. Her work has appeared in the Los Angeles Times, Health magazine, Hospitals & Health Networks, and many other publications.
Cancer Immunotherapies—and Their Cost—Take Center Stage at ASCO’s 2015 Annual Meeting

Affirmation of the efficacy of new and not-so-new cancer therapies was a running theme at the 2015 ASCO Annual Meeting. But a fiery talk by Memorial Sloan Kettering Cancer Center’s Leonard Saltz, MD, about the costs of many oncology therapies (see box below) has given greater momentum to the opinion that their affordability should be addressed. Here are some highlights of ASCO presentations.

Melanoma
Amgen’s OPTiM study showed that talimogene laherparepvec (T-vec), its investigational immunotherapy, provided therapeutic benefit to patients with metastatic melanoma. T-Vec is injected directly into tumors, where it replicates, causing tumor cells to rupture and die. The rupture releases tumor-derived antigens, along with granulocyte macrophage colony-stimulating factor, to stimulate a systemwide immune response. The FDA’s advisory committees have supported approval of the drug—the first oncolytic immunotherapy to demonstrate therapeutic benefit in a phase 3 trial. Long-term data from the KEYNOTE-001 study showed that the anti–programmed death receptor-1 (PD-1) therapy pembrolizumab (Keytruda) produces durable responses in metastatic melanoma patients. Pembrolizumab has a second-line indication for metastatic melanoma following treatment with either ipilimumab or, for patients with BRAF-mutated tumors, an oral BRAF inhibitor. More than 2,000 melanoma patients have been evaluated in clinical trials.

A nivolumab (Opdivo)–ipilimumab (Yervoy) combination and nivolumab monotherapy both were superior to ipilimumab alone, the current standard of care for patients with previously untreated advanced melanoma, according to results from the CheckMate-067 trial. The combination increased average progression-free survival (PFS) by 6.9 months over ipilimumab alone, while nivolumab monotherapy showed a 4-month PFS advantage versus ipilimumab. Survival time was even greater for patients if their tumors expressed more of the PD-L1 target protein.

CheckMate-067 is the first phase 3 trial to demonstrate that a PD-1 immune checkpoint inhibitor as monotherapy and in combination with another immuno-oncology agent improves outcomes versus the standard of care. Both nivolumab and ipilimumab are marketed by Bristol-Myers Squibb.

Lung, breast, and prostate
Nivolumab cut risk of death from non–small-cell lung cancer (NSCLC) by 27% compared with docetaxel in the CheckMate-017 study, while CheckMate-057 found that
nivolumab boosted 1-year survival for patients with non–squamous-cell NSCLC and with fewer side effects. In Check-Mate 017, 42% who got nivolumab were still alive 1 year later compared with 24% of those who got docetaxel; in CheckMate-057, 1-year survival was superior in the nivolumab group.

**Palbociclib (Ibrance) plus fulvestrant (Faslodex)** was superior to treatment with fulvestrant alone, significantly extending PFS in women with hormone receptor-positive (HR+), human epidermal growth factor receptor 2 negative (HER2-) metastatic breast cancer whose disease has progressed during or after endocrine therapy. The global PALOMA-3 study was stopped in April when it met its primary endpoint of statistically improving PFS.

**Custirsen (OGX-011),** combined with first-line docetaxel, provided a 27% lower risk of death in men versus docetaxel alone in men with metastatic castrate-resistant prostate cancer and at least 2 of 5 risk factors for a poor prognosis, according to a post-hoc analysis of the SYNERGY trial.

**Hematology**

**Idelalisib (Zydelig),** Gilead Sciences’ investigational drug, combined with ofatumumab (Arzerra) in previously treated patients with chronic lymphocytic leukemia (CLL) showed a 73% reduction in the risk of disease progression or death compared with ofatumumab alone, according to Study 119.

A subanalysis of the RESONATE trial found that previously treated patients with CLL who adhered to the recommended 420 mg dose of ibrutinib (Imbruvica) achieved PFS compared with patients who took lower doses or missed doses, regardless of high-risk genetic factors.

In the HELIOS trial, the addition of ibrutinib to a combination regimen of bendamustine (Treanda) and rituximab (Rituxan) reduced the risk of progression or death in patients with previously treated CLL or small lymphocytic lymphoma by 80%, compared with patients who were given placebo with the combined regimen. Patients in the ibrutinib arm also had a higher overall response rate after a median follow-up of 17 months.

**Obinutuzumab (Gazyva),** Genentech’s anticipated successor to rituximab, plus bendamustine followed by obinutuzumab alone significantly improved PFS in 413 patients with indolent, refractory non-Hodgkin lymphoma compared with bendamustine alone, according to the GADOLIN trial results. The trial was stopped in February because it met its PFS endpoint. Obinutuzumab is approved in combination with chlorambucil for patients with CLL.

Adding the investigational SLAMF7 monoclonal antibody elotuzumab to lenalidomide (Revlimid) plus dexamethasone could be a new treatment option for patients with relapsed or refractory multiple myeloma (MM), based on ELOQUENT-2 trial results. In an open-label study, adding elotuzumab to a Rev-Dex regimen delayed remission by 4.5 months. If FDA approved, elotuzumab would become the first monoclonal antibody to treat MM.

**Brain**

Celladex’s experimental targeted immunotherapy rindopepimut delays tumor growth and extends survival in patients with EGFRvIII-positive glioblastoma, according to an update of a phase 2 study results.

