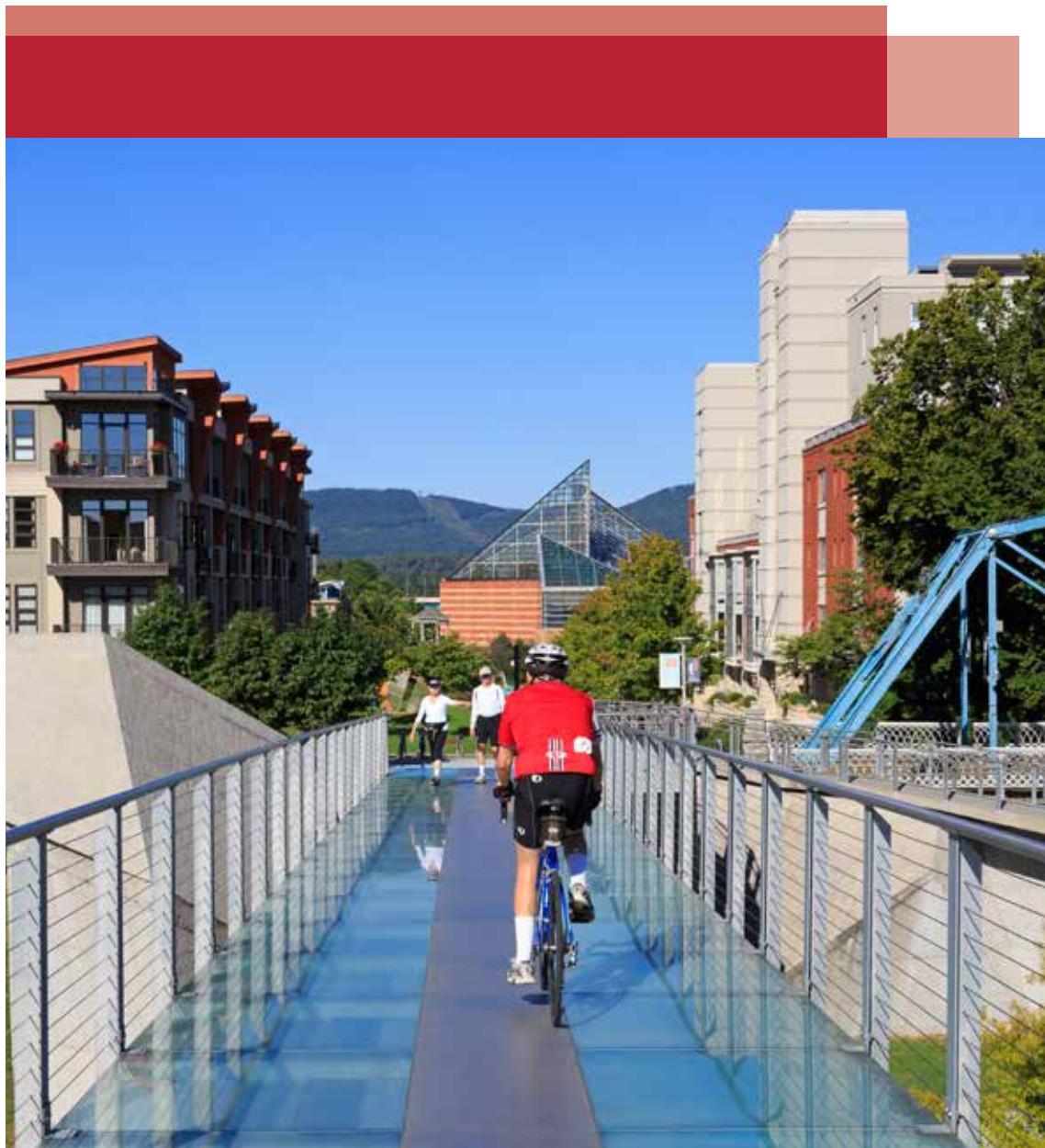


Medical Cost Trend:

Behind the Numbers 2016

June 2015

Health Research Institute



pwc

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With ongoing pressure from purchasers, and competition from non-traditional new entrants, the question for healthcare providers, insurers and life sciences companies is: Will that be enough over the next decade?

The heart of the matter

A historic recession, sluggish recovery, landmark reform law, innovative disruptors and cost-conscious purchasers have provided the crosswinds in a tumultuous decade for the US health sector. Today, 10 years after HRI began issuing its projection for the coming year's medical cost trend, the growth rate has slowed.

Not long ago, experts bemoaned the “unsustainable” healthcare spending growth rate, consuming ever larger portions of family, business and government bank accounts.

Today, 10 years after PwC’s Health Research Institute (HRI) began issuing its projection for the coming year’s medical cost trend, the growth rate has slowed. HRI anticipates a 6.5% rate for 2016. After likely changes in benefit plan design, such as higher deductibles and co-pays, the net growth rate is expected to be two percentage points lower at 4.5%.

Yet medical inflation still outpaces general economic inflation, underscoring the challenges ahead for an industry still chasing the elusive concept of value. And while the health sector has adopted structural changes that improve efficiency and quality, much of the slowing growth is attributable to cost-shifting onto consumers who face difficult decisions around what health services to buy—when, where and at what price.

HRI’s analysis measures spending growth in the employer-based market—the foundation of the US health system, covering about 150 million Americans. Changes to government health insurance, including new plans sold on public exchanges, are not within the purview of this analysis—but spending growth for government plans such as Medicare has slowed as well.

Several factors will intensify spending in the year ahead. New specialty drugs entering the market in 2015 and 2016 bring with them the hope for new cures and treatments, but at a high cost. As with Hepatitis C, the health system will once again be faced with how to pay for products whose benefits may not be realized for many, many years. Major cyber security breaches are prompting health companies to take extra steps to protect sensitive personal information from external threats. Investments to guard personal health data will add to the overall cost of delivering care in 2016 and beyond.

But moderating forces are expected to hold growth in check. Insurance plan designs influence how often and to what extent employees use health services. HRI research confirms that employers intend to continue shifting costs onto employees, which prompts many workers to scale back on services or search for alternatives.

Although virtual care is not new, its use will ramp up significantly in 2016. Both government and private purchasers are adding a wide range of telehealth services to its covered benefits. Costs are falling as hospitals move away from capital intensive “brick and mortar” care and instead monitor patients remotely, while consumers trade office visits for virtual ones.

With the ten-year anniversary of HRI’s *Medical Cost Trend: Behind the Numbers*, we identify the major trends of the last decade—more consumer cost-sharing, greater use of technology and shifting care from inpatient settings to physician offices, retail clinics and even the home. But with ongoing pressure from purchasers, and competition from non-traditional new entrants, the question for healthcare providers, insurers and life sciences companies is: Will that be enough over the next 10 years?

An in-depth discussion

HRI projects medical cost trend to be 6.5%—slightly lower than the 6.8% projected for 2015. The net growth rate in 2016, after accounting for benefit design changes such as higher deductibles and narrow provider networks, is expected to be 4.5%.

Executive summary

Spending growth in the \$2.9 trillion US health economy is expected to slow in 2016 as compared to 2015, but it will still outpace overall economic inflation. Stock prices, earnings reports and the customer base have increased and that means the industry is financially healthy. Affordable healthcare, however, remains out-of-reach for many consumers.¹

For this research, HRI interviewed industry executives, health policy experts and health plan actuaries whose companies cover more than 100 million employer-based members. HRI also analyzed results from PwC's 2015 Health and Well-being Touchstone survey of more than 1,100 employers from 36 industries, and a national consumer survey of more than 1,000 US adults. In this year's report, we identified:

Three factors expected to "deflate," or reduce, the healthcare growth rate in 2016:

- **Looming "Cadillac tax" accelerates cost-shift**—the ACA's insurance excise tax set to begin in 2018 is already influencing employer's benefit design. To avoid paying the 40% tax on health plan premiums over \$10,200 for individual coverage and \$27,500 for self and spouse or family coverage, employers are upping the amount that employees must pay thereby reducing their costs.²

- **Virtual care**—new technology increasingly renders virtual visits more efficient and convenient than traditional medical care. Hospitals are already using remote monitoring to improve outcomes and bring down treatment costs. Large companies now see telehealth as a valuable tool for primary care.
- **New health advisers**—are helping to steer consumers to more efficient healthcare. With more experience in consumer retail services, these advisers provide information, incentives, and disincentives—all tools to assist employees with making good choices when seeking health treatment.

Going the other way, there are two factors expected to "inflate," or boost, the spending trajectory in 2016:

- **Specialty drugs**—as the price of high-cost Hepatitis C therapies is being challenged, the next wave of specialty drugs begins. The majority of FDA drug approvals is for specialty drugs and, because of their high costs, will require new ways to identify, manage and pay for these treatments as well as quantify their value in reducing other types of healthcare services.
- **Cyber security**—large-scale security breaches add a new layer of expense to the health business, as companies move quickly to secure and protect the vast amount of personal health data they possess. The sophistication of attacks means health providers need to spend money on both prevention and, if a breach occurs, remediation.

What this means for your business

More Americans with health insurance and an improving economy have not increased the medical spending trajectory. Structural changes have helped keep costs in check. But there is still much to be done as long as health spending continues to outpace gross domestic product and individual consumers and companies struggle to afford services. Health companies must restrain costs when bringing new cures and technology to consumers.

Affordability moves front and center in the New Health Economy. Employers must pursue strategies that not only strengthen their bottom line but better equip workers to make informed health decisions—or they will likely pay a high cost in the long run. User-friendly technology offers opportunities for greater transparency, remote care delivery and true comparison shopping.

