

SECTOR IN-DEPTH

18 September 2018



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Cross-Sector - US

High healthcare costs strain governments, businesses and households, with ripple effects across the economy

Summary

Rising costs and an aging population will continue to drive healthcare spending higher in the [United States](#) (Aaa stable), with negative implications across the economy, including for governments, businesses and households. In this report, we discuss the wide disparity in healthcare spending between the US and its peers — the US spends almost double what other high-income countries spend as a share of their economies — and how high and rising costs are pressuring public sector budgets, straining household finances and weighing on business competitiveness.

- » **Healthcare costs are a burden for US public and private sectors.** US healthcare spending totaled \$3.3 trillion in 2016, or 18% of GDP, with households and businesses accounting for nearly half of the spending. An aging population and rising costs will drive spending higher, with credit negative implications for the public and private sectors.
- » **Upward trajectory in healthcare spending will pressure public sector budgets.** Sovereign and state finances have exposure to rising healthcare costs through their share of funding for Medicare, Medicaid and other healthcare programs. A handful of states and local governments are facing rising credit pressures from employee health benefit costs.
- » **Increased healthcare spending will weigh on US growth prospects.** The US spends a disproportionate amount on healthcare without materially improving population health relative to countries that spend less. This spending is increasingly crowding out other public and private sector investments such as education and infrastructure. Thus, as healthcare spending keeps rising, it will also indirectly weigh on future US economic growth potential.
- » **Rising healthcare costs will further erode the purchasing power of households.** To cope with rising healthcare expenses, some households are already reducing their spending on other items, taking on debt, or foregoing care. Older and lower-income people are particularly vulnerable to rising costs.

THIS REPORT WAS REPUBLISHED ON 18 SEPTEMBER 2018 WITH A CORRECTION TO THE FIRST PAGE: 2016 US HEALTHCARE SPENDING CHANGED TO \$3.3 TRILLION FROM \$3.3 BILLION.

- » **High healthcare costs could hamper companies' competitiveness.** US companies may increasingly find themselves at a competitive disadvantage to foreign competitors as a result of rising employee medical insurance costs. Businesses are exploring cost containment strategies, which in recent years have included shifting costs to employees, placing further strain on households.

Healthcare costs are a burden for US public and private sectors

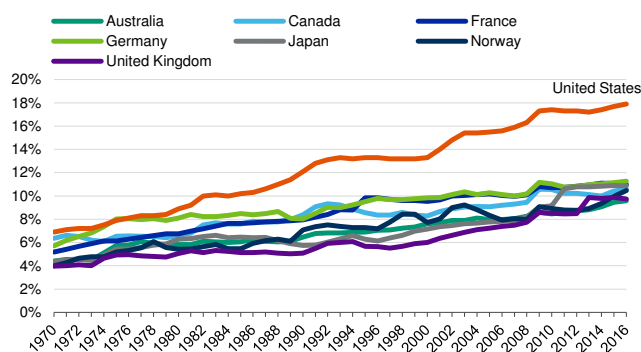
Healthcare supports the US economy, but carries a high price tag

The growing US healthcare industry supports the US economy through output, employment and innovation. The sector has created more jobs than any other industry on a net basis over the past decade and today employs 16 million people, or 11% of the workforce. During economic downturns, healthcare generally suffers lower loss in demand and employment compared to other more cyclical sectors, alleviating growth slumps. Moreover, the US accounted for nearly half of the biotech patents filed among the Organisation for Economic Cooperation and Development (OECD) member countries in recent years, supporting US leadership in technology and innovation.

However, these benefits to the US population and economy come with a high price tag. In 2016, the US spent an estimated \$3.3 trillion, or 18% of GDP, on healthcare goods and services, more than any other country classified as high income (Exhibit 1). The higher spending levels cannot be solely explained by higher average income level since, even on a per capita basis, the US spends more than other countries with similar or higher per capita income levels (Exhibit 2). And while the development and use of cutting-edge therapies and medical devices can partly explain some of the higher US spending, these advancements still leave the US at or below high-income country averages on key measures of population health, such as average life expectancy and infant mortality rates.

Exhibit 1

US spending on healthcare much higher than peers' ...
Health spending as % of GDP



Sources: OECD, CMS for US data, Moody's Investors Service

Exhibit 2

... including countries with similar income levels
Per capita income and healthcare spending



Sources: OECD, Moody's Investors Service

Healthcare consumes a material share of US public and private resources

In the US, the private sector accounts for more than half of national healthcare spending, more than any other high-income country (Exhibit 3). The large share of private sector spending in the US relative to other high-income countries stems from the make-up of the US healthcare system (Exhibit 4), which comprises a complex mix of private and public insurance plans that serve various segments of the population:

- » Nearly half of the US population obtains their primary health insurance coverage through their employer (public and private sector employers alike). This contrasts with most advanced economies, where public health coverage extends to all citizens and the government is responsible for paying for most of individuals' healthcare costs.