When combined with bevacamzumab (Avastin), the immunotherapy reduced the risk of death by 43% compared with bevacizumab plus a control agent.

**Supportive care**

The MAGIC study demonstrated efficacy and safety of Heron’s 5-HT3 receptor antagonist product candidate granisetron (Sustol) as part of a three-drug regimen with fosaprepitant, a neurokinin-1 receptor antagonist, plus dexamethasone to prevent chemotherapy-induced nausea and vomiting in patients given highly emetogenic chemotherapy agents.

**Non-ASCO clinical studies**

Regeneron’s IL-6 receptor antibody, sarilumab, significantly beat placebo in reducing rheumatoid arthritis symptoms and improving physical function in patients who can’t tolerate TNF-α inhibitors, based on 24-week data. In a 546-patient efficacy trial, the sarilumab 200 mg and 150 mg groups showed ACR20 improvements of 61% and 56% respectively, compared with 34% in the placebo group.

Novartis’s study of everolimus (Afinitor) plus best supportive care in patients with advanced nonfunctional neuroendocrine tumors (NET) of gastrointestinal or lung origin significantly extended PFS compared to placebo plus best supportive care. NET is a rare type of cancer most often found in the GI tract, lungs, or pancreas.

**Denosumab (Prolia),** administered 60 mg once every 6 months in postmenopausal women with early HR+ breast cancer receiving aromatase inhibitor therapy, reduced the incidence of new vertebral or worsening of existing fractures, based on Amgen’s multicenter study.
Have you heard?
The FDA has released new guidance on the use of alternative endpoints, in addition to OS, for clinical trials of non–small-cell lung cancer therapies. Pharmaceutical companies will be allowed to use several types of endpoints to show efficacy. The FDA also included guidance on gathering patient-reported outcome measures to further substantiate treatment efficacy.

The House Energy and Commerce committee has unanimously approved a version of the bipartisan 21st Century Cures Act. The initiative, spearheaded by Reps. Fred Upton, of Michigan, and Diana DeGette, of Colorado, is an effort to streamline the drug development and testing process. The version reported out by committee omitted 340B reforms in the original legislation. DeGette claims there’s support for the bill from pharmaceutical investors, researchers, and patient-advocacy groups.

— Katherine T. Adams

All clinical studies mentioned in this article are phase 3 unless otherwise stated.

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## BIOLOGICS IN DEVELOPMENT

### Selected FDA approvals of biologics and other specialty drugs, April 1–May 31, 2015

#### New marketing approvals

<table>
<thead>
<tr>
<th>Date (type)</th>
<th>Manufacturer</th>
<th>Drug (trade) name; administration</th>
<th>Indication</th>
<th>Notes</th>
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<tbody>
<tr>
<td>April 15 (NDA)</td>
<td>Amgen</td>
<td>ivabradine (Corlanor); oral</td>
<td>Reduce risk of hospitalization for worsening heart failure in patients with stable, symptomatic chronic heart failure with LVEF ≤35%, who are in sinus rhythm with resting heart rate ≥70 beats per minute and either are on highest tolerated doses of beta blockers or have a contraindication to beta blockers</td>
<td>Dose is adjusted after 2 weeks, depending on heart rate. For clinicians, heart rate is a new treatment target, and uptake in Europe (where ivabradine has been approved since 2012) has been slow as a result. FDA approved ivabradine without convening an advisory committee, so clinicians will have to learn the significance of the target. A 1-month course wholesales at $375.</td>
</tr>
<tr>
<td>April 16 (BLA)</td>
<td>Sandoz</td>
<td>glatiramer acetate (Glatopa); subcutaneous injection</td>
<td>Treatment of patients with relapsing forms of multiple sclerosis</td>
<td>First approved generic for Copaxone. Teva is responding my moving patients over to a long-acting form of Copaxone.</td>
</tr>
<tr>
<td>April 29 (NDA)</td>
<td>Kythera Biopharma</td>
<td>deoxycholic acid (Kybella); subcutaneous injection</td>
<td>Adults with moderate to severe submental (below the chin) fat</td>
<td>Deoxycholic acid has a history of off-label use for unwanted subcutaneous fat; Kybella is not indicated for other areas of the body. “Double chin” drug is strictly cosmetic.</td>
</tr>
<tr>
<td>April 30 (BLA)</td>
<td>Emergent Biosolutions</td>
<td>coagulation factor IX (recombinant) (ixinity)</td>
<td>Control and prevention of bleeding episodes and perioperative management in patients age ≥12 years with Hemophilia B</td>
<td>Approval based on phase 1/3 open-label, uncontrolled, multicenter, global study in previously treated patients with severe to moderately severe (factor IX level &lt;2%) Hemophilia B (N=68). 84% of bleeds were resolved by 1 or 2 infusions.</td>
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#### New indications of previously approved treatments

<table>
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<tr>
<th>Date (type)</th>
<th>Manufacturer</th>
<th>Drug (trade) name; administration</th>
<th>Indication</th>
<th>Notes</th>
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<tbody>
<tr>
<td>April 24 (sBLA)</td>
<td>Eli Lilly</td>
<td>ramucirumab (Cyramza); IV injection</td>
<td>In combination with FOLFIRI chemotherapy for metastatic colorectal cancer with disease progression on or after prior therapy with bevacizumab (Avastin), oxaliplatin, and a fluoropyrimidine</td>
<td>Previously approved for gastric and NSCLC. New indication based on phase 3 RAISE trial of the indication population. OS in patients receiving ramucirumab+FOLFIRI was 13.3 months compared with 11.7 months for placebo+FOLFIRI group.</td>
</tr>
</tbody>
</table>

ASCO=American Society of Clinical Oncology, BLA=biologics license application, IV=intravenous, LVEF=left ventricular ejection fraction, NDA=new drug approval, NSCLC=non–small-cell lung cancer, sBLA=supplemental biologics license application.