A 10-year perspective

When HRI made its first projection of healthcare spending, the growth rate for 2007 was nearly 12%. The trend ticked down in 2008 but remained high for the next four years—even in the midst of the Great Recession and slow economic recovery.

Much has changed since then. Technology investments, which for many years hit the expense account on the ledger are now translating into the savings of virtual health. In the old world of first dollar coverage, employees were largely insulated from out-of-pocket costs. Now consumers shop around, often finding savings and convenience in retail-style new

entrants. Understanding the factors that have slowed spending growth will enable health organizations of the future to thrive in the New Health Economy.

Here are four key trends we have observed over the past decade.

The healthcare-spending trajectory has leveled off but is not decreasing

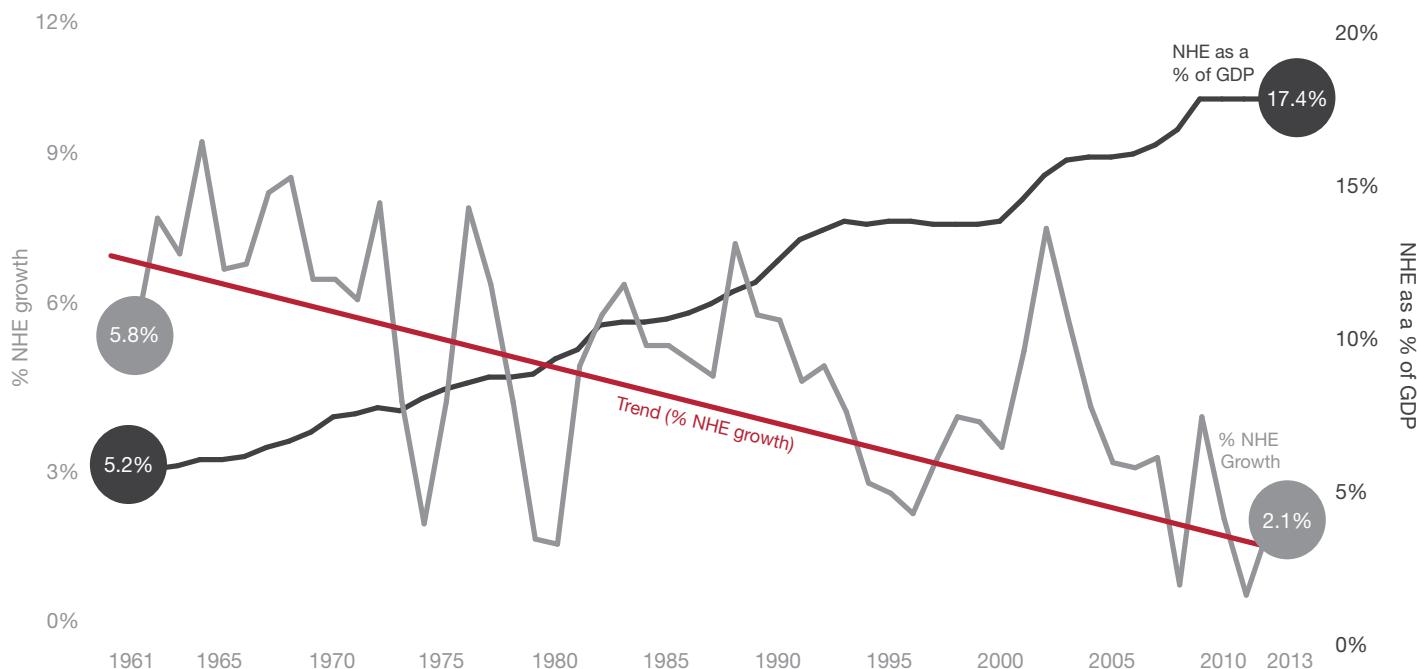
The growth rate of all US health expenditures has decreased by about 1% every decade since 1961 (see Figure 1). But the slowing growth still represents a rise in total healthcare

costs, especially as compared against inflation. In one sense, the nation has reckoned with the unsustainability of healthcare costs and taken steps to bend the cost curve. Still, private healthcare spending continues to increase faster than the economy and is now at 17.4% of GDP.

“Medical costs cannot continue to grow faster than per capita incomes indefinitely. As we get closer to 25% of GDP, spending will have to be constrained,” said Tom Getzen, executive director of the International Health Economics Association and professor of insurance and healthcare management at Temple University. “As health spending grows faster than the rest of the economy, resistance to further increases can begin to slow down the growth—or bend the cost curve.”

Figure 1: Although the health spending growth rate is slowing, it still continues to be a disproportionately large part of the US economy

Year-over-year growth in national health expenditures adjusted for inflation and % of total GDP



Source: National Health Expenditures data, Consumer Price Index data from Bureau of Labor Statistics, and PwC Health Research Institute analysis³

Cost-sharing slows consumer use of health services

Over the last decade, employers have relied increasingly on cost-sharing to manage use of medical services and the resulting costs. Employers offering high-deductible health plans grew almost 300% since 2009 when HRI began tracking employer health plan design through the PwC Health and Well-being Touchstone surveys of major US companies.⁴ Over the same time period, average in-network deductibles and out-of-network deductibles increased by roughly \$500 and \$1000, respectively.⁵

When consumers pay more for their care, they think twice about which provider to choose or whether another set of tests is really necessary (see Figure 2). Although this may screen out unnecessary use, the consumer cost factor may also inhibit valuable medical attention including early diagnoses and chronic care

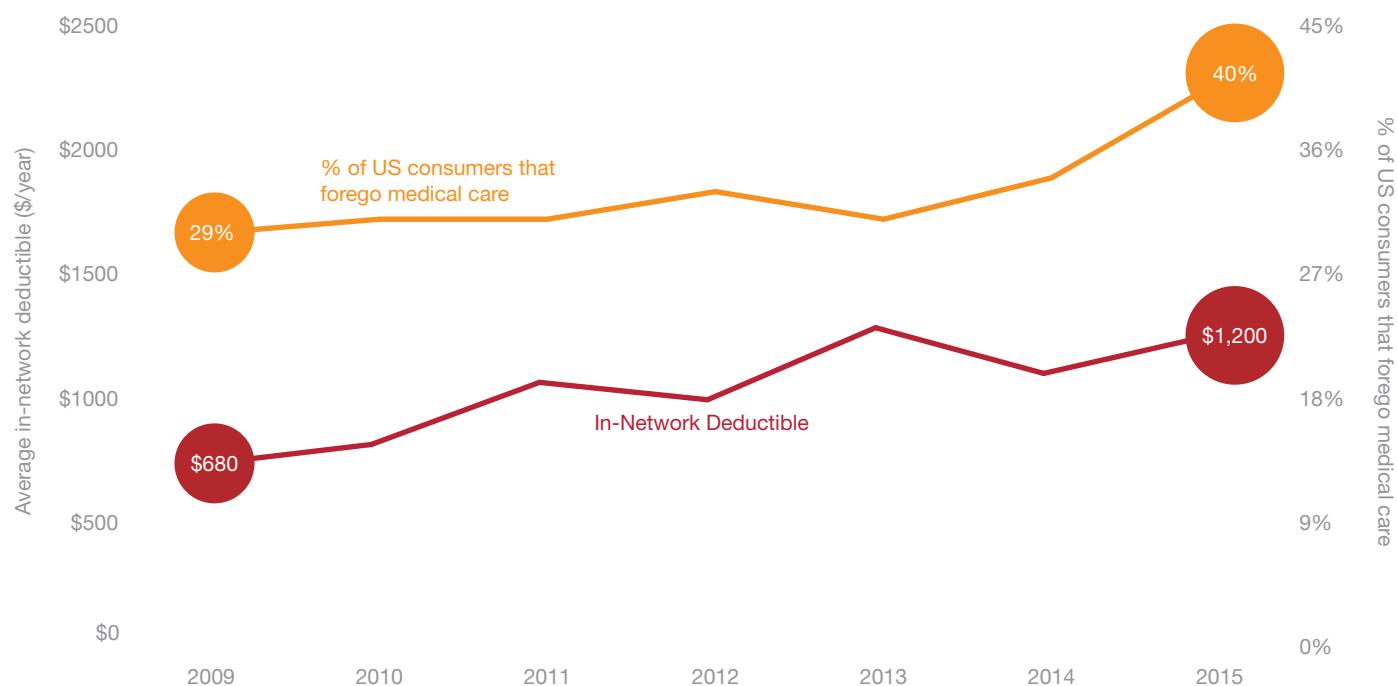
management. A worsening health condition is ultimately far more costly for everyone.

Rather than foregoing needed care, employers and health plans are now creating tools to help consumers make informed choices (see deflator #3: New health advisers guide the way to better value care).

Employers offering high-deductible health plans grew almost 300% since 2009.