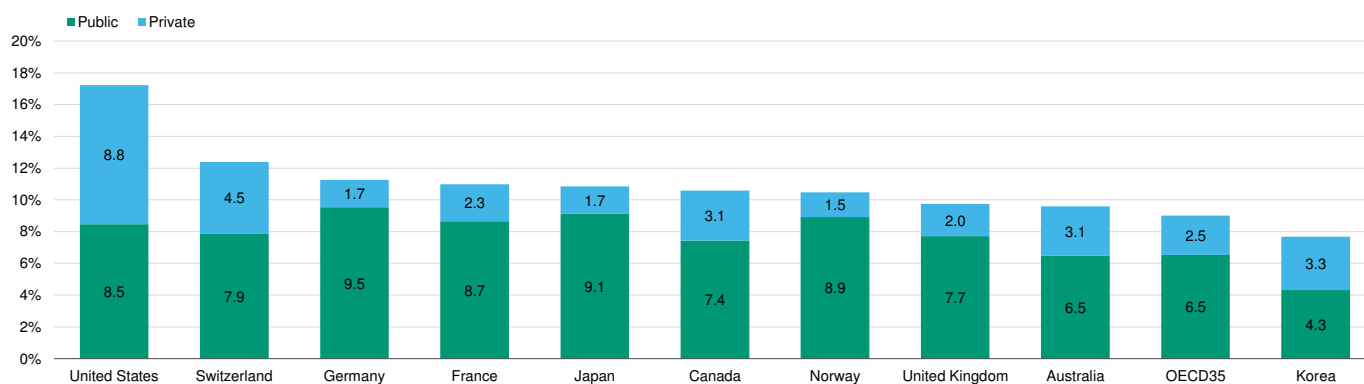
This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moody's.com for the most updated credit rating action information and rating history.

- » About 40% of the population receives coverage through US government programs such as Medicare (for eligible adults over 65 or with permanent disabilities), Medicaid (for eligible low-income adults, children and people with disabilities) and the Children's Health Insurance Plan (low-cost health coverage for children whose families earn too much to qualify for Medicaid).
- » In addition, about 7% of the population, including some who are self-employed or work for small businesses, purchase their own private insurance, in some cases supplementing Medicare coverage.
- » Nearly 10% of the population, or close to 30 million people, do not have any health insurance coverage and pay all medical costs out of pocket. Certain low-income individuals who are not eligible for federal healthcare programs may also receive free or discounted medical care (charity care) at hospitals (see Appendix for more information on health insurance coverage for the US population).

Exhibit 3

High share of private spending makes the US an outlier among advanced economies

2016 national healthcare spending, % GDP

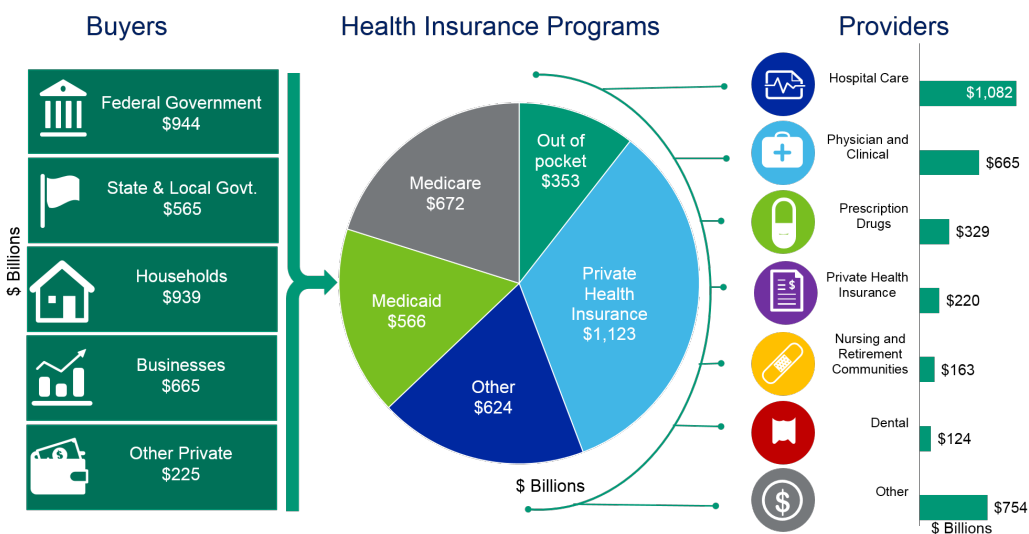


Sources: OECD, CMS, Moody's Investors Service

Exhibit 4

US healthcare system is a complex mix of private and public insurance plans

National health spending by buyer and type, 2016



"Other private" mostly includes health-related philanthropic support.

