

Healthcare Systems and Services Practice

# Why understanding medical risk is key to US health reform

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# Foreword:

## Why understanding medical risk is key to US health reform

The *McKinsey Quarterly* originally published this article in June 2009. The article explores ways to refine healthcare financing and reimbursement mechanisms in the United States to make them more appropriate for different categories of medical spending—from preventive care to catastrophic and end-of-life care. As the United States embarks on further changes to its health system, our original article has gained new resonance.

Since its original publication, several dynamics of our healthcare ecosystem have changed. First, medical expenditures have risen further, and the proportion of expenditures going to various categories of medical spending has shifted (Exhibit 1).<sup>1</sup> For example, expenses related to chronic conditions have increased, a result of growth in spending on such disorders as diabetes, heart disease, arthritis, some cancers, and asthma.<sup>2</sup> In 2007, care for chronic conditions (both routine care and catastrophic care required because of disease progression) accounted for 32% of US healthcare expenditures (\$594 billion); by 2012, that number had grown to 34% (\$802 billion). The proportion of total expenditures related to elective procedures rose to 15%, from 13%. Although spending for catastrophic care not related to chronic conditions increased in absolute terms, the proportion of total expenditures related to this category fell to 28%, from 31%.

These shifts make it increasingly important that we develop financing and reimburse-

ment mechanisms that incentivize appropriate care for chronic conditions, as well as healthy behaviors and value-conscious use of care among consumers.

Second, since the original article was published, the healthcare system has attempted to better align incentives in provider reimbursement. Both public and private sector actors have made important innovations in this area. For example, in 2009, we recommended that reimbursements should be tied to long-term health management rather than the volume of services provided. In the past several years, there has been meaningful movement toward value-based payment models, such as accountable care organizations (ACOs) and patient-centered medical homes, that aim to restructure provider reimbursements to incentivize care coordination and reward providers for overall management of patients' health. In 2015, nearly 500 patient-centered medical home programs were operating in the United States.<sup>3</sup> At the end of the same year, over 23.2 million people were receiving care through ACOs.<sup>4</sup> Furthermore, most of the ACOs bear at least some financial risk for patient outcomes and cost of care, though provider performance under these programs has been mixed.<sup>5</sup> There has also been significant innovation in the use of episode-based payments. Under these arrangements, providers are evaluated and rewarded based on the quality and cost of care that they provide for an entire episode of care (e.g.,

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an upper respiratory infection or a joint replacement). The Bundled Payments for Care Improvement program, launched in 2013, now includes 1,361 provider participants and 48 distinct clinical episodes.<sup>6</sup> In addition, several state Medicaid programs have implemented episodes of care or bundled payments. For example, by spring of 2017, the State of Tennessee will have launched 34 episodes of care, and additional episodes are under design.<sup>7</sup>

Third, we have seen continued growth in the use of high-deductible health plans and health savings accounts, which seek to align demand-side incentives around healthcare use. Cost sharing has been shown to be effective in curbing healthcare utilization (see our recent white paper, “The next imperatives for US healthcare”<sup>1</sup>).

Despite these developments, available funding mechanisms continue to be inadequate

in addressing the true nature of medical risk in many areas. There has not been much progress in ensuring that consumers have appropriate incentives to encourage self-care and appropriate use of resources—for example, through value-based insurance design, wellness incentives, and smart design of essential health benefits. High deductibles and copayments are blunt instruments that have the potential to dampen needed as well as unnecessary utilization, and thus could inadvertently increase long-term expenditures—for example, if these tools discourage patients from using appropriate healthcare services to manage a chronic condition, costly complications could ensue. Finally, a true consumer/retail market for healthcare has been relatively slow to develop, given the pervasive intermediation for routine, purely elective, and discretionary services.

On the following pages, we reprint the 2009 article, with updated analyses.

# Why understanding medical risk is key to US health reform

*In our healthcare system, those in the best position to control risks and costs often have inadequate incentive to do so. Refining healthcare financing and reimbursement requires a deep understanding of the nature of medical risk.*

The fundamental nature of medical risk in the United States has changed over the past 20 to 30 years—shifting away from random, infrequent, and catastrophic events driven by accidents, genetic predisposition, or contagious disease and toward behavior- and lifestyle-induced chronic conditions. Treating them, and the serious medical events they commonly induce, now costs more than treating the more random, catastrophic events that health insurance was originally designed to cover (Exhibit 1). What’s more, the number of people afflicted by chronic conditions continues to grow at an alarming rate.<sup>8</sup>

As the nature of medical risk has evolved, neither the funding mechanisms nor the forms of reimbursement for healthcare have adapted adequately, and so the system’s supply and demand sides are both hugely distorted. Consumers are over-insured against some risks and under-insured against others; woefully short of the savings required to pay predictable, controllable expenses; and all too likely to be dealing with doctors who have financial incentives to treat isolated problems rather than prevent illness and manage chronic conditions effectively.