Figure 2: As cost-sharing increases, consumers forego care

Average employer insurance deductible vs. percentage of consumers foregoing care



Source: PwC 2015 Health and Well-being Touchstone survey, Gallup Poll, and PwC HRI consumer surveys⁶

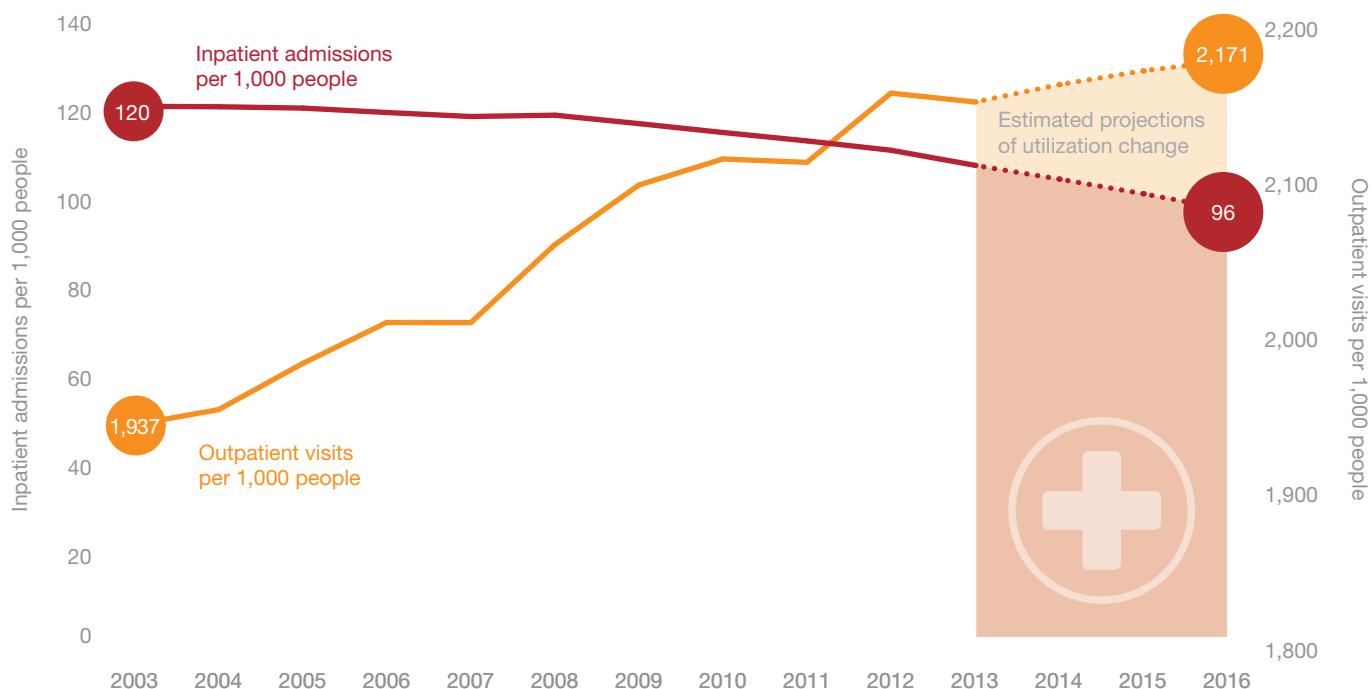
Curtailing inpatient care lowers costs

Hospital costs contribute over one-third of total health spending for the privately insured.⁷ In response, more care has shifted to less expensive ambulatory centers, retail health clinics and physician offices. Since 2003, the number of outpatient visits has increased 12% while inpatient care has decreased by nearly 20% (see Figure 3).

"For the first time in 16 years, we've seen a decrease in hospital prices," explained Charles Roehrig, director of Altarum's Center for Sustainable Health Spending. "While Medicare and commercial insurance payment policies are clearly important here, this could also be a sign that changes in patient delivery models are indeed impacting costs."

Since 2003, the number of outpatient visits has increased 12% while inpatient care has decreased by nearly 20%.

Figure 3: Inpatient care volume on a rapid decline
Changes in hospital inpatient and outpatient utilization



Source: American Hospital Association 2013 data and HRI analysis⁸

The Affordable Care Act has had minimal direct effect on employer health costs

Since its passage in 2010, the ACA has not had major direct impacts on spending in the employer-based insurance market. Only 4% of employers saw a significant impact from the \$2,000 penalty imposed under the law's employer mandate. Most of the issues, where employers saw some impact, were reporting requirements. But even reporting requirements did not have a significant impact on the majority of employers according to the PwC 2015 Health and Well-being Touchstone survey of large employers (see Figure 4).

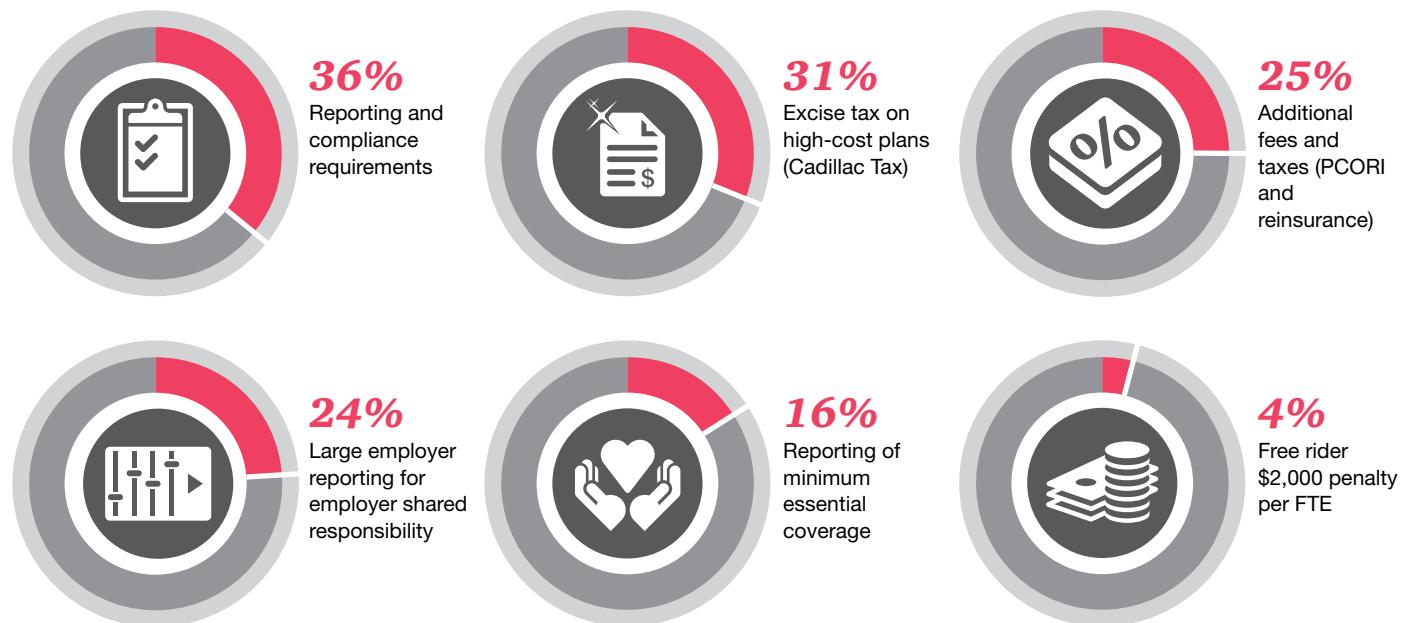
However, the pending Cadillac tax on high-cost plans has firms worried and taking anticipatory steps (see deflator # 1: As the Cadillac tax looms, employers accelerate cost shifts), with 64% of employers expecting it to have an impact on their company.⁹

Employers are taking steps to mitigate any potential cost, including scaling-back benefits by raising deductibles, co-payments and co-insurance, moving to high-performance networks, and changing to high-deductible health plans.

After witnessing a decade shaped by large forces—the economy, technological advances, a new law—health spending in 2016 is noteworthy for an exception to that trend. Now almost all of the inflators and deflators hinge on individual consumers and how they respond to the emerging incentives and penalties employed by employers, purchasers and government.

Figure 4: Most employers indicate ACA is not a major cost driver

Percentage of US employers that responded that the following ACA components have had a significant financial effect on their business



Source: PwC 2015 Health and Well-being Touchstone survey¹⁰

Medical cost trend in 2016

PwC's Health Research Institute (HRI) projects 2016's medical cost trend to be 6.5%—slightly lower than the 6.8% projected for 2015 (see Figure 5). The net growth rate in 2016, after accounting for benefit design changes such as higher deductibles and narrow provider networks, is expected to be 4.5%. Benefit design changes typically hold down spending growth by shifting costs to consumers, who often choose less expensive healthcare options.

This projection is based on HRI's analysis of medical costs in the large employer insurance market, which covers about 150 million Americans. By comparison, Medicare serves 55 million beneficiaries and about 11 million Americans enrolled in the ACA's public exchanges.¹¹

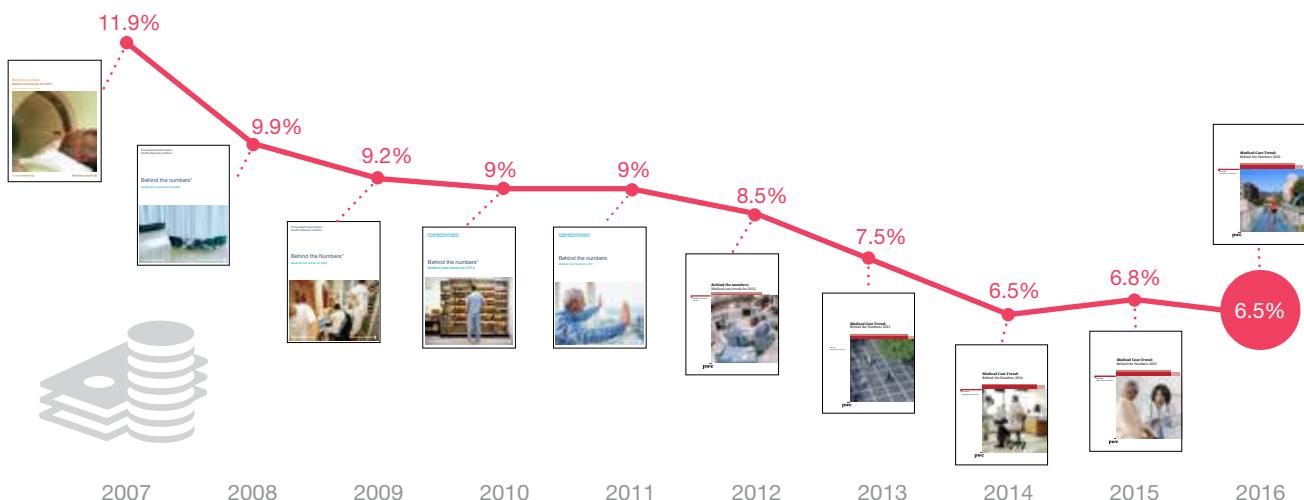
The slight downward shift in 2016 projections can be attributed to various underlying factors. With the Cadillac tax on the horizon, insurers

and employers are under pressure to find cost-effective ways to lower health spending. Insurers will offer more risk-based contracts to providers, and companies will find more ways to share costs with their employees to mitigate this pressure.