Sources: CMS, Moody's Investors Service

Private sector spending includes what corporations pay for employee health insurance as well as what individuals pay for drugs, therapies and health services, including their share of insurance coverage. It also includes the cost-sharing portion of individuals covered by government programs, which can be significant. Medicare, in particular, does not offer comprehensive coverage, leading many beneficiaries to pay for supplemental insurance or face high out-of-pocket expenses.

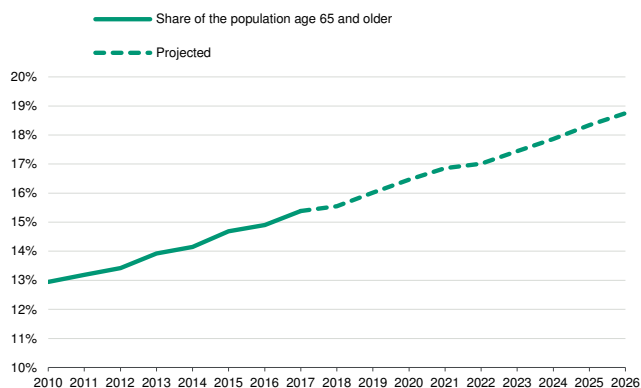
Factors that mitigate some of this higher private sector spending include (1) the tax deductibility of some healthcare expenses, and (2) generally lower payroll taxes than in countries that offer comprehensive public health coverage.

Unless costs decline, US healthcare spending will rise as the population ages

Since healthcare already consumes a large portion of public and private resources, further increases will pose a challenge for the US government, households and businesses. The Centers for Medicare and Medicaid Services (CMS), an agency within the US Department of Health and Human Services, forecasts that national healthcare spending will grow 5.5% on average over the next decade, reaching \$5.7 trillion and accounting for nearly 20% of GDP by 2026. This forecast is based on the expectation that the price of healthcare goods and services will rise faster than inflation and the volume of goods and services used will increase. Population aging will drive higher utilization of healthcare, as the share of those 65 and older – the age group for which per capita spending is the highest – grows to 19% of the population, from 15% today (Exhibits 5 and 6).

Exhibit 5

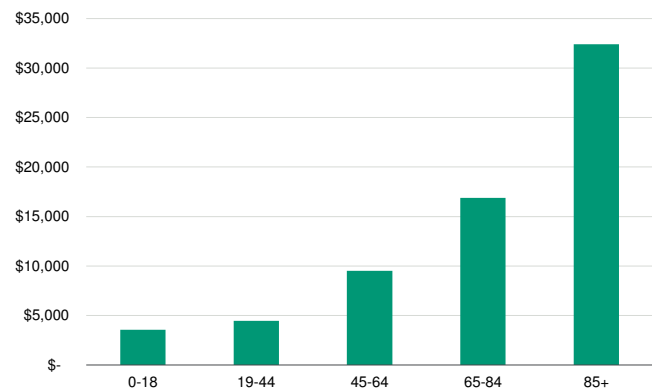
As the US population ages ... Share of population age 65 and older



Sources: CMS, Moody's Investors Service

Exhibit 6

... so will per capita spending on healthcare Per capita spending by age group (2012)



Sources: CMS, Moody's Investors Service

Why is US healthcare spending so high?

Healthcare spending is a function of the price of medical goods and services and their utilization. Utilization is driven by economic and demographic factors, such as income level, age and disease prevalence, as well as health system structure, such as insurance coverage and reimbursement model. Prices are driven by economic and structural factors, such as general price inflation, labor and administrative costs (Exhibit 7).

Factors affecting utilization in the US include high average incomes, high prevalence of risk factors such as obesity, and the dominance of the fee for service payment model, in which providers are paid for each service they provide. This reimbursement structure gives physicians an incentive to provide more treatments, resulting in overutilization of certain services.



However, it is the growth in the price of medical goods and services that has historically been a key driver of rising spending in the US, with healthcare costs increasing faster than the rate of inflation (Exhibit 8). While there is no clear consensus as to why the US healthcare system is consistently more expensive than that of other high-income countries, key differences may explain some of the disparity:

- » US service delivery and financing systems are highly fragmented, which raise administrative costs. In the US, administrative costs account for 8% of national healthcare spending, compared with 1%-3% in other high-income countries.
- » The US government's control over prices does not extend beyond public programs, limiting its ability to regulate the price of medical goods and services as other countries do. This allows for higher per capita costs for all US healthcare consumers.
- » Salaries of physicians and nurses are higher in the US than in other countries, also putting upward pressures on prices.
- » Use of high-price, high-volume procedures, such as Caesarean sections, tends to be higher. The use of costly medical imaging is also more prevalent.
- » Finally, high healthcare costs in part reflect US investment in medical innovation. The US generates some of the most innovative medical treatments and technologies in the world, which are expensive to develop and disperse.