These are important—yet frequently overlooked—points in the current debate about the future of healthcare in the United States. With the US government poised to spend billions of dollars to support universal ac-

cess, reformers must understand this shift in the nature of risk and move to align financing mechanisms and reimbursement with it. Pouring more money into the system without modernizing it will probably worsen the healthcare challenges facing the country.

Ideally, consumers should be able to buy enough coverage to feel financially secure but also share in the cost of care. In addition, coverage should be structured to give consumers incentives to manage the risks under their personal control in a value-conscious way. Just as important, the United States needs to have the reimbursement and care delivery models that best control each type of risk.

To better inform the debate on the healthcare system, we offer a new way to look at the distribution of costs within it. We break down the country’s healthcare spending into separate risk categories, map them to specific medical conditions by their unique characteristics, and identify who pays for what (see the sidebar “About the research” on p. 8).

## Misalignment with risks

Because insurance is the dominant financing mechanism and fee for service is the primary way of reimbursing providers, the US healthcare system is misaligned in two respects. First, with consumers

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over-insured for some risks and lacking adequate protection for others, the system does not offer incentives for healthy behavior, promote value-conscious consumption, or provide adequate financial security. Second, in a fee-for-service world, providers have a \financial incentive to undertake as many procedures as possible—a model especially

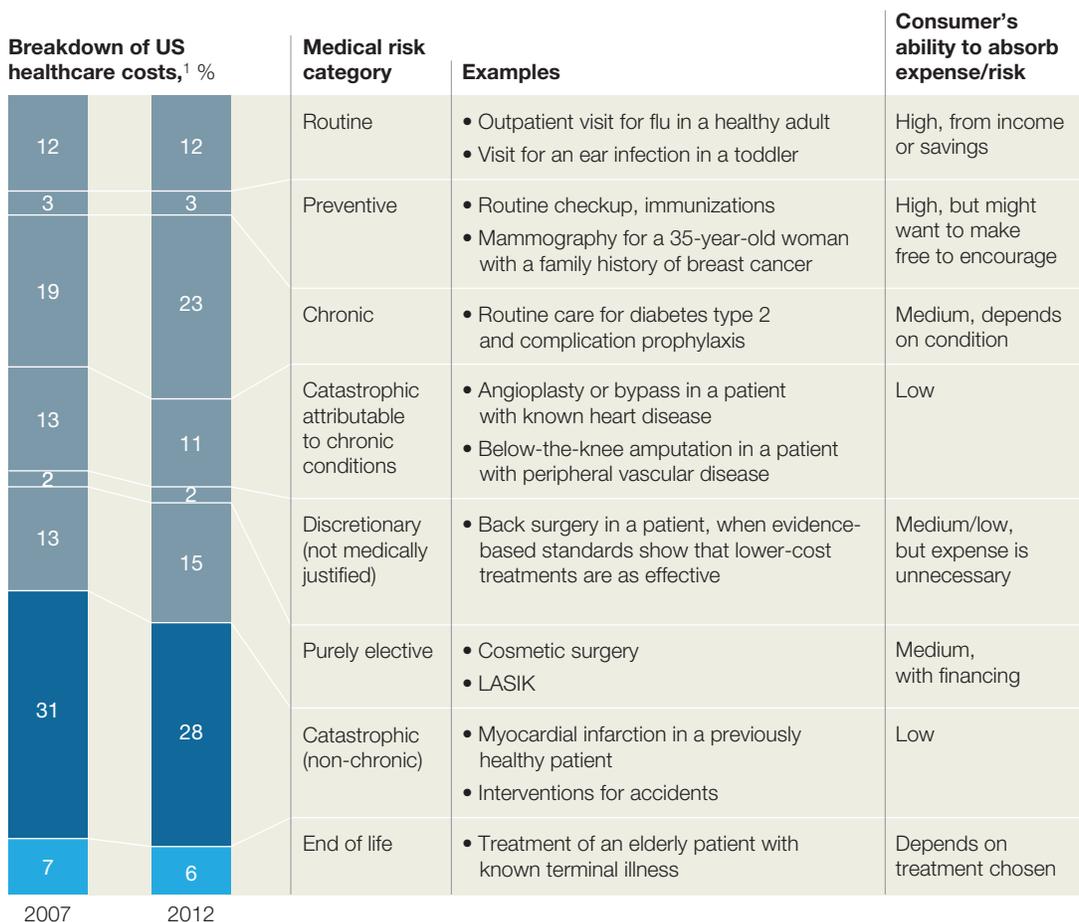
ill-equipped to manage increasingly prevalent chronic conditions.