Although costly specialty drugs have gone mainstream and a few additional blockbusters are slated to be released this year and next, insurers will be more prepared to price the cost into premiums. Unlike the unanticipated impact of the Hepatitis C drugs on costs, insurers are more closely tracking the drug development pipeline and the patient populations who will take them.

Additionally, as members continue to demand convenience and personalization in their healthcare—and price transparency—we will see the expansion of virtual care and new tools and technologies that cater to consumer needs. Consequently,

Figure 5: Healthcare spending growth rate for 2016 is 6.5%
HRI's projected medical cost trend over the years



Source: PwC Health Research Institute medical cost trends 2007–2016

these tools, such as primary care visits delivered by telehealth, will help healthcare organizations find cost-effective ways to provide care.

What is medical cost trend?

Medical cost trend, or the healthcare growth rate, is the percentage increase in the cost to treat patients from one year to the next. While it can be defined in several ways, this report estimates the projected increase in per capita costs of medical services that affect commercial insurers and large, self-insured businesses. The projection is used by insurance companies to calculate health plan premiums for the coming year. For example, a 10% cost trend means that a plan that costs \$10,000 per employee this year will cost \$11,000 next year. The growth rate is influenced primarily by:

- Changes in the price of medical products and services, known as unit cost inflation
- Changes in the number of services used, or per capita utilization increases

Factors affecting 2016 spending growth rate

Employer cost-shifting, greater use of virtual care and new health adviser companies that guide consumers toward more cost-effective care will put downward pressure on the growth rate.

Deflator #1: As the Cadillac tax looms, employers accelerate cost-shifts

Beginning in 2018, the ACA's "Cadillac tax" imposes stiff penalties on employers that offer high-cost insurance plans.¹² The intent of the

law is to encourage companies to choose lower-cost health plans and put pressure on insurers to sell lower-priced plans.

The Cadillac tax is the third largest single source of funding in the ACA with roughly \$87 billion in anticipated revenue from 2016 through 2025.¹³ Many businesses would rather scale back their health plans than pay the tax. More than 60% of large US companies in PwC's 2015 Health and Well-being Touchstone survey expect the tax to have an impact on

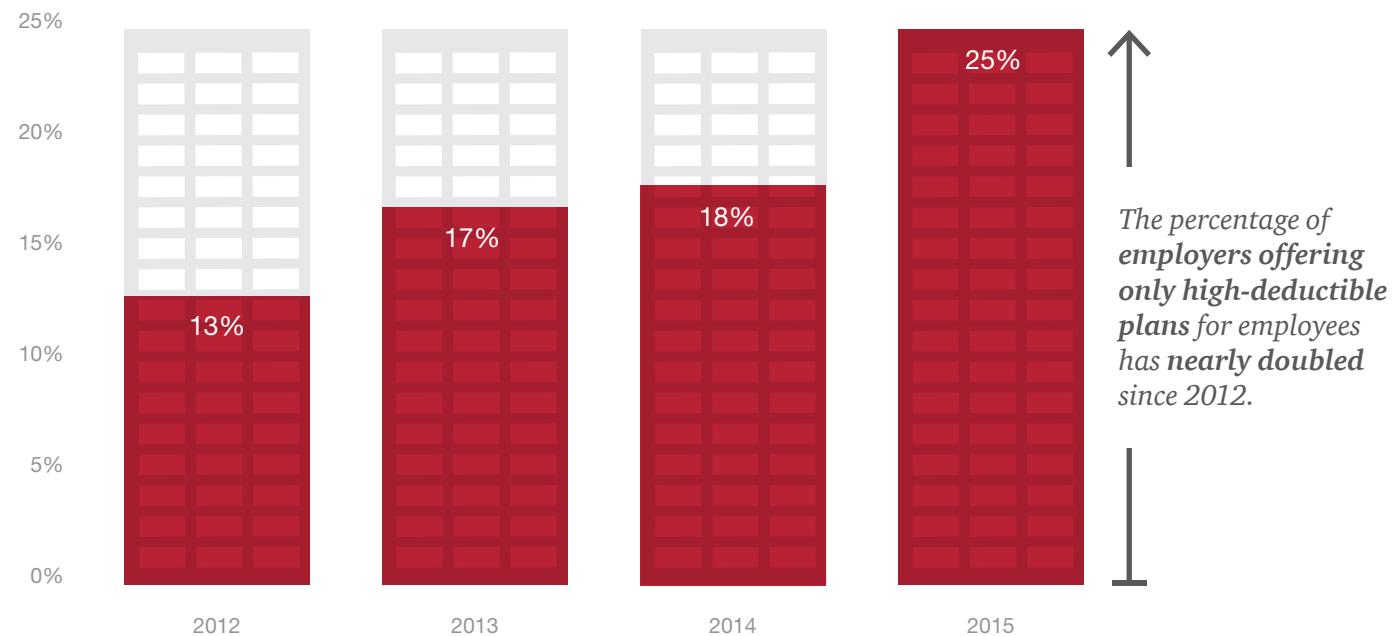
their company.¹⁴ However, slowing healthcare growth also reduces the number of employers subject to the tax, so current employer efforts to adjust for the tax may be premature.

"The Cadillac tax is pushing more employers to enact higher cost-sharing," said Mark Pauly, professor of Health Care Management at Wharton School of the University of Pennsylvania.

More than 85% of employers in PwC's 2015 Health and Well-being Touchstone survey have implemented, or are considering, greater employee cost-sharing. And, 25% of employers have already implemented high deductible health plans as the only

Figure 6: Employers offering only high-deductible plans

Percentage of US employers that have already implemented high-deductible plans as the only option offered to their members



Source: PwC 2015 Health and Well-being Touchstone survey¹⁶

benefit option to their employees, a 40% increase over 2014 (see Figure 6).¹⁵

Even before the ACA, companies steadily increased cost-sharing as a way to save money and engage consumers in their own care (see Figure 7). Thirty-eight percent of consumers surveyed in early 2015 sought alternative options or appealed insurance decisions based on prices for care (see Figure 8).

A recent Cigna study found medical costs in high deductible plans were 12% lower than in other types of

health plans as consumers are using health improvement programs, complying with recommended treatments and lowering their overall health risks.¹⁷

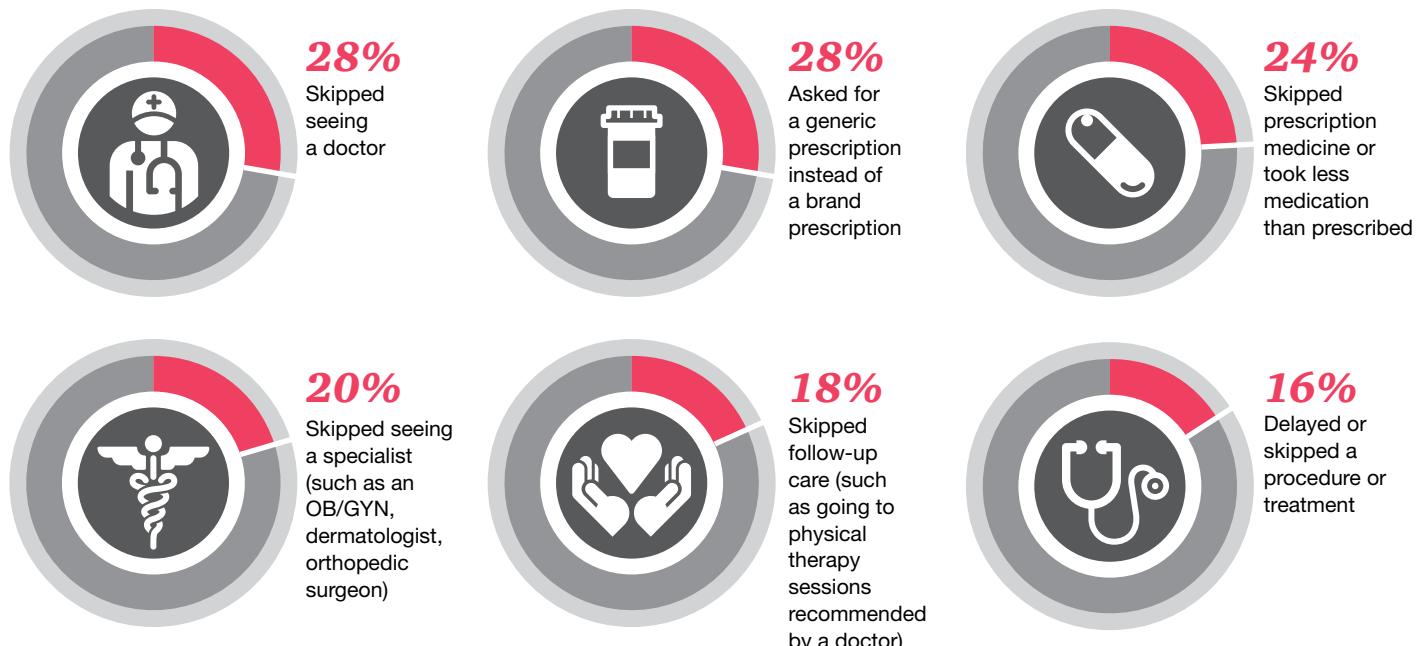
As cost-shifting pushes consumers to become more conscientious about their healthcare choices, even foregoing unnecessary care or seeking alternatives to costly inpatient facilities, providers too are thinking of creative ways to maintain business.