Growth in US healthcare spending has decelerated in recent years, averaging 4.2% a year between 2008 and 2016, compared with 7.8% in the two decades preceding the financial crisis. Possible explanations include cyclical factors, such as the 2009 recession and slow recovery, and structural changes, for example: (1) during economic downturns, people lose their employer health coverage at the same time as their jobs and may choose to spend less on healthcare overall; (2) in recent years, employers have increasingly turned to plans with higher out-of-pocket expenses to contain cost increases, encouraging employees to use cheaper services, such as in-network care, or to reduce utilization altogether; (3) buyers are increasingly driving structural changes in payment and service delivery models to contain spending growth (see blue box on page 14 for more details). CMS expects spending growth to pick up from current lows and outpace GDP growth over the next decade, driven by economic and demographic factors, but to remain below long-term historical averages.

Exhibit 7

US healthcare spending drivers

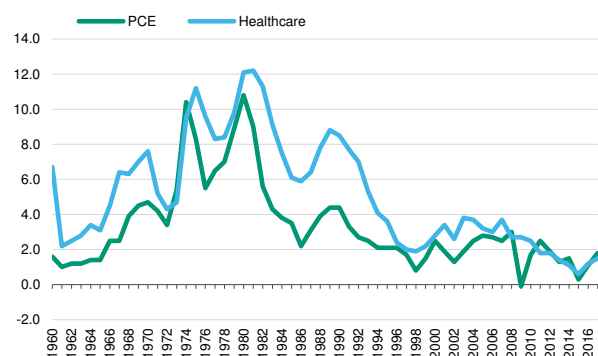
 Utilization factors	 Price factors
<ul style="list-style-type: none"> - High income per capita - Aging population - Rising coverage (Affordable Care Act, Medicaid) - High prevalence of chronic disease - Physician incentives (fee for service) 	<ul style="list-style-type: none"> - Multi-payer system - Fragmented delivery system - High administrative costs - High labor costs - Development and utilization of expensive therapies and medical technology

Source: Moody's Investors Service

Exhibit 8

Healthcare prices have generally outpaced inflation

Prices for personal consumption expenditure (PCE), % change



Sources: BEA, Moody's Investors Service

Deteriorating fiscal outlook of the US sovereign is partially a result of rising healthcare spending

2016 United States healthcare spending (US\$ billion)				
 Federal government \$944	State & local governments \$565	Households \$939	Private businesses \$665	Other private \$225

High and rising healthcare spending is contributing to widening US fiscal deficits and a weakening of the sovereign's fiscal outlook. Moreover, mandatory health spending is increasingly crowd out discretionary spending in areas that would otherwise enhance economic output and productivity, which could have negative implications for US growth potential.

Major healthcare programs contribute to upward trajectory of federal spending and deficits

The bulk of federal spending on healthcare goes toward funding programs such as Medicaid and Medicare (Exhibit 9). The government also extends subsidies to low-income individuals to purchase private health insurance on federal or state-run exchanges.

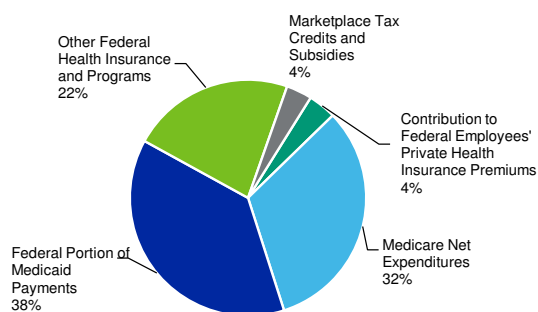
Between 2006 and 2016, federal spending on healthcare grew by an average of 7%, driven by increased enrollment and rising per capita costs in major healthcare programs. In particular, the 2008-09 recession and the Affordable Care Act's (ACA) expansion of Medicaid, implemented in 2014, contributed to boosting Medicaid enrollment by more than 50% over the last decade.

The Congressional Budget Office (CBO) projects that, under current law and policies, spending growth for major healthcare programs will increase by an average of 6% a year over the next decade, driven by rising costs and growth in Medicare enrollment, as more people above the age of 65 transition from employer-sponsored insurance to the federally sponsored program for the elderly. By 2028, the CBO estimates that spending on major healthcare programs will cost 37% of revenue and represent nearly 30% of outlays, up from 25% today (Exhibit 10).

Exhibit 9

Medicare and Medicaid account for 70% of federal healthcare spending

Composition of federal health spending

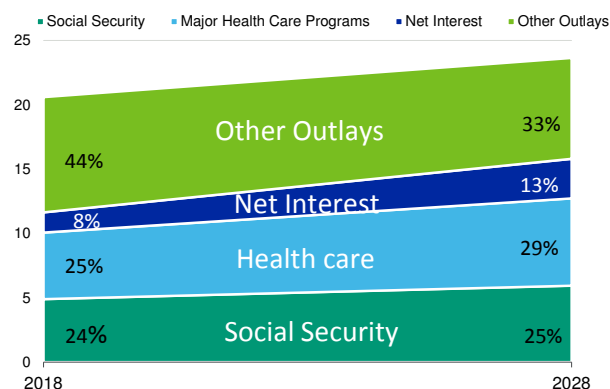


Medicare spending is net of premiums.
Sources: CMS, Moody's Investors Service

Exhibit 10

Healthcare programs to take up a greater share of federal budget

Federal government spending, % of GDP



Medicare spending is net of premiums.
Sources: Congressional Budget Office, Moody's Investors Service