This misalignment is a relatively recent phenomenon. Insurance is effective if it pools random, infrequent, and unpredictable risks. When health insurance was introduced, in the 1930s, it did precisely this. Over the

**EXHIBIT 1 The nature of healthcare risk**

Degree to which consumers have some control over costs

■ High ■ Medium ■ Low



<sup>1</sup>Government administrative expenses, private insurers' profits, research expenses, the cost of equipment and software, and the cost of public health activities are excluded.

Source: National Health Expenditure Accounts; Medical Expenditure Panel Survey; National Vital Statistics System; Healthcare Cost and Utilization Project; Dartmouth Atlas for Health Care; McKinsey analysis

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decades, however, it expanded to cover an increasing array of services, largely because employers wanted to attract workers by providing a tax-advantaged benefit.

In the 1980s and early 1990s, managed care promoted this trend by offering consumers “first-dollar coverage,” reimbursing for routine services and expenses related to conditions that weren’t random, infrequent, and catastrophic in exchange for the patients’ willingness to cede decision rights on treatment choices to primary care physicians. When managed care lost popularity, consumers regained choice but largely retained first-dollar coverage.

The more recent shift requiring consumers to share more of the cost has sought to correct this imbalance through products such as high-deductible health plans combined with health savings accounts. Some of the cost shifting, though, has not been sufficiently nuanced and left many consumers underinsured and financially exposed in certain risk categories. Requiring consumers to bear over 10% of the cost of treating a catastrophic event, for example, exposes many people to financial hardships, given that the expense involved could be tens of thousands of dollars. The current approach also does little to promote value-conscious consumption—after all, people have only a limited ability to avoid accidents and can hardly shop for medical care when they happen (Exhibit 2). Furthermore, the fact that consumers cover almost 30% of the cost of preventive care conflicts with the goal of maximizing its use.

As we have seen, the system also suffers from misaligned supply-side incentives, given the predominance of fee-for-service reimbursements to providers. Prices are set through long-term contracts between providers and government agencies or private insurers, so their primary financial incentive is to increase the volume of profitable services, such as imaging. Current incentives, moreover, fail to encourage the desired outcomes across categories of risk; for example, insurers are mainly responsible for financing delivery risk—the cost and quality outcomes of care. This approach leads to the overuse of healthcare services, since consumers have little incentive to curtail their use of the system, while providers have a strong incentive to increase their volume of services.

These issues are particularly vexing for chronic conditions because the fee-for-service reimbursement model is fundamentally misaligned with the need to manage long-term health outcomes. That kind of management is essential to reduce the incidence of expensive catastrophic events arising from the complications of chronic diseases (amputations, for example, as a result of unmanaged diabetes), but the reimbursement system does little to encourage it. In fact, under the current system, with few exceptions, providers earn more revenue when catastrophic events occur. More troubling still, the fee-for-service model tends to fragment the provision of care into scores of unrelated interventions. Yet the effective

management of chronic disease calls for integrated, coordinated care among many different types of physicians and between them and medical institutions.