Sources: ASCO, FDA, Fierce Biotech, Fierce Pharma, Medscape, New York Times, and manufacturers’ news releases and package inserts.
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The noise of revolution is deafening on the evening news, but there is a quiet revolution occurring in medicine that most have probably missed—a revolution in how we detect, diagnose, and treat lung disease, especially lung cancer.

The spark for this revolution came in 2010 with the posting of results of the NCI-sponsored National Lung Screening Trial (NLST) that compared low-dose helical CT scans with chest X-ray as screening test for lung cancer in a high-risk population (people with at least a 30 pack-year history of smoking). Suspicious lesions were found in the lungs of about a quarter (24.2%) of the people in the CT group compared with 6.9% in the chest X-ray group. But the ultimate measure of a screening test is whether it saves lives, and the NLST results showed a 20% reduction in death compared with the chest X-ray group.

Insurers are covering the CT screening tests. WellPoint was among the first when it said in December 2011 that it would pay for the scans. It took CMS much longer. The federal government announced in February of this year that Medicare would cover the scans.

But lost in all of the excitement (some might say hype) about having a reliable screening test for lung cancer is the number of people who need to be screened to save a life. In the NLST, 27,000 people were screened to prevent 62 deaths, which works out to about 2.3 lives saved for every 1,000 screened. Moreover, the CT scan is just a screening test. The lesions it finds must be followed up with a bronchoscopy. In the NLST, that meant roughly 6,500 bronchoscopies in the CT group, or about 240 bronchoscopies for every 1,000 people scanned.

**Bronchoscopies are big business**

The endoscopes currently for bronchoscopies were basically adapted from the scopes that revolutionized the diagnosis of colon cancer. The endoscope is 5.5 millimeters in diameter (about the size of a pencil eraser). It contains both a camera or fiber optic system for visualization of the airway and an operating channel that is about 3 millimeters in diameter and through which biopsies, brushings, and other procedures can be done, albeit in a limited fashion. A single bronchoscopy system costs, on average, about $100,000, and must be replaced every two or three years.

Bronchoscopy is a big business, and it is only going to get bigger with the advent of lung cancer screening. The market for all endoscopes is estimated at $28.2 billion and, by some estimates, is expected to grow by 34%, to $37.9 billion, by 2018. Since CMS’s coverage announcement, nearly 800 hospitals have gained certification as “lung screening centers” to meet the demand for the screening CT scans. Currently, the market for bronchoscopes is dominated by Olympus (about 80% of the market) with Pentax (15%) and Fuji (5%) a distant second and third.

**Enter the giant slayer**

But Sanovas, a very small company taking on the giants, may soon disrupt this industry with an innovative product that is pending FDA approval by way of the 510(k) process. The scientists at the San Rafael, Calif., company have looked at bronchoscopy from an entirely different perspective. Their basic premise: The lungs are far different than the colon, so the
instruments for examining the lungs need to be designed from scratch with that purpose in mind and not just adapted from the colon-inspecting variety of endoscope. They are also developing a whole “toolbox” of custom-designed tools to use with their new system. The MicroCam bronchoscope that they engineered disassociates the camera from the operating channel, a major design change, and enlarges the channel to 6 millimeters. They knew that one complaint about the current generation of bronchoscope is the images can get blurry because the lungs are constantly moving. It’s rare, but physicians have been known to get vertigo during bronchoscopies. Sanovas ingeniously incorporated image stabilization software into the MicroCam system. The company also made it a “plug and play” device that can plug directly into a PC or smart device, so it is convenient to use and less expensive.

The Sanovas scope can accommodate a 3 millimeter camera, which is large by bronchoscopy standards. If a lesion is found, the camera can be swapped out and replaced with three different kinds of instruments. Each instrument has a camera, so the operator can use the tool and see the location in the lung where it is working at the same time.

Sanovas is racing to develop other associated devices specifically to take advantage of the MicroCam bronchoscope as a platform. They include a sensory-based catheter system that can measure spatial dimensions, such as diameter and density, and physiologic parameters, such as flow, temperature, and hemodynamic coordinates. Steerable biopsy needles and forceps can make sharp turns to retrieve specimens from the lung’s airways and penetrate the airway to sample lymph nodes. New brushes can increase cytology yields.

The multichannel bronchoscope also will allow the delivery of drugs (under direct observation) directly into small tumors, clotting factors into bleeding sites in the lung, and devices to “wall off” a part of the lung so a procedure can be performed on that segment of the lung while the rest of the lung is being ventilated to keep the patient alive. The company recently received a seminal patent on the local delivery of photodynamic therapy (PDT) to therapy-resistant tumors. As a side note, PDT, an old approach to killing tumors, is among the only therapeutic solutions known to achieve tumor kill in 100% of the patients.