Absent corrective fiscal measures, we project higher spending on healthcare, together with higher spending on Social Security and interest payments, will push the federal budget deficit above 8.0% of GDP by fiscal 2028, a level only previously reached following the 2008-09 global financial crisis. As a result of widening fiscal deficits, the debt-to-GDP ratio will reach 100%, from around 80% currently.

Subsidies represent significant loss of revenue for the federal government

In addition to direct spending on healthcare programs, the federal government subsidizes certain health spending of the private sector through tax deductions, thereby foregoing significant tax revenue. As healthcare costs rise, so will the value of the tax expenditure and foregone revenue for the federal government.

The Joint Committee on Taxation (JCT) estimates that total healthcare-related income tax subsidies equaled roughly \$200 billion in 2017. Payroll tax exclusions totaled an additional \$127 billion in subsidies, according to US Treasury estimates. Most of these subsidies support individuals' health expenses. For example, contributions to employer-sponsored health insurance premiums are excluded from employees' taxable income, costing the federal government \$150.6 billion in 2017. This subsidy alone constitutes the federal government's single largest tax expenditure and its third-largest healthcare expense after Medicare and Medicaid. The JCT expects the cost of the subsidy to rise by an average of 6% a year over the next four years to reach \$191 billion by 2021.

As healthcare spending crowds out other productive investment, the economy could suffer

Given the government's limited flexibility to decrease spending on other budget items, mandatory health spending is increasingly crowding out spending in areas that would also otherwise enhance economic output and productivity, such as education and infrastructure, without materially improving population health relative to countries that spend less.

For example, the gap between government spending on healthcare and education has considerably widened in the space of two decades. In 1992, healthcare and education each accounted for about 15% of total spending, but by 2016 healthcare spending had overshadowed education by 8 percentage points. This trend is likely to continue, as the CBO projects that healthcare will expand to 29% of federal spending by 2028 from 25% in 2018, while spending on other outlays, including education and infrastructure, will shrink to 33% from 44% currently.

Healthcare costs will weigh on state and local government spending

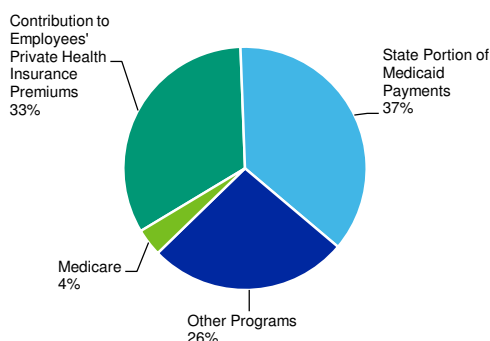
2016 United States healthcare spending (US\$ billion)				
Federal government	 State & local governments	Households	Private businesses	Other private
\$944	\$565	\$939	\$665	\$225

State and local governments are exposed to rising healthcare costs through their funding of public health programs and as large employers that provide healthcare benefits to their workforce (Exhibit 11). Spending on Medicaid, which is jointly financed by states and the federal government, has been a driver of state spending for decades, taking up a larger share of states' budgets and exposing them to potential changes in federal funding. For certain states and local governments, retiree healthcare costs are rising with the aging of the workforce, and along with pensions, present an increasing credit risk.

Exhibit 11

Medicaid and employee benefits account for more than half of state and local government spending on healthcare

Composition of state and local governments' health spending, 2016



Other programs include maternal and child health, public and general assistance, school health, CHIP, vocational rehabilitation, other state and local programs, public health activities, and investment (research, structures and equipment); Medicare includes employer payroll taxes and state subsidies for Medicare premiums.

Sources: CMS, Moody's Investors Service

Medicaid spending a large and growing component of states' budgets

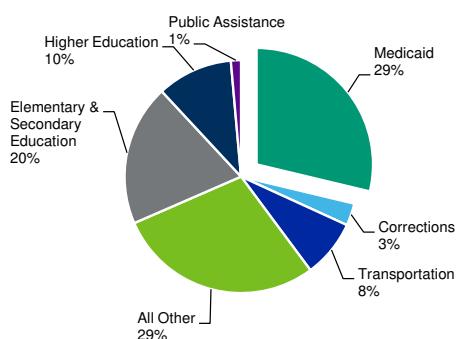
Medicaid is the largest state program, accounting for nearly 30% of states' spending and 16% of their own revenue on average (Exhibits 12 and 13). However, state spending varies widely because of economic and demographic disparities as well as differences in program eligibility, services covered and administrative costs. The federal government's share of funding also varies, ranging from 50% to 75% of total costs.