### Seeking proper alignment

The underlying goal of reform should be to align risks—both risk exposure (lifestyle choices inducing chronic conditions) and expenses incurred (treatment choices affecting costs

and outcomes)—with the parties best equipped to control them. To achieve this goal, it will be necessary to determine the most appropriate financing mechanisms and provider reimbursement models for each healthcare risk category; one-size-fits-all approaches are counterproductive in an increasingly complex healthcare world. For some risks, it will be appropriate to use sophisticated reimbursement methods: bundled payments for episodes of care, capitation

## EXHIBIT 2 Misaligned funding

Breakdown of US healthcare costs, 2012

■ Insurance<sup>1</sup> ■ Consumer out-of-pocket<sup>2</sup> ■ Subsidy<sup>3</sup>

Medical risk category	Total spending, \$, billion	Funding method, % <sup>4</sup>		
Catastrophic care attributable to chronic conditions	265	83.0	4.6	12.4
Discretionary care (not medically justified)	48	69.7	16.7	13.6
End-of-life care	143	65.5	14.3	20.2
Catastrophic care (non-chronic)	662	65.3	11.7	23.0
Preventive care	70	59.3	29.2	11.5
Chronic care	537	54.4	27.2	18.4
Routine care	285	52.2	38.1	9.7
Purely elective care	361	17.9	66.9	15.2
<b>Total</b>	<b>2,372</b>	<b>55.9</b>	<b>26.8</b>	<b>17.3</b>

<sup>1</sup>Insurance sponsored by public and private employers or purchased by individuals; includes consumer-paid premiums.

<sup>2</sup>Includes copayments, coinsurance, and deductibles; excludes premiums on employer-sponsored and individually purchased insurance.

<sup>3</sup>Includes federal and state subsidy programs, such as Medicaid and State Children’s Health Insurance Program.

<sup>4</sup>Funding method analysis based on 2007 data.

Source: Office of the Actuary and National Health Expenditure Data Fact Sheet; US Centers for Medicare and Medicaid Services; Medical Expenditure Panel Survey; McKinsey analysis

(a fixed payment per year per member), or risk-sharing arrangements. In many cases, however, relatively simple fee-for-service payments will remain the model of choice.

### **Routine expenses**

Most US households can afford relatively frequent fee-for-service medical episodes such as a visit to a physician to treat a fever or to a pediatrician to treat a toddler's ear infection. The most efficient way to pay for such services is not insurance but rather savings. (The indigent ought to receive subsidies.) The reimbursement model for these services should resemble that of any other consumer service—providers make value-based sales to consumers who pay them directly. As in the case of other services, each consumer segment will value features such as convenience, speed, and quality differently, so providers have opportunities to differentiate themselves. One such innovation, consumer-oriented retail clinics, provides a clear value proposition by offering convenient locations, limited waiting times, and transparent, fixed, and relatively low prices.

### **Preventive care**

There is also little financial need for insurance to cover preventive-care services, such as vaccinations and screenings (like mammograms) to detect high-risk conditions early, since they too offer substantial benefits at relatively affordable prices. These services, however, are essential to maintain the medical health of society and to control the cost of treating illnesses in the future. As a matter of good public policy, this type of care should therefore be available as widely as possible, at little or no charge, to ensure the greatest possible access. General public health spending by the government could

finance such services, or they could be a required part of the coverage of every health insurance product. Fee-for-service reimbursement is simple and effective here.

### **Chronic care**

The largest, fastest-growing healthcare risks are chronic conditions and catastrophic events attributable to them, such as angioplasty or bypass operations for heart disease and below-the-knee amputations for peripheral vascular disease. Addressing this type of medical risk arguably requires the biggest changes in the current system. New financing mechanisms are needed to manage such conditions cost-effectively over long periods of time by financing investments in wellness and care management today so that costs fall tomorrow. These mechanisms must give consumers incentives based on behavioral-economic principles that promote healthy behavior and value-conscious consumption of care. Finally, it will be important to give the providers incentives compatible with the need to manage health outcomes across the whole population of chronic patients and to provide multidisciplinary, coordinated care throughout the delivery system.

[Devise longer-duration, portable financing mechanisms.](#) Once you have a chronic condition, the cost of managing it is fairly predictable—this isn't an insurable expense, which ought to be random, infrequent, and unpredictable. Further, in effective treatments for chronic conditions, true value accrues over time by precluding their progression and, especially, the catastrophic events related to them.

To encourage investments in wellness, prevention, and disease management, health

insurers or integrated healthcare providers must embrace long-term “ownership” of the patient—something akin to life insurance, which offers coverage that often stretches over many years or even an entire lifetime. Three broad types of financing mechanisms could be effective: multi-year term policies,

annuities (pay a lump sum today for a contract covering chronic-care expenses permanently or for a fixed period), or self-insurance (pay out of savings or income).