"My ideal vision is to have clinics geared towards cost-conscious Millennials," said Dr. Joanne Conroy,

CEO of Lahey Hospital & Medical Center. "These clinics would serve as a one-stop shop to get all their service needs met in a cost-effective setting."

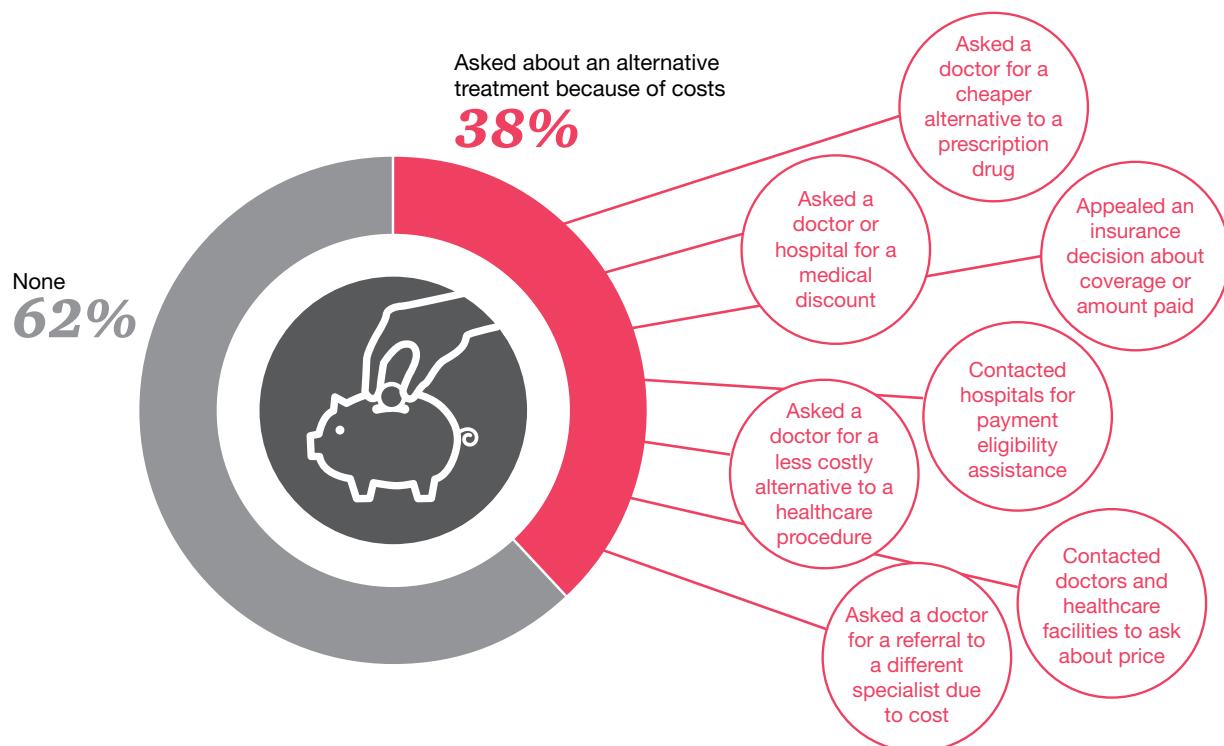
There is some concern that high cost-sharing may be a barrier to care. A recent analysis by the nonpartisan Kaiser Family Foundation found that many consumers with high cost-sharing plans cannot afford to pay for care. Of those families with private health insurance, only 49% of households have enough money on hand to meet the higher out-of-pocket limit.²⁰

Figure 7: Cost-shifting pushes consumers to become more conscientious about their healthcare choices
Percentage of consumers with employer-based insurance who took the following actions in the last 12 months due to cost of care



Source: PwC Health Research Institute 2015 consumer survey¹⁸

Figure 8: Consumers with employer-based insurance are seeking more affordable options



Source: PwC Health Research Institute 2015 consumer survey¹⁹

Things to consider:

- *Encourage cost-sharing prudently.* Because foregoing care at the expense of becoming chronically ill is costlier in the long run, help educate consumers about wise medical choices. Insurers and employers should promote health benefits that avoid wasteful spending but allow consumers who truly need care to seek timely treatment—such as minimal barriers for preventive and wellness services.
- *Utilize data and analytics in two-way conversations.* As health insurers and providers move away from fee-for-service payments toward risk-based contracts based on quality and performance metrics, insurers

should share patient-level reporting and dashboards with providers to identify cost-cutting strategies and specific areas for quality improvement.

Deflator #2: Virtual care expands, with great promise for cost savings

Close to a million people now receive care through remote monitoring, which is projected to save billions of dollars across the healthcare system over the next two decades.²¹ Although the industry is no stranger to remote monitoring, the trend will expand significantly in 2016.

Part of the reason is the government's embrace of more virtual care through a series of regulatory and financial

actions. For example, Congress designated \$26 million in funding for telemedicine programs across rural communities, while the administration has added several Medicare payment codes for telemedicine.²² Additional barriers to providing virtual care and telehealth across state lines are expected to fall, as seven states joined an interstate compact on licensure which was recently approved by the Federation of State Medical Boards.²³

"There are 24 states that now mandate that private payers pay for telemedicine," explained Jonathan Linkous, CEO of the American Telemedicine Association, "and this year alone there are 100 bills introduced into the state legislature mandating private payer support or expanding Medicaid coverage of telehealth." While some states such as

Texas are trying to limit the practice of telehealth, the majority of states are looking to expand virtual care.²⁴

The private sector is also stepping in. According to a National Business Group on Health employer survey, 48% of employers will make telehealth services available to employees in 2015. Large integrated healthcare systems, such as Kaiser Permanente, use videoconferencing to treat behavioral health issues.²⁶

“Virtual consults allow for much more efficient use of our resources while delivering quality care in a more convenient and comfortable environment for patients,” Dr. Joseph Kvedar, vice president at Partners Healthcare, told HRI. “We have started a pilot telehealth program, in which we are able to conduct six or more virtual patient visits in an hour, while in the office we can do five patients per hour if we are really efficient.”

“The American Telemedicine Association estimates 800,000 primary care consults will be done remotely in 2015,” said Linkous. “We expect consumers will drive its expansion broadly in 2016.”

As doctors and hospitals become more mindful of avoiding government penalties related to quality metrics and readmissions, they are turning to virtual care as a cost-effective and efficient way to improve follow-up care. One area with great promise for cost savings is diabetes management (see Figure 9).

Consumers value convenience and cost savings, and virtual care saves them time and money. For example, according to a 2014 HRI study, 64% of the respondents were open to trying new, non-traditional ways of seeking medical attention or treatment if the price was right.²⁸ As more insurers, providers and employers offer virtual

options, the expected savings will help slow the overall spending growth rate in 2016 and beyond.

Things to consider:

- *Offer virtual care as an ER alternative.* Focus on monitoring patients with chronic and complex conditions and keeping them out of the emergency room—examples include follow-up visits after procedures, monitoring asthma and encouraging diabetics to embrace healthier behaviors. Retail health and outpatient clinics can also use virtual care to improve primary care access.
- *Promote the use of virtual care through member outreach and incentives.* Members are often unaware of the telehealth treatment options available and this can be solved through more frequent communications, open-house

Figure 9: Diabetes management shows greater savings with the use of virtual care
Illustrative comparison of annual diabetes costs for in-person treatment vs. virtual care in US

| | Base Case (No Virtual) | | Virtual Care | | Change Percentage |
|----------------------------|---|--|---|---|----------------------|
| | Utilization per 100,000 individuals | Costs per 100,000 individuals (\$ Millions) | Utilization per 100,000 individuals | Costs per 100,000 individuals (\$ Millions) | |
| Hospital inpatient days | 193,011 | \$622 M | 173,710 | \$560 M | -10% |
| Physician office visits | 792,697 | \$158 M | 673,792 | \$134 M | -15% |
| Virtual visits | - | - | 294,035 | \$15 M | - |
| ER visits | 69,256 | \$71 M | 62,330 | \$64 M | -10% |
| Hospital outpatient visits | 79,160 | \$57 M | 75,584 | \$54 M | -5% |
| Total | | \$908 M | | \$827 M | -9% |

Source: PwC Health Research Institute analysis²⁷

information sessions and provision of patient satisfaction data and statistics to demonstrate the benefits of telehealth. Employers should consider tying financial incentives—such as waived copays and deductibles—for employees to make use of virtual care in place of in-person or emergency room visits for routine procedures.

- *Consider alternative business models and partners.* Health systems and insurers should consider partnering with tech-smart companies. Delivering telemedicine visits requires a different type of network, clinical skillset and equipment.