But, as the late-night infomercials say, “That’s not all!” The cost of the new system is expected to start at about $10,000, with the entire toolbox costing only about a fifth of that of existing systems. This totally changes how these instruments can be deployed, and can significantly reduce the cost per procedure. Now, hospitals with smaller capital budgets can obtain a “scope kit” that can be used in many different ways. What’s more, because this new scope is so much easier to use and the learning curve is shorter due in part to the image stabilization, anesthesiologists, intensivists, and perhaps even internists may be able to perform bronchoscopy, thus allowing smaller hospitals to compete with the large academic centers where most of the care is now being rendered.

Managed care implications

The NLST provided proof that low-dose CT scan screening of people at high risk for developing lung cancer can save lives. But the cost is rather high. Now Sanovas has come up with a plug-and-play device that may radically change the bronchoscopies that are needed after a CT scan finds a suspicious abnormality. The company’s technology holds out the promise of lowering cost and saving time. This author speculates that Sanovas’s system may also lead to an entirely new approach to lung cancer—local treatment with intralesional injections of chemotherapy and phototherapy in the distant airway. Treating lung cancer in this more targeted way might be especially helpful to frail and elderly patients who are not candidates for traditional chemotherapy and associated systemic toxicity.

The Sanovas revolutionary approach to direct lung visualization again demonstrates the scope of Tomorrow’s Medicine!
Chronic kidney disease (CKD) threatens to become a major health burden in coming years—and that may come as news to many of the Americans who will be affected, according to a study in the American Journal of Kidney Diseases. As the authors put it, awareness of CKD "remains low in the United States, and few estimates of its future burden exist." In fact, according to federal government health surveys, less than 10% of Americans with the early stages of CKD are aware of their condition.

Researchers at RTI International, a not-for-profit research group, used their own previously developed CKD Health Policy Model to make their predictions. By their reckoning, more than half (54%) of Americans ages 30 and older who don’t currently have CKD will develop the condition some time in their lives.

They also forecast a ramping up of CKD prevalence from the current level of 13.2% to 14.4% in 2020 (28 million Americans). By 2030, their model projects the prevalence will reach 16.7% (38 million Americans).

Lead author Thomas Hoerger, PhD, tells MANAGED CARE that the group’s results argue for “interventions to control the conditions that increase the risk of CKD (primarily, tight glycemic control for persons with diabetes and better blood pressure control for persons with hypertension), and [also] partly for the development of new interventions to slow progression among persons in the early stages of CKD.”

The main risk factors for CKD include diabetes, hypertension, and age. Early detection and treatment of CKD can forestall or delay heart disease and kidney failure. Likewise, early treatment of diabetes and hypertension can prevent CKD from developing.

However, as Hoerger and his colleagues point out, the clinical significance of early stage CKD among the elderly with borderline numbers is somewhat debatable, partly because of competing health problems.

Even if these CKD forecasts come true, there’s good news about one of its most dire consequences, end-stage renal disease (ESRD).

Federal government statistics show that ESRD incidence has plateaued in recent years after decades of increases. More aggressive treatment of blood pressure in patients with proteinuric renal disease may be one explanation for the number of new cases of ESRD leveling off. ESRD patients are living longer, so the prevalence of ESRD is increasing.
...but end-stage renal disease incidence plateaus for now

Trends in the number of incident cases of ESRD, by modality, U.S. population, 1980–2012

Trends in the number of prevalent cases of ESRD, by modality, U.S. population, 1980–2012

NHANES participants with CKD aware of their kidney disease, 1999–2010

Adjusted mortality rates in Medicare patients age ≥66, by CVD, diabetes, and CKD status, 2012

ESRD=end-stage renal disease.

Source: United States Renal Data System 2014 Annual Data Report, Vol. 2

CKD=chronic kidney disease, NHANES= National Health and Nutrition Examination Survey.

Source: United States Renal Data System 2014 Annual Data Report, Vol. 1

CKD=chronic kidney disease, CVD=cardiovascular disease, DM=diabetes mellitus.
Health Care Efficiency: Measuring the Cost Associated With Quality

Pierantonio Russo, MD,1 and Alan Adler, MD1

1Independence Blue Cross, Clinical Services; Philadelphia, PA

INTRODUCTION

At the end of 2013, UnitedHealthcare announced it would drop hundreds of doctors from its network (Kaiser 2013). In Connecticut, UnitedHealthcare terminated about 2,250 physicians, including 810 specialists. In New York City, it terminated 2,100 physicians, affecting some 8,000 patients (data from the Medical Society of New York). UnitedHealthcare justified its decision as necessary to meet rising quality standards and slow the increase in health costs. The controversy over narrow networks predates the Affordable Care Act (ACA), but recently the issue has generated renewed attention as consumers have started to shop for health care coverage through exchanges.

A poll conducted by Kaiser Permanente found that most potential new consumers prefer narrow networks if they come with lower premiums (KFF 2014). Some health plans sold through the ACA exchanges, such as the silver and bronze plans, use narrow networks that exclude physicians and hospitals perceived to be more expensive. A report from McKinsey found that a third of health plans sold in 20 major markets in 2013 restricted provider choices to narrow networks (McKinsey 2013). A year later, in the same markets, the same carriers offered more policies, but 68% of the plans had limited networks, defined as less than 70% of the city’s top 20 hospitals. In markets analyzed by McKinsey, a broader hospital network offered by the same plan in the same metal tier carried a 26% increase in premium when compared with a more limited network. Only 35% of narrow networks include academic medical centers, and participation of an academic medical center triggers an average premium increase of 10%.