Private payors in other countries have introduced health insurance products based on

## About the research

The fundamental nature of medical risk in the United States has changed over the past few decades. In most cases, medical risk no longer results from random, infrequent events driven by accidents, genetic predisposition, or contagious disease but from chronic conditions related to behavioral, environmental, or other factors. Treating chronic conditions, and the serious medical events they commonly induce, now costs more than treating the random, catastrophic events that health insurance was originally designed to cover.

Although our country’s approach to health insurance—and to paying for healthcare more generally—is changing, it has still not sufficiently adapted to the change in medical risk. As a consequence, consumers still have little incentive to forego unnecessary, inexpensive services yet are ill protected from the cost of very expensive care. The incentives for providers are only starting to change to encourage them to deliver preventive services and discourage them from offering unnecessary or poor-quality care.

Medical risk is not uniform, however. We analyzed US healthcare spending and broke it down into separate risk categories, each of which has unique characteristics.<sup>1</sup> We

then matched the incentives offered to consumers and providers to the characteristics of each category.

### How we did the analysis

Our analysis looked at total annual US health-care spending (excluding government administrative expenses, private insurers’ profits, research expenses, and the cost of equipment, software, and public health activities). We evaluated expenditures using four major factors:

**Severity.** The magnitude of the medical expense to treat a specific condition.

**Frequency.** How often the condition occurs.

**Level of consumer discretion.** The degree to which consumers can control costs.

**Temporal dependency.** The amount of time a patient is likely to be afflicted with the condition.

We then considered a number of other issues. For example, we reviewed evidence-based guidelines and evaluated the inherent value of preventive medicine. In addition, we investigated the primary mechanisms used to pay for services delivered:

*(Continued on next page)*

<sup>1</sup>Singhal S, Pellathy T, Adigozel O. Why understanding medical risk is the key to US health reform. McKinsey Quarterly. June 2009.

actuarial concepts similar to those used in life insurance. Some German payors, for example, offer lifetime coverage products. Under these arrangements, younger customers pay premiums higher than their risk level would typically command; at older ages, the accumulated surplus is used to reduce premiums.<sup>9</sup>

Since the consumer controls much of the risk associated with chronic conditions through behavioral choices, the financing mechanisms should include incentives to address the emotional and behavioral biases that stand in the way of rational lifestyle and healthcare choices. Just shifting costs is

**Out-of-pocket.** Expenses paid by consumers other than insurance premium payments (e.g., copays, coinsurance, and deductibles).

**Insurance.** Expenses covered by individual insurance, government insurance, and employer-sponsored insurance (including the employee portion of premiums).

**Subsidies.** Expenses covered by federal and state subsidy programs (e.g., Medicaid and the State Children's Health Insurance Program), as well as charity care.

### What we found

The analysis yielded the eight categories of medical risk shown in Exhibit 1. When we looked at how each of these categories was primarily paid for, we discovered there was often a disconnect between the value the services provided and where the funding came from. For example, insurance often covered a greater proportion of the costs of discretionary care than of preventive care. Similarly, we found a disconnect between the share of costs consumers were expected to pay and their ability to influence the need for that care. (Consumers were often responsible for more of the cost of uncontrollable catastrophic events than of catastrophic events

related to chronic disease.) And we saw little or no relationship between the amount consumers were expected to pay in each category and their ability to absorb those costs.

Our findings led us to believe that a one-size-fits-all approach to either consumer cost sharing or payment innovation will not be effective in controlling healthcare costs or improving care quality. Only by matching the extent of cost sharing and the primary reimbursement mechanism to the characteristics of each category of medical risk will it be possible to achieve those goals.

Admittedly, the approach outlined here is somewhat simplified. Patients are not homogenous, and what is an appropriate treatment for one patient may be discretionary or even inappropriate for another. Thus, models designed to encourage high-value care and discourage low-value care through variable cost sharing must be more nuanced to take these differences into account. Payors should rely on clinical evidence when developing smart cost sharing models to move beyond blunt instruments such as high deductibles and uniform copayments or coinsurance rates. And they should re-examine the models periodically to minimize the risk that either patients or providers can game the results.

ineffective, since it often fails to differentiate between unnecessary and sensible (preventive services) utilization. But rewards and penalties based on insights from behavioral economics and other behavioral sciences can work well.<sup>10</sup>

[Design reimbursements tied to long-term health management.](#) Reimbursements to providers should be based on long-term health-management outcomes rather than the fee-for-service model. A sensible system could involve capitation or risk sharing, with outcome-oriented payments reflecting how well a provider manages a condition. The effective management of chronic disease and multiple disorders often requires collaboration among specialists from many medical disciplines, so the reimbursement structure should reinforce coordination of care. Experiments with patient-centered medical homes—a form of integrated care management—may well show how to manage the risks of chronic conditions.