Deflator #3: New health advisers guide the way to better value care

As the focus on quality and consumer costs has grown, so have the array of people to guide complicated choices. Since 2010, over 90 firms with little to no prior medical experience have become healthcare advisers.²⁹ These new health advisers are sometimes competing, but more often partnering with, health insurers, providers and employers, to help individuals navigate the complex terrain of the health ecosystem.

“Consumers are demanding more and more around price transparency” said Daniel Polsky, executive director of the Leonard Davis Institute of Health Economics at the University of Pennsylvania, “and many are surprised by how much money they are responsible for.” According to a

recent JAMA study, patients who knew the price of services before receiving them chose lower-priced options.³⁰

Through these tools, members can find out where they stand in terms of how much they need to pay for a specific service, at a particular setting, how much of their deductible they have used and what remains, and if there are any cash rewards for a particular setting.

“Consumers are often only presented with one treatment option, but when you can actually empower them with good information and financial incentives, the outcomes are positive,” Brian Marcotte, president of the National Business Group on Health, told HRI. “I see this as a significant opportunity to reduce employer health costs.”

Fallon Health launched its SmartShopper tool in October 2014 to guide members to lower-cost facilities through financial incentives. Members can log in online, review various procedures and choose the level of reward based on the cost of provider. For example, an employee searching for a knee replacement may see five results with cash rewards ranging from \$500 if they choose the cheapest option to no reward for a more expensive procedure.³¹

One specific procedure in which Fallon is trying to move members from office-based settings to home-based services is Remicade infusions, which are used to treat Crohn’s disease, ulcerative colitis and rheumatoid arthritis. Members are awarded up to \$500 per infusion conducted at home.

Even though the plan pays the member \$500, it still saves money by moving away from high-cost hospitals and physician offices (see Figure 10).

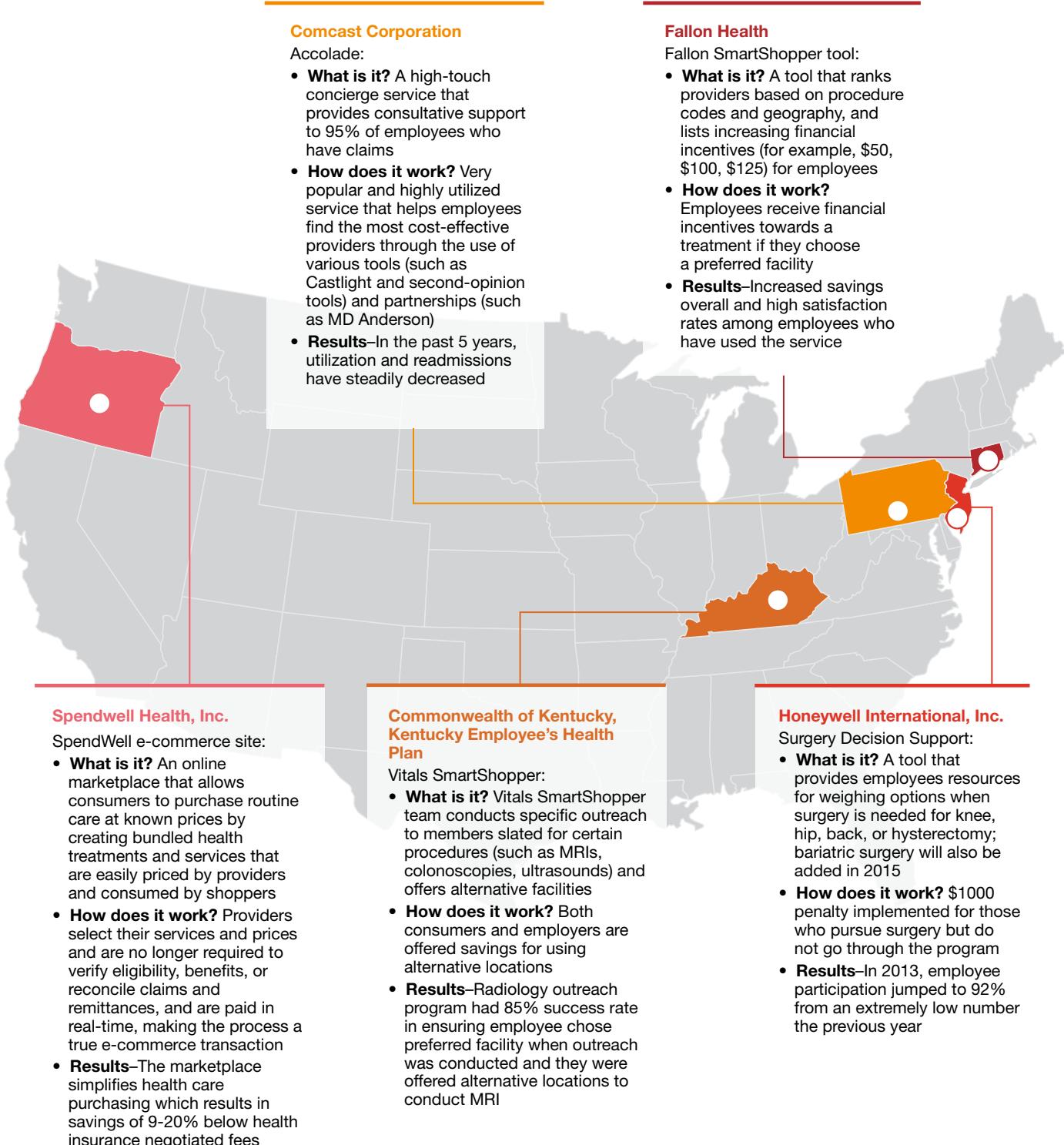
Even large employers such as the Commonwealth of Kentucky are using these new companies to guide employees through healthcare decisions.

“If you’re going to demand that your employees be more accountable, literate and educated in their healthcare choices, then you have to provide them the tools to make informed and wise decisions. When consumers choose high-value, lower cost providers, they earn rewards for saving money for both themselves and their employer,” said Joseph Cowles, Commissioner, Department of Employee Insurance, Commonwealth of Kentucky.

Things to consider:

- *Provide employees with meaningful results.* Members are hungry for data that means something to them. Unless they can be provided with personalized information, and some sort of tangible incentive, the effectiveness of programs such as wellness may fall flat.
- *Consider partnering with a health adviser company.* With so many new services and decision support tools already available and coming to market, insurers, employers, and providers should evaluate which ones best fit their needs and provide effective, cost-cutting solutions with high returns.

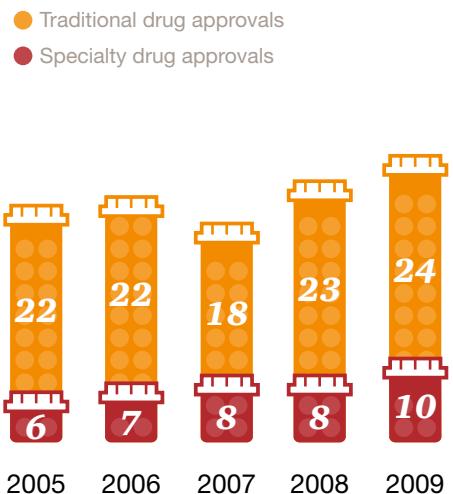
Figure 10: New health advisers are guiding consumers to affordable care



Source: PwC Health Research Institute research³²

Figure 11: Specialty drug approvals continue to race ahead

Specialty drug approvals have surpassed traditional drugs in the past five years, and based on the FDA pipeline this trend will continue



2016 Estimated sales for top 7 of 700 specialty drugs are \$9 Billion

| | |
|--|--------|
| Viekira Pak (Hepatitis C) | \$3B |
| lumacaftor plus ivacaftor (Cystic fibrosis) | \$2B |
| Opdivo (Melanoma) | \$1.8B |
| Praluent (Hypercholesterolemia) | \$1.3B |
| Ibrance (Breast cancer) | \$0.8B |
| evolocumab (Hypercholesterolemia /Hyperlipidemia) | \$0.3B |
| Cosentyx (Psoriasis and psoriatic arthritis) | \$0.2B |

Source: PwC Health Research Institute research based on data from the FDA, Express Scripts, Catamaran, and Thomson Reuters³³

Other emerging trends tug in the opposite direction: Specialty drugs becoming a larger part of the drug pipeline and investments to strengthen cyber security will put upwards pressure on the healthcare spending growth rate in 2016.

Inflator #1: Specialty drugs go mainstream

2014 and 2015 were big years for Hepatitis C drug spending—contributing a half percentage point and one-fifth percentage point respectively to total employer medical cost increases, a remarkable impact by a single therapeutic class. Many expect Hepatitis C costs to fold into the base costs for health plans this year, but assume the drug pipeline contains other drugs with similar costs.

“Therefore,” explained Dr. Arnold Milstein, professor of medicine and director of the Clinical Excellence Research Center at Stanford University, “the cost of specialty drugs is a continued source of concern.” In fact, a new class of cholesterol drugs,

called PCSK9 inhibitors, slated to be approved later this year, could cost the healthcare system upwards of \$1.5 billion annually (see Figure 11). Because PCSK9s are maintenance drugs and will be used over the course of a patient’s lifetime, they could eventually become one of the highest-selling classes of drugs in history, even dwarfing the initial costs of Hepatitis C treatments.³⁴

After these cholesterol therapies hit the market, other specialty drugs will follow with treatments for cancer, rheumatic diseases and hematology. Even some generic drugs are fetching higher prices. The price of these therapies can have a major effect on year-over-year costs and impact overall medical inflation.