Increasingly, health plans, employers, and accreditation agencies are using proprietary criteria of “health care efficiency” as the basis for rating hospitals and physicians. Health care efficiency is used to justify narrow networks that exclude high-price providers, “tiers” with higher cost sharing for patients who use nonpreferred providers, and reference pricing, making patients liable for costs above a benchmark price. However, little agreement exists among payers, em-
Employers, consumers, and regulators on how to define and measure health care efficiency. In *Crossing the Quality Chasm*, the Institute of Medicine identifies efficiency as one of the 6 domains of high-quality health care (IOM 2001). Nevertheless, measures of health care efficiency reported in the literature and advocated by consultants, health policy experts, accreditation agencies, employers, and payers are not universally accepted. Most importantly, the relation between cost and quality is not established.

In this paper, we analyze the measures of health care efficiency used in research studies for rating hospitals, and the measures used by the health care industry in quality programs, public reporting, and reimbursement models. We also discuss the need to establish a relationship between efficiency measures and quality measures to separate true health care efficiency from cost of care.

**HEALTH CARE EFFICIENCY AND COST OF CARE**

According to the American Quality Alliance (AQA), cost of care is a measure of the total health care spending, which includes the total use of resources and unit prices for health care services provided to a patient or a population over time (AQA 2009). The AQA defines efficiency of care as the cost of care associated with a specific level of quality of care. Therefore, measurement of efficiency of care should identify the cost of providing high-quality care, which the IOM defines as care that is safe, timely, equitable, effective, and patient-centered (IOM 2001).

**PERFORMANCE MEASURES OF EFFICIENCY AND COST OF CARE**

**Measuring Hospital Performance**

Most studies of hospital performance do not identify the relationship between quality and cost of care, and only some have used risk adjustment. Most models of hospital efficiency use as inputs both physical resources (labor, equipment, supplies) and costs of the resources utilized to produce health services (McGlynn 2008). The outputs are the amount of health services provided (hospital discharges, number of procedures, number of physician visits). Hospital efficiency is then calculated as ratio of outputs over inputs. The most reported performance measures related to hospital care are severity-adjusted average length of stay, cost per risk-adjusted discharge, and total cost of the severity-adjusted hospital discharge and outpatient visits. Because these measures don’t specify the associated level of quality of care, most are measures of the cost of care rather than the cost of achieving quality care.

A more complex method, stochastic frontier analysis (SFA) (Rosko 2008), compares an individual hospital’s performance with an ideal “frontier” of best performance. However, most of the earlier SFA studies have produced analyses of operational efficiency and don’t address the quality of care. For example, Valdmanis, Rosko, and Mutter found that most efficient hospitals have lower cost per case mix-adjusted admission, fewer full-time equivalents per case mix-adjusted admission, and higher operating margins (Valdmanis 2008).

Recently, though, SFA studies have included measures of true health care efficiency by adjusting for outcomes and risk (Mutter 2008). For example, Deily and McKay demonstrated that a higher risk-adjusted mortality rate in Florida hospitals was associated with higher hospital cost and reduced hospital operational efficiency (McKay 2008). SFA analyses hold the promise of being able to adjust the cost of care for quality indicators, including hospital readmission and access to ambulatory care, and for risk factors such as patient demographics and burden of illness (Rosko 2010).

**Measuring Physician Performance**

The measures most commonly used to rate the efficiency of physicians’ performance are the relative value units for services provided per physician per month, the number of patient visits per physician per month, and the cost per episode of care. Most of these measures are used by health plans and employers, consumers, and regulators on how to define and measure health care efficiency.

**Glossary**

**Cost profiling**

Grouping providers (typically physicians) on a relative scale based on their costs, eg, high-cost providers, mid-cost providers, low-cost providers.

**Episodes of care**

All the care a patient receives during the course of treatment for a specific illness, condition, or medical event in a defined period of time.

**Gated approach**

Setting a minimal threshold for quality measures that a provider must meet before becoming eligible for cost-performance incentives. The term is used more generally to describe any system that measures quality and cost separately and doesn’t combine them into a single health efficiency measurement.

**Health care efficiency**

The cost of care associated with a specific level of quality of care.
Measuring Health Care Efficiency

accreditation agencies and have been developed by private vendors or agencies such as the AQA, the National Committee for Quality Assurance (NCQA), the Leapfrog Group, the Integrated Health Care Organization, and the Employer Health Care Alliance Cooperative (McGlynn 2008). These proprietary measures are used to develop cost profiles of physicians. They calculate the ratio between the costs of resources used (input) and the amount of episodes of care rendered to individual patients or the total care provided to a specific population over a certain period of time (output).

Most physician cost-profiling methodologies involve assigning episodes of care to individual physicians. An episode of care covers all the care a patient receives during the course of treatment for a specific illness or condition, or for a medical event in a delineated period of time. Each physician’s relative cost is obtained by calculating the ratio of actual (observed) cost of care to the average (expected) cost for similar types of care provided by peer groups.