Total state spending has grown each year since 2012, with 55% of the growth attributed to Medicaid. States that expanded Medicaid eligibility following the implementation of the ACA in 2014 have seen larger increases in enrollment, and therefore spending, than states that did not. While the federal government covered 100% of costs of those eligible from 2014 to 2016, federal contributions will be gradually reduced to 90% by 2020.

State Medicaid spending is likely to grow faster than tax revenue over the next decade, taking up a greater share of states' budgets. For states that expanded Medicaid, the reduction of federal contributions could put more immediate pressure on budgets.

Exhibit 12

Medicaid is the largest state program Total state spending by function, fiscal 2016

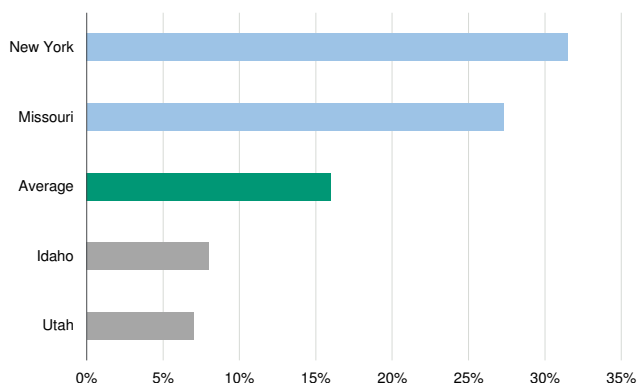


Total spending includes federal funds

Sources: National Association of State Budget Officers, Moody's Investors Service

Exhibit 13

New York and Missouri have highest state Medicaid spending State Medicaid spending as % of own-source revenue, top 2 and bottom 2 states, 2016



Sources: Kaiser Family Foundation, Moody's Investors Service

While burden sharing with the federal government mitigates some of the pressure from rising program costs, it also elevates states' exposure to potential reductions in federal funding for Medicaid. Eleven states currently receive federal Medicaid funds that exceed 40% of their own source revenue: [Arizona](#) (Aa2 stable), [Arkansas](#) (Aa1 stable), [Kentucky](#) (Aa3 stable), [Louisiana](#) (Aa3 stable), [Mississippi](#) (Aa2 negative), [Missouri](#) (Aaa stable), [Nevada](#) (Aa2 stable), [New Mexico](#) (Aa2 stable), [Ohio](#) (Aa1 stable), [Oregon](#) (Aa1 stable) and [West Virginia](#) (Aa2 stable).

If the federal government were to reduce its contribution to Medicaid funding, states would have to choose between allocating a larger portion of their own revenue to maintain program spending or face the social, economic and political repercussions of cutting spending.

Growing retiree healthcare benefits will pressure operating budgets of some state and local governments

Like private-sector employers, state and local governments offer private health insurance to their employees, which raises costs per employee and can pressure budgets for governments facing weak revenue prospects because of declines in population or labor force participation. In 2016, state and local government contributions to employee health plans totaled \$186.4 billion, from \$105.7 billion in 2006. Moreover, while most private employers have eliminated post-employment benefits, retiree healthcare and other post-employment benefit (OPEB) liabilities are significant for some state and local governments and present increasing credit risk for a handful of issuers.

State contributions to retiree health benefits vary considerably, ranging from a high of 8% of revenue in [Hawaii](#) (Aa1 stable) to zero for several states that provide no OPEB benefits, such as [Nebraska](#) (Aa1 stable) and New Mexico. Costs are higher for states that cover

statewide teacher retiree benefits, such as [New Jersey](#) (A3 stable) and [Alaska](#) (Aa3 stable). Contributions are also higher for states, such as Hawaii, that pre-fund their liabilities, as opposed to financing them on a pay-as-you-go basis, which is the more common approach.