According to a recent Express Scripts report, total national prescription drug spending increased 13.1% last year to about \$980 per person—the highest increase in a decade. The report attributes much of the increase to specialty medications that were estimated to contribute \$310 of that per member cost.³⁵

As we continue to see a rise in personalized medicine and targeted therapeutics, investments in specialty medications will continue to grow and surpass traditional drug investments: currently, 700 specialty products are in development.³⁶

Things to consider:

- *Identify your target population.* Not all patients with high cholesterol should become candidates for PCSK9 inhibitor treatments. Employers should work with pharmacy benefit managers to apply clinical guidelines and incentives—such as tiered benefits—to direct expensive specialty treatments to the right patients at the right time.³⁷
- *Leverage generic therapies.* Few generic options for high-priced specialty drugs currently exist. But less-costly alternatives should follow as more specialty drugs come on the market in the next few years. Although the associated savings with biosimilars and generic

specialty treatments may not be as large as traditional drugs, they are worth exploring for employers and insurers.³⁸

- *Partner with drug makers on new financing mechanisms.* Employers and insurers should engage pharmaceutical companies in creative financing for high-cost specialty drugs. Debt financing, gain sharing, value-based payment and special discounts should be explored.

Inflator #2: Supersizing cyber security investments

Eighty-five percent of health organizations responding to PwC's Global State of Information Security Survey 2015 had experienced a data breach in the prior 12 months; 29% had experienced more than 50 (see Figure 12).

Health-information breaches are not just an unprotected laptop forgotten in the back of a cab; transnational cyber crime is spreading fast as a new and more potent threat. The most valuable data to steal are personal medical records that often contain personal, financial and insurance data. Stolen health records fetch even higher prices than credit card numbers—up to \$251 per medical record compared to 33 cents for a credit card number.³⁹

In the last seven months more than 90 healthcare providers experienced a breach.⁴¹ Since health data is attractive to criminals, it is no surprise that health organizations have experienced a series of highly publicized data breaches resulting in multimillion dollar settlements with government and consumers, increased oversight and public mistrust.⁴²

Over the course of 2016, health organizations anticipate greater investment in security, which will nudge up total healthcare spending. Eighty-eight percent of the health organizations responding said their security spending was either increasing or staying the same in the next 12 months, and 63% intend to spend more than \$1 million (see Figure 12).

Now health systems are scrambling to beef up security, liability insurance and infrastructure. "Providers are acutely aware that they need to demonstrate they care about protecting their patients' information, and that they need to ramp up cyber security investments to avoid regulatory interventions and remain out of the negative spotlight," said the Healthcare Leadership Council's president, Mary Grealy.

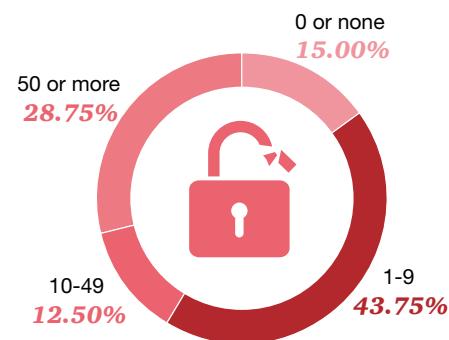
Protection becomes doubly important as consumers create new sources of health information data through their mobile devices and on-line activities. According to a recent HRI survey, consumers are becoming more comfortable with DIY medicine and sharing their data remotely—more than half said that they were willing to check vital signs at home with phone-enabled devices and 56% were willing to share health data with doctors via mobile or on-line applications.⁴³

However, while consumers are eager to use technology to capture health data, privacy concerns trump online efficiency: 71% prioritized data security over convenience and access when it came to sharing medical tests and imaging results.⁴⁴

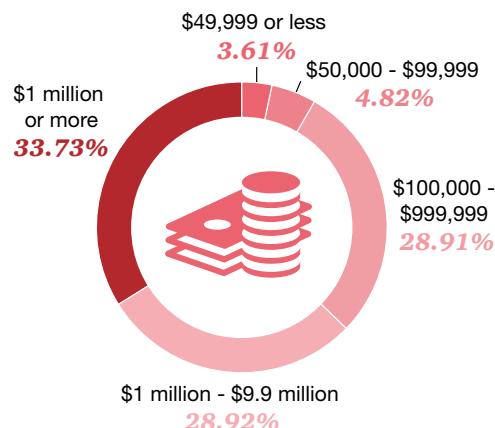
The costs associated with health system data breaches are varied, and providers are investing more now

Figure 12: Health organizations are concerned about data breaches

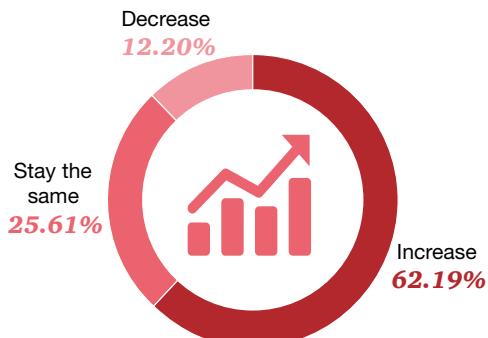
What is the number of security incidents detected in the past 12 months?



What is your organization's total information security budget for 2014?



When compared with last year, security spending over the next 12 months will?



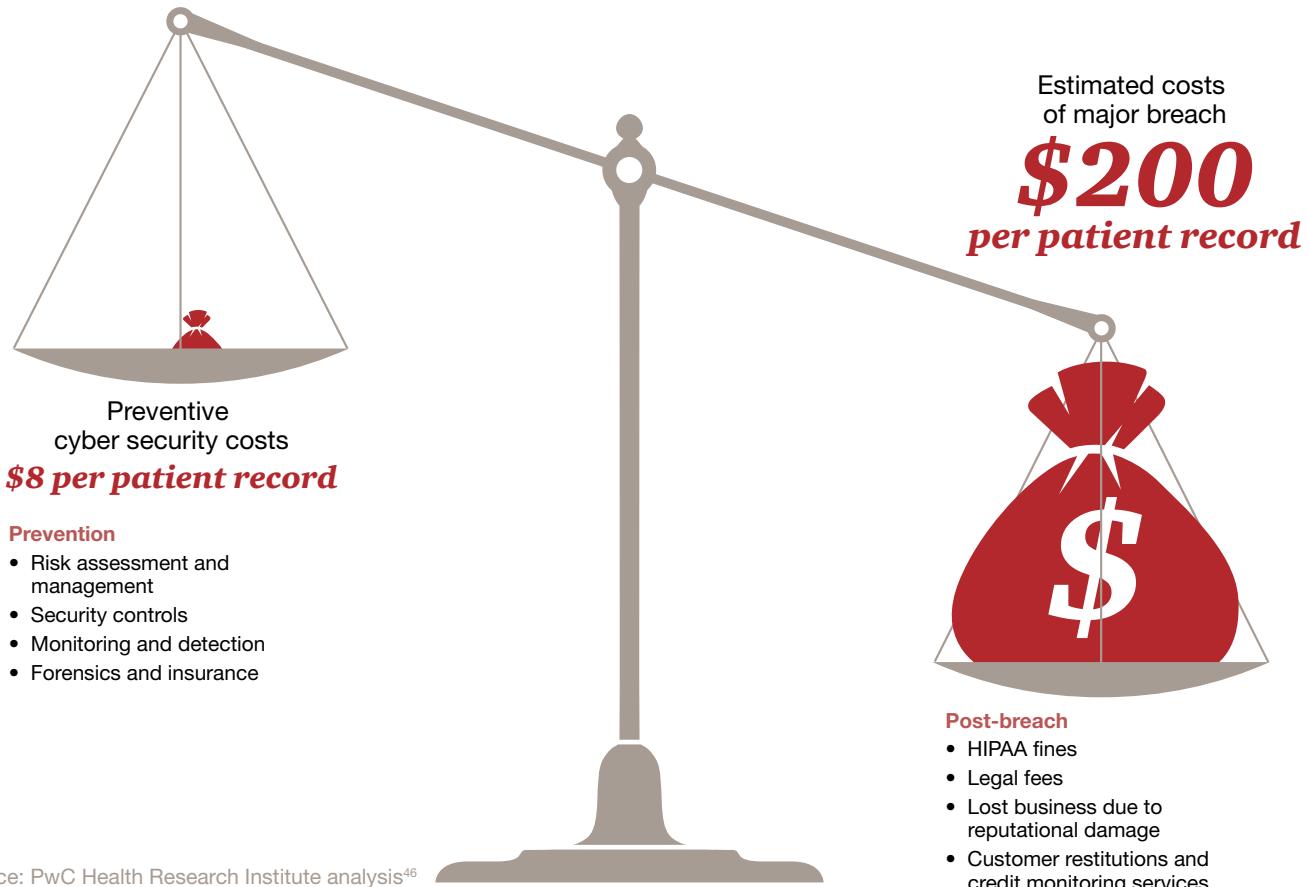
Source: PwC Global State of Information Security Survey 2015⁴⁰

in prevention, such as training and awareness programs, to strengthen their cyber security infrastructures. Even health systems purchasing cyber security insurance may be at risk. In some cases, courts have ruled that insurance issuers do not have to pay settlements to health companies without effective security controls in place.⁴⁵ Thus, providers are building identity and access management in a more controlled, centralized manner, and improving security settings through more standardized and automated processes. They realize that these investment costs still pale in comparison to much higher post-breach expenditures and brand damage (see Figure 13).