Calculating the relative risk score

A relative risk score is calculated from the sum of cost weights associated with an individual’s age, gender, and conditions, using an additive model. These weights reflect the illness burden. The DxCG software extracts this information from Independence Blue Cross enrollment and claims data (over 12 months). Example: John Smith, a 50-year-old male with hypertension, type 1 diabetes, heart failure, and drug/alcohol dependence. (This example is medical only. Some models also have a pharmacy component.)

### Calculating the relative risk score for John Smith

<table>
<thead>
<tr>
<th>Age/gender band</th>
<th>Cost weights</th>
<th>Condition categories</th>
<th>Cost weights</th>
<th>Interaction terms</th>
<th>Cost weights</th>
<th>Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male aged 45–54 years</td>
<td>0.50</td>
<td>Type 1 diabetes</td>
<td>0.95</td>
<td>Type 1 diabetes &amp; CHF</td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drug/alcohol dependence</td>
<td>0.92</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Heart failure</td>
<td>2.13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hypertension</td>
<td>(0.30)*</td>
<td>zero out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum</td>
<td>0.50</td>
<td>+</td>
<td>4.00</td>
<td>+</td>
<td>0.60</td>
<td>5.10</td>
</tr>
</tbody>
</table>

*John Smith has heart failure (HF) and hypertension. HF is part of a complex “heart” hierarchy: if a member has HF and hypertension, HF trumps hypertension, and hypertension in this case is not counted in the calculation of the total risk score (the weight of hypertension is zeroed-out). Therefore the relative risk score for Smith = 0.50 + 0.95 + 0.92 + 2.13 + 0.00 + 0.60 = 5.10.

**Calculating the relative risk score for John Smith**

**Integrating the relative risk score**

A risk score of 1.00 is the average risk score for a member in a benchmark population. Benchmarks were developed by Verisk Health using the MarketScan database from Thompson Reuters Healthcare.

Smith’s relative risk score of 5.10 indicates he is 5.10 times as costly as the average member from the benchmark population. We can normalize scores and reference them to our own population, Population A, whose average risk is 1.20. John Smith, a member of Population A, has a relative risk score of 5.10. Normalized to Population A, John Smith’s score, therefore, is 5.10/1.20 = 4.25. John Smith is 4.25 times as costly as the average member in Population A.

**Converting risk scores to dollars**

We can convert relative risk scores to dollars by multiplying the scores by the mean expenditures of the benchmark population. Suppose the benchmark per-member, per-year cost for this prospective model is $3,000. John Smith’s risk score of 5.10 tells us that next year his medical costs are predicted to be 5.10 times the average cost for the population, or approximately $15,300.

**Using the predictions**

This particular example shows a “medical only” model. There are many different kinds of DxCG models, many that take medical and medications into account. The models can be used for medical management (disease management), for analytics (output can be factors going into other in-house predictive models), and to adjust for provider incentive programs.

Source: Independence Blue Cross
With the episode-of-care approach, health services are grouped into episodes of care provided to individuals over a set period of time. Efficiency is measured by analyzing the amount of physical and financial resources used to produce an episode of care. Commonly used episode-based measures are episode treatment groups (ETGs) and procedure episode groups (PEGs) (OptumInsight 2014); the medical episodes groups (MEGs) (Truven 2014); and the CCGroup Market-basket System (Cave 2014). All use insurance claims to create groups of episodes of care based on dates of services and related diagnosis codes.

The ETG model identifies all services—including pharmacy—that relate to a patient’s distinct episodes of care. The ETG classification system assigns diagnosis, procedures, and pharmacy codes into 574 groups that serve as benchmarks for comparative analysis. The PEG methodology is the version of the ETG, used to identify surgical procedure episodes and the services related to those episodes. The MEG model applies the disease-staging approach to classify discrete episodes of care into disease stages. The disease-staging criteria define levels of biological severity or pathophysiologic manifestations for specific medical conditions. Contrary to the ETGs, treatments are not part of the disease-staging classification. The CCGroup Market-basket System compares an individual physician’s use of financial resources to a specialty-specific peer group using a standardized set of medical condition episodes adjusting for patient case mix and health status.

The population-based measures analyze the costs or resources used to care for a specific risk-adjusted patient population during a specific period of time. Population-based models are used when the care during that specific period of time can be reliably attributed to a single entity, such as a primary care provider or group practice. They use diagnosis-based, case-mix methodology that evaluates a population’s past or future health care utilization and costs. The population models most commonly utilized by health plans and consultants are Relative Resource Use (RRU) (NCQA 2014), Adjusted Clinical Groups (ACG) (Johns Hopkins 2014), Clinical Risk Groups (CRG) (3M 2014), Diagnostic Cost Groups (DxCG) (Verisk 2014), and the Provider Performance Measurement System (PPMS/Health Dialogue) (HealthDialog 2014). Here is a brief description of the population models:

- **RRU** evaluates the average resource use for health plan members with a particular condition compared with their risk-adjusted peers. Inputs are the standardized prices and the amount of physical resources used. Outputs include quality measures.
- **ACGs** are used to determine the morbidity profile of patient populations and to build reimbursement programs based on comparisons of utilization of resources and outcomes across populations.
- **CRGs** provide a way to consider illness and resource utilization of a full range of patient types, including low income, elderly, commercial beneficiaries, and those with disabilities. 3M CRGs use standard claims data and, when available, additional data (eg, pharmaceutical data, functional health status) collected longitudinally to assign each individual to a single, mutually exclusive risk group. Each 3M CRG can be used to predict health care utilization and costs on a prospective as well as retrospective basis.
- **DxCG** model produces clinical groupings from administrative data on the basis of age, sex, and diagnosis. Some DxCG models include drug utilization. Through hierarchies, the model constructs a relative risk score (see box on page 40) that is used to measure the expected resource use based on the patient’s “illness burden.”