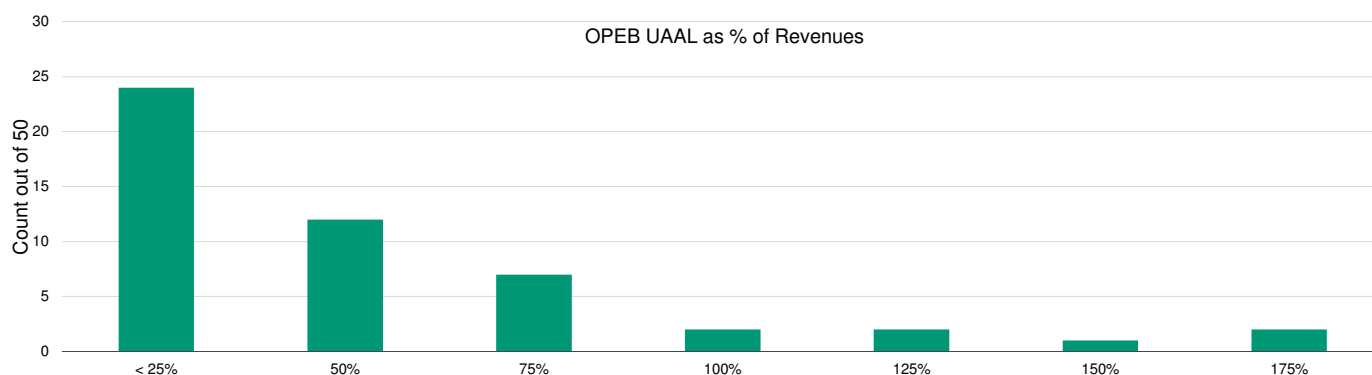
Unfunded OPEB liabilities can also represent a large source of balance sheet leverage. For example, in [Connecticut](#) (A1 stable) and [Delaware](#) (Aaa stable), adjusted net OPEB liabilities amounted to more than 100% of own-source governmental revenue in fiscal 2017. While most states have been able to control the rise in OPEB spending by decreasing benefits, a few states, notably [Illinois](#) (Baa3 stable) and Alaska, are constrained by constitutional protections to retiree health benefits.

OPEB contributions and unfunded liabilities also vary for local governments. For the 50 largest local governments that we rate, OPEB contributions ranged from a high of 7% of revenue for [Honolulu City and County](#) (Aa1 stable) to zero for governments that did not provide benefits in fiscal 2016. Five local governments reported unfunded OPEB liabilities greater than 100% of their operating revenues in fiscal 2016: [Los Angeles Unified School District](#) (Aa2 stable), [Honolulu City and County](#), [New York City](#) (Aa2 stable), [Nassau County](#) (A2 stable) and [Los Angeles County](#) (Aa1 stable) (Exhibit 14).

Moreover, reported OPEB liabilities will likely increase when new accounting standards take effect for state and local governments with fiscal 2018 reporting, partly driven by the application of lower discount rates under the new rules.

Exhibit 14

Unfunded OPEB liabilities exceed 100% of operating revenue for five of the 50 largest local governments



UAAL stands for "unfunded actuarial accrued liability." Reflects reporting under GASB statements 43 and 45, except for New York City, which has released a valuation of its 2016 OPEB liabilities under new GASB 75 rules.

Source: Moody's Investors Service

Higher costs will further erode consumer purchasing power, increase financial vulnerability of some households

2016 United States healthcare spending (US\$ billion)				
Federal government \$944	State & local governments \$565	Households \$939	Private businesses \$665	Other private \$225

High and rising healthcare costs are leading certain households to reduce spending on other items, take on debt or forego care altogether. Lower-income and older households generally spend a larger share of their income on healthcare and are most exposed to rising costs.

Healthcare costs are rising for most households

Healthcare expenses are rising for most households, regardless of how they receive their healthcare coverage. Health insurance premiums and out-of-pocket expenses represent the bulk of US household spending on healthcare, in aggregate (Exhibit 15).

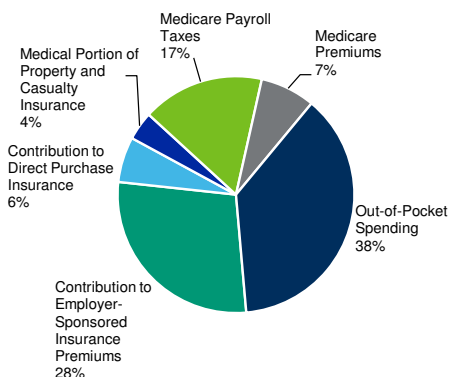
For the nearly 50% of the population who receive healthcare coverage from their employer, premiums and out-of-pocket costs have risen faster than wages over the past decade (Exhibit 16). This trend can be attributed to rising costs and to the fact that US businesses have increasingly turned to health plans with higher out-of-pocket expenses. While the tax deductibility of employee premiums and some out-of-pocket expenses mitigates some of these pressures on workers, tax breaks are generally more beneficial to higher-income individuals, who tend to spend a smaller share of their overall income on healthcare.

Some of the nearly 40% of people covered by federal healthcare programs are also facing high and rising healthcare expenses. Medicare recipients in particular are not fully shielded from rising costs. They pay premiums and deductibles for services covered, and they purchase supplemental private insurance or pay out of pocket for services not covered, such as dental, vision, hearing aids and long-term care. Medicare beneficiaries spent an average of 14% of their income on healthcare in 2013, and they are projected to spend 17% by 2030. Older and sicker individuals are likely to face even higher expenses, with one in 10 Medicare beneficiaries spending at least 60% of their total income on out-of-pocket costs in 2013.