Things to consider:

- *Increase IT budgets for preventive cyber security measures.* As cyber attacks increase, both in number and sophistication, health organizations need to build stronger data-security and breach-prevention systems. If patients lose trust in providers' ability to keep their information safe, any efficiency gains from electronic or cloud-based records—such as patients sharing confidential data and personal metrics online or filling out forms in advance of appointments—may be lost.
 - *Plan ahead for post-breach responses.* As post-breach reactions are equally important (if not more
- as prevention of cyber attacks, providers should have crisis-management strategies in place in anticipation of data breaches. This includes having a plan to notify all affected parties and address regulatory impacts. Running simulations such as table-top exercises is a good way to test plans.
- *Involve vendors in cyber security.* Vendor risk management is an issue for health systems because many health information technology companies have full access rights to a hospital's IT system. Vendors need to share responsibility for security because they are opening up risk to the systems when they work on them and implement them.

Fig 13: Providers have strong incentives to spend now on cyber security to avoid high costs of future breaches



A look at: health spending over the next 10 years

With ongoing pressure from purchasers, and competition from non-traditional new entrants, the question for healthcare providers, insurers and life sciences companies is: Will that be enough over the next decade?

A look at health spending over the next 10 years

If we have learned anything from the past 10 years, it is about the role of the individual consumer in demanding value. As cost-sharing grows, consumers paying out-of-pocket will be on the front lines in the battle to control rising medical bills.

Predicting a continued slowdown is more guess work than economics. Gail Wilensky, PhD, economist and senior fellow at Project HOPE summed it up: “We have no idea at this point whether the slow medical cost growth is sustainable. In the 90s we had a flat period—history has shown that even a decade of slow spending doesn’t necessarily give you a sustainable trend.”

Although HRI projects a slight dip in healthcare cost growth for 2016, it may not continue without more structural change. HRI interviewed more than 10 nationally recognized economists about what the next 10 years may bring and several pointed to factors likely to put upward pressure on the spending trajectory.

“Not much is permanent when it comes to the downturn in medical cost trend. In fact, trend is quite vulnerable to having an uptick in the next few years due to drug trends, costly new technologies, and other unforeseen factors,” said Paul Ginsburg, Norman Topping chair in medicine and public policy at the University of Southern California.

Similarly, Mark Pauly predicted the cost curve will rise again. “We are now seeing technological advancements—which have been flat in recent years—beginning to pick up. Also, the recession is over, and wages are increasing at a faster rate. Therefore, we can expect trend to rise as long as income growth returns to normal levels.”

However, efforts by the industry, employers and most notably consumers, may serve as a powerful counterbalance. The quest for value and competition from new entrants continues to force innovation. Educated consumers, particularly Millennials and individuals facing high deductibles, will be far more cautious about unnecessary or overly expensive services.⁴⁷

For the health industry, the mountain to climb becomes ever steeper as the simple reductions are made and the next wave requires cutting “closer to the bone.” To continue bending the cost curve over the next decade the health system will need to consider:

1. Now is the time to make healthcare technology work

In most industries, new technology decreases cost. Consumer devices become smaller, more powerful and cheaper over time. Manufacturing equipment is faster, more accurate and lowers the unit cost of production. But even after 10 years of major investments in health technology, the results have largely failed to decrease the cost of health delivery.

The Health Information Technology for Economic and Clinical Health Act (HITECH Act) passed in 2009 has invested \$29.1 billion to promote the widespread adoption of health information technology.⁴⁸ Health systems have spent millions—and even billions—in developing and building IT infrastructure. Yet savings have been largely elusive. The following three achievements need to be met to make technology work.

- **Achieve an interoperable, agile health IT infrastructure**—Coordinate data collected across care settings so it can be integrated, analyzed and used to provide rapid feedback to consumers and doctors.
- **Use data analytics to create strategic insights and actionable results**—Healthcare executives view data mining and analytics as having the highest strategic importance during the next five years.⁴⁹
- **Develop advanced decision support tools to inform patient care decisions**—These new tools will be adaptable to incorporate new information, such as scientific discoveries and clinical evidence to create actionable recommendations.

2. Patient engagement tools can make transparency initiatives successful

Over the past decade it has become the norm for private health plans to make price transparency tools available to consumers; however, a survey of health plans found that only 2% of employees used the tools.⁵⁰ The current challenge is to not just make a price tool available, but to create one with effective incentives.

- **Develop frameworks that highlight and provide high value options**—Providing straightforward quality information and highlighted high-value options, helps consumers understand that higher cost does not equal higher quality.⁵¹
- **Provide incentives to choose lower cost options**—Encourage consumers to use transparency tools to make informed decisions by offering real financial incentives.

3. Innovation may lead to more affordable care options

The delivery system is changing as consumers take on responsibility for healthcare decisions. Tools will be built to enable changes and revise roles in care delivery. Technology innovations will create more personalized treatment, and traditional exams will be replaced by more personalized care techniques, eliminating unnecessary care.

- **Adoption of virtual care drives costs down**—Virtual care will become mainstream for consumers, insurers and employers—creating convenience for the consumer and savings for purchasers.
- **Do-it-yourself healthcare will continue to grow**—The market for consumer health apps and do-it-yourself home diagnostics will continue to grow. Technology will provide convenient in-the-moment care that consumers demand.
- **Use precision health medicine to reduce costs**—With a \$215 million government commitment to fostering research for targeted therapies through the Personal Medicine Initiative, there will be continued public and private investment to target the right treatment at the right time to reduce inefficiency and waste.⁵²

4. Health costs less when there is competition

Healthcare is now joining other industries in creating market competition that can ultimately lead to lower costs. With greater access to accurate information, consumers help create greater competition in the health sector.

- **Rethink traditional mergers and acquisitions**—New types of collaborations such as joint

ventures, affiliations and partnerships have quadrupled over the past 10 years with no signs of slowing.⁵³ Consolidation needs to create efficiencies instead of just market power so explore collaborations that align incentives and create new capabilities and options for consumers.

- **Health services compete on consumer satisfaction and experience**—Medicare is already basing payments on patient satisfaction with The Hospital Consumer Assessment of Healthcare Providers and Systems scores. As the government sector deems this a critical factor, private plans and consumers will also demand higher consumer satisfaction.
- **Competition in pharma and medical devices leads to lower costs**—When a competitor hits the market, even the price of blockbuster drugs drop. With the recent announcement of the first approved biosimilar, expect the FDA and other regulatory bodies to facilitate faster approvals creating greater competition.⁵⁴

5. Chronic diseases can be managed with healthier lifestyles

The most common chronic diseases such as diabetes and heart disease are estimated to cost the US more than \$1 trillion annually in direct costs and indirect impacts such as productivity losses.⁵⁵ Eighty-four percent of healthcare expenditures are attributed to people with chronic conditions.⁵⁶ Many of these are preventable or could be managed through behavior modification.

- **Use predictive analytics to inform consumers and promote lifestyle changes**—By using advanced analytics to model how human behavior leads to disease

and finding insights that predict upcoming health changes, we can develop ways to nudge individuals toward healthier lifestyles.

- **Collaborate to promote healthy lifestyles in communities**—Organizations such as the Robert Wood Johnson Foundation are assisting communities to review vital health factors and provide tools on policy, programs and system changes to improve overall health. To move the population health needle, disparate organizations must approach prevention from a holistic manner.
- **Tap into technology to promote behavior change**—With the rapid growth of wearable technology, there will be widespread adoption of trackers as providers and insurers embrace and incentivize consumers to use these “wearables” to identify risks before serious conditions emerge.⁵⁷

The US economy continues to slowly recover from the worst economic crisis since the Great Depression. Real GDP has grown at an average rate of 2.2% since 2009.⁵⁸ More confident consumers are spending more, but not—apparently—on healthcare.

So far we have not seen a surge in medical services from people who delayed seeking care during the 2008 recession. Even adding millions of Americans to the insurance rolls has not flooded the system in a way that has shot up spending. Structural changes in the delivery of care may be counteracting increased demand.

Nevertheless, health spending continues to outpace the broader economy and the financial and health effects of greater cost-sharing are yet to be fully known. At some point, consumer income growth will need to surpass the pace of medical spending. Until then, there is considerable work to be done.

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About this research

Each year, PwC's Health Research Institute (HRI) projects the growth of private medical costs in the coming year and identifies the leading drivers of the trend. Insurance companies use medical cost trend to help set premiums by estimating what the same health plan this year will cost the following year. In turn, employers use the information to make adjustments in benefit plan design to help offset cost increases. The report identifies and explains what it refers to as "inflators" and "deflators" to describe why and how the healthcare spending growth rate is affected.

This forward-looking report is based on the best available information through May 2015. HRI conducted interviews in February, March and April 2015 with 17 health plan officials (whose companies cover more than 100 million people) about their estimates for 2016 and the factors driving those trends. Findings from PwC's 2015 Health and Well-Being Touchstone survey of more than 1,100 employers from 36 industries and, a national consumer survey of more than 1,000 US adults are also included. Additionally, HRI analyzed the findings of a survey of more than 20 health plans that are members of the Health Plan Alliance. HRI also interviewed industry executives, health policy experts, national economists, and examined government data sources, journal articles, and conference proceedings in determining the 2016 growth rate.

Behind the Numbers 2016 is our tenth report in this series.

About Health Research Institute

PwC's Health Research Institute (HRI) provides new intelligence, perspectives, and analysis on trends affecting all health related industries. The Health Research Institute helps executive decision makers navigate change through primary research and collaborative exchange. Our views are shaped by a network of professionals with executive and day-to-day experience in the health industry. HRI research is independent and not sponsored by businesses, government, or other institutions.

About PwC

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