- **PPMS** focuses on the use of health service resources at a given level of comorbidity over a predetermined period of time and unexpected variations in care effectiveness, preference, and supply-sensitive care through the continuum of inpatient and ambulatory settings.

Here are some examples of application of physician performance measures:

**Clinical Performance Improvement (CPI), Massachusetts**

In 2003, the Group Insurance Commission of Massachusetts established the Clinical Performance Improvement (CPI) Initiative to make quality and cost information available to the public (Alteras 2007). The CPI uses the ETG model. After calculating the total cost of all claims in an episode, episodes are assigned to individual physicians. On the basis of average costs calculated for each specialty, physicians’ cost performance is compared within their specialty using the ratio-of-observed-to-expected costs (O/E ratio) or efficiency index (EI). Ratios above 1.0 indicate relative inefficient performance; those below 1.0 indicate relative efficient performance.

**Blue Cross Blue Shield, Special Provider Network, Texas**

Blue Cross Blue Shield of Texas has created a special provider network comprising health care providers that met an appropriate risk-adjusted cost index (Lake 2007). Using average cost per episode and adjusting these costs by diagnostic cost group risk scores, the plan compared the costs and quality of their providers and established reimbursement programs.
based on the risk-adjusted cost index. In this case, the plan’s intent was to reimburse providers on the basis of the risk-adjusted disease burden of the population they treated so physicians with healthier patients would not be overcompensated and those with sicker patients would not be undercompensated.

The UnitedHealth Premium designation program, Aetna’s Aexcel, and Independence Blue Cross’s Integrated Provider Performance Incentive Plan

The UnitedHealth Premium designation program (UnitedHealth 2014) combines quality and cost measures. Physicians must meet first quality designation and then can be considered for cost performance designation (this is referred to as the gated approach). Physicians who meet both quality and cost performance measures receive 2 stars. Those who meet only quality measures receive 1 star. Cost performance is assessed by comparing the percentile rankings of the physician episode costs with a peer group within the same geographic area and specialty. In order to meet the quality criteria, physicians must perform at a level that meets or exceeds the 75th percentile performance for all physicians measured. ETG and PEG software generate episodes of care and allow for case mix and severity adjustments. Inpatient procedures are risk-adjusted by 3M CRGs severity of illness level. Cost performance analysis is based on total cost—a combination of resource utilization, resource mix, and unit cost—for an episode of care. Episodes include all services delivered to a patient, including those of other physicians or clinicians, related to a specific procedure or treatment of a condition. Episodes include dollars paid to the physician for direct services as well as facility costs and ancillary services that the software logic determined were related (e.g., medications and diagnostic tests). Complete ETG episodes are attributed to the physician responsible for at least 30% of the total costs. The sets of comparable episodes for all peer group physicians are combined and ranked from lowest to highest percentile. Further analysis is conducted to determine whether the sample size is adequate and whether the difference between physicians’ ranking is statistically significant. UnitedHealthcare disseminates performance information directly to consumers online and via e-mail and print materials.

Aetna’s Aexcel (Aetna 2009) uses similar methodology to award the blue star designations to its specialists in 12 categories. Clinical performance is evaluated on the basis of hospital readmission rates after 30 days; rates of complications during hospital care; and other treatments, by specialty, shown to improve outcomes. The clinical performance measures used by Aetna are endorsed by the AQA, National Quality Forum (NQF), AQA, the American Board of Medical Specialties, the American Osteopathic Association, NCQA, and several specialty societies. Using the same gated approach adopted by United, Aetna evaluates physicians who meet quality standards for “efficiency,” or risk-adjusted optimal use of resources (the cost for services and the number and type of services performed).

The Integrated Provider Performance Incentive Plan (IPPIP) introduced by Independence Blue Cross, Philadelphia, is a hospital/physician rewards program providing a balanced model for high-quality and cost-effective care (Mercer 2011). IPPIP goals are the following:

- Encourage and incentivize enhanced care coordination across the delivery system
- Incorporate measures for improved utilization
- Align primary care, specialist, and hospital incentives
- Complement health care reform-related initiatives, such as ACOs.

Half of the award is based on medical cost management measured via an annual risk-adjusted, per-member, per-month cost target. The other half is based on achieving quality indicators. The quality standards a provider must meet to earn a full reward are as follows:

- 12.5% based on CMS/PHCQA Appropriate Care Measures
- 12.5% based on hospital-acquired infections
- 25% based on Potentially Preventable Readmissions (PPR) rates

DISCUSSION

To address rising health care costs, payers and employers have developed a number of initiatives, including pay-for-performance and value-based tier products, designed to steer patients toward preferred providers. The assumption behind these initiatives is that robust performance measures allow purchasers of care to identify the most efficient providers. Indeed, a number of large employers favor public release of providers’ performance scores and financial incentives to encourage patients to choose providers with high performance scores (Mercer 2007).