### **Elective procedures**

Today, insurance rarely covers truly elective spending (such as cosmetic surgery, alternative medicine, or LASIK eye surgery), which the consumer pays for out-of-pocket, often using credit. This part of the healthcare marketplace actually works well: elective treatments, as a classic consumer retail item, are available to those willing to assume the full burden of paying for them. In addition, all services not medically justified by evidence-based standards—for example, certain types of joint surgery if studies show that a lower-cost drug treatment is equally or more effective—should be paid for out-of-pocket by the consumer. Some evidence suggests that a robust consumer market for

elective procedures, coupled with transparent pricing, has driven down prices for elective procedures in the United States.<sup>1</sup>

### **Catastrophic care for unforeseen events**

Unpredictable, random, and infrequent risks (heart attacks in previously healthy patients, for example, and interventions for accidents) should be financed through traditional insurance. In such cases, consumers have limited discretion and little ability to exert downward pressure on prices—few victims of auto accidents, for example, can shop for a cost-effective ambulance service and make well-informed cost-benefit calculations about treatments. Deductibles on this type of insurance should therefore be kept low; costs are best managed by redesigning reimbursements for providers.

A provider should be compensated in one bundled payment based on the total episode of treatment, from the moment the health crisis starts until full recovery, rather than on a fee-for-service basis. Such bundled reimbursements would give providers an incentive to improve their efficiency. They would also find it in their interest to restrain costs in a reasonable way—for example, by providing cost-effective services (the correct type of hip joint, say) and high-quality treatment the first time around rather than having to readmit patients for costly corrections after botched initial interventions. Including specialists and hospitals in this total-episode-based reimbursement system will be essential.

### **End-of-life care**

Riders on life insurance policies might be the best way to finance end-of-life care—say, for an elderly patient with a known terminal

illness—which is generally quite expensive. The insured could decide how much of their benefits to draw down at this stage rather than bequeath them to the beneficiaries. Fee-for-service reimbursement for providers would probably be appropriate, since it is hard to apply outcome measurements or evidence-based standards to many of these treatments (for instance, experimental ones).



As reform efforts move forward, the guiding principle should be to redesign the demand side (financing mechanisms for consumers) and the supply side (reimbursements and the delivery system) to align medical risks—

and the attendant financial incentives—with those who can most effectively control and manage them. Continuing reform initiatives provide a great opportunity to restrain costs, deliver more cost-effective care, and ease the financial and psychological burden on hard-pressed US consumers. It can be undertaken fairly, we believe, if the government helps people in difficult financial straits pay for their care. 

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#### FOOTNOTES

- <sup>1</sup> Singhal S, Coe E. The next imperatives for US healthcare. McKinsey white paper. December 2016.
- <sup>2</sup> McKinsey analysis of data from the National Health Expenditure Accounts, Medical Expenditure Panel Survey, National Vital Statistics System, Healthcare Cost and Utilization Project, and Dartmouth Atlas of Health Care.
- <sup>3</sup> Neilsen M et al. The Patient-Centered Medical Home's impact on cost and quality: Annual review of evidence, 2014-2015. Patient-Centered Primary Care Collaborative. February 2016. This report covers both patient-centered medical homes and similar programs designed to enhance primary care.
- <sup>4</sup> Muhlestein D et al. Projected growth of Accountable Care Organizations. Leavitt Partners. December 2015.
- <sup>5</sup> Evaluation of CMMI Accountable Care Organization initiatives. L&M Policy Research. March 2015.
- <sup>6</sup> Center for Medicare and Medicaid Innovation. Bundled Payments for Care Improvement (BPCI) Initiative.
- <sup>7</sup> Tennessee Division of Healthcare Finance and Administration. Episodes by wave.
- <sup>8</sup> For more information, see the National Center for Chronic Disease Prevention and Health Promotion website.
- <sup>9</sup> Singhal S et al. Global private payors: A trillion-euro growth industry. McKinsey white paper. December 2016.
- <sup>10</sup> Cordina J, Pellathy T, Singhal S. The role of emotions in buying health insurance. McKinsey Quarterly. May 2009.

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