Exhibit 15

Out-of-pocket expenses account for nearly 40% of household spending on healthcare

Composition of household health spending, 2016

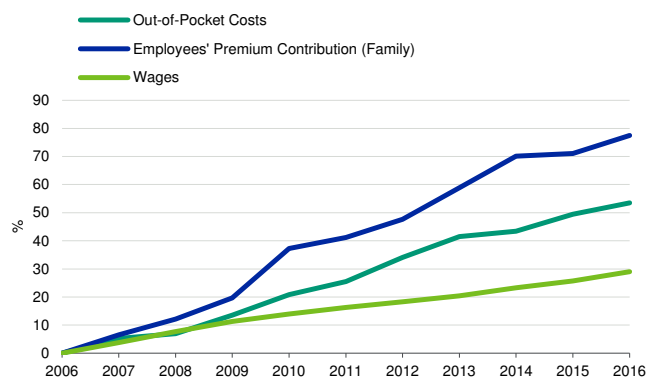


Sources: Kaiser Family Foundation, Moody's Investors Service

Exhibit 16

Growth in healthcare costs has outpaced wage growth

Cumulative increases in health costs and wages, % change



Sources: Kaiser Family Foundation, Moody's Investors Service

Erosion of consumer purchasing power could have negative implications for consumer-facing sectors

The impact of healthcare costs on household finances and well-being reverberates through the US economy since household consumption accounts for nearly 70% of annual economic output. The erosion of households' purchasing power could weaken the retail goods and services sectors, whereas the impact on households' debt repayment capacity might affect the large US consumer finance sector.

Personal consumption expenditure (PCE) trends and survey data suggest that households are altering their consumption behavior to cope with rising healthcare costs. In 2017, spending on healthcare was the second-largest expenditure for households behind housing and utilities, accounting for 17% of total PCE (Exhibit 17). This percentage is up from 10% in 1980 and 14% in 2000. In a recent Kaiser Family Foundation Health Tracking Poll, 30% of respondents reported having problems paying for medical bills, and among those, 73% said they were reducing spending on food, clothing and basic household items as a result. Older and lower-income people, who on average spend a greater share of income on healthcare, may be particularly sensitive to rising costs (Exhibit 18).

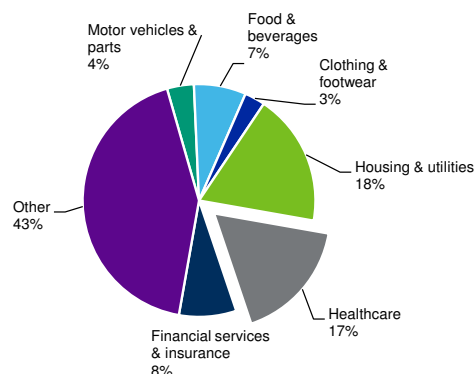
High healthcare costs are also exacerbating the vulnerability of certain households to financial shocks. The 2017 Report on the Economic Well-Being of U.S. Households published by the Federal Reserve Board found that many adults are not prepared to face unforeseen healthcare expenses: one in five adults had faced unexpected medical bills over the past year, with a median expense of \$1,200. Of those who had incurred an unexpected expense, 37% had unpaid debt from those bills. In addition, many Americans are

choosing to forego care altogether, which can result in higher medical bills when they do seek care. In 2017, 27% of American adults reported skipping medical treatment because of cost. Among the uninsured, the proportion jumped to 42%.

Exhibit 17

Healthcare a major expense for households

Personal consumption expenditure by major product type, 2017

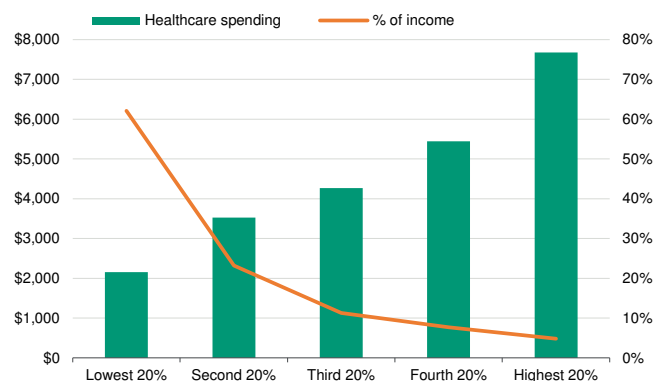


Sources: BEA, Moody's Investors Service

Exhibit 18

Lower-income households more vulnerable to rising costs

Annual healthcare spending by income level, 2016



Sources: BLS, Moody's Investors Service

Healthcare spending might increasingly affect companies' hiring decisions and weaken competitiveness

2016 United States healthcare spending (US\$ billion)				
Federal government	State & local governments	Households	Private businesses	Other private
\$944	\$565	\$939	\$665	\$225

Healthcare costs raise marginal cost per employee, affecting hiring decisions and bottom lines

Employee healthcare costs are a financial and administrative burden for corporations operating in the US, requiring mobilization of staff and resources. Healthcare expenses add to total compensation costs per employee, thus affecting employment decisions, in addition to spending and margins. By raising the marginal cost per employee, high healthcare costs might also lead companies to reduce spending on other employee-related