Health care efficiency is the cost of care associated with a specific level of quality (AQA 2009). Quality measures are now well established, but measures of health care efficiency are not. A single score that measures the cost of care associated with a specific level of quality doesn’t exist, and there is no rigorous evidence that cost efficiency and high-quality care are proxies for each other. Most studies of hospital performance and most episode groupers used to attribute costs and utilization of resources to individual physicians do not identify
the relationship between quality and cost of care. Therefore, current efficiency measures analyze economic performance and provide cost profiling without adjusting for quality.

Aside from health care efficiency, the reliability of conventional cost profiling of individual physicians is questionable. While the validity of different methods of assigning episodes to physicians is established, we cannot be sure they accurately assign the portion of cost variability for which the individual physician is truly responsible.

Adams and colleagues estimated the likelihood of cost performance “misclassification” (Adams 2010). The authors used commercial software to construct episodes of care from claims data provided by 4 health plans in Massachusetts. Overall, 59% of physicians had cost-profile scores with reliabilities <0.70 (suboptimal reliability), and half of internists and two thirds of vascular surgeons were classified inaccurately as lower cost. Reliability varied by specialty, ranging from 0.05 for vascular surgery to 0.79 for gastroenterology and otolaryngology. The authors concluded that current methods of cost performance may produce misleading results. Indeed, conventional methods do not adjust for differences in the types of services provided by physicians within the same specialty (eg, “generalists” vs “interventionists,” colorectal surgeons vs general surgeons) and don’t account for certain physicians’ practice characteristics (eg, solo vs group practice).

Recently, Timbie and colleagues suggested that comparing cost performance of individual providers with the average costs of the entire peer group may be the primary reason for the low reliability demonstrated by conventional cost-profiling methods, particularly when applied to specialties (Timbie 2012). Instead, the authors have proposed the use of propensity score weighting, which adjusts for variables (covariates) such as practice size and types of services rendered. In their study, each physician was compared with a subset of his or her peer group with a similar episode mix instead of the entire specialty group. Then, cost performance calculated with the propensity score weighting was compared against that obtained with conventional groupers tools (entire specialty used as the peer group). The authors concluded that “propensity score weighting resulted in more reliable relative cost estimates than conventional methods for 70 percent of physicians, because weighting the data significantly eliminated statistical errors and unexplained variances.” The improvement was particularly evident for cardiologists, internists, and orthopedic surgeons. Whether these results will be confirmed by subsequent analyses and whether propensity score methodology (D’Agostino 1998) will be widely accepted to improve the reliability of providers’ cost profiling remains to be seen.

It is also worth noting the need for risk adjustment in comparing providers’ efficiency and reviewing some of the challenges associated with risk-adjustment methods. Current SFA methods calculate hospital efficiency by adjusting economic performance for burden of illness and quality of care. However, SFA methods are mostly confined to research. With respect to risk measures used in conjunction with episode groupers, their proprietary ownership has prevented close scrutiny. Several factors limit the accuracy of risk adjustment models, such as inadequate data, patient socioeconomic status, and even patient preferences. In addition, not all severity measures perform best across all conditions. Nevertheless, Iezzoni has shown that the best approach to risk adjustment is to use specific models shown to perform well for the specific outcomes of interest (Iezzoni 2012). No matter how imperfect, risk adjustment must be part of the health care efficiency equation that includes cost and quality because it improves our understanding of what portion of the variability in cost and quality should be attributed to intrinsic patient factors rather than provider performance.

CONCLUSION
While the IOM considers efficiency as a characteristic of high-quality care, currently a single measure of the cost of care associated with a specific level of quality of care is not commercially available. In addition, cost-of-care profiles have little correlation with quality measures (Rattray 2004). Therefore, at this time, the most practical approach for analyzing health care efficiency is the gated approach (UnitedHealthcare Premium, Aetna’s Aexcel, Independence’s IPPIP), which involves measuring quality and cost of care separately.

Further research is needed for measurement of health care efficiency to advance and become accepted. To be useful, health care efficiency measures need to assess resource use accurately as an input and health outcomes as an output and account for the variability in the costs of producing high-quality care.

REFERENCES
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The good times for pharmaceutical manufacturers are expected to roll right into 2020, according to a forecast published in May by EvaluatePharma, a life science market intelligence company in Boston. Unless, of course, insurance companies and governments in the United States, Europe, and Japan say no más to what they see as overpriced medications.

The latter possibility is one of the few clouds on what the company presents as sunny days ahead for drugmakers. Prescription drug sales will grow at an average of nearly 5% a year, reaching $987 billion by 2020, says EvaluatePharma, which bases its forecast on outlooks for the leading 500 pharmaceutical and biotechnology companies.

This prediction is less than the $1 trillion by 2020 that EvaluatePharma read in the tea leaves last year. The difference can largely be explained by the depreciation of the euro against the dollar, says the company.

According to EvaluatePharma, pharma is humming along because sustained R&D productivity is moving in the right direction and the worst of the patent cliff may be behind it.

At one time, loss of patent protection was thought to put $197 billion in sales in jeopardy between now and 2020, “but the market currently predicts only $99 billion of this will materialize,” says the report.

Why the revision? Because previous analyses had predicted that biosimilars would have a bigger effect on sales.

Drugmakers may be able to produce real cures for previously incurable diseases, but this will come at a price in the midst of reluctance of both private and government payers to fund expensive drug treatments.

The study’s authors wonder if “we are seeing the end of pricing freedom in the U.S.”

As the pretty woman sang: Que será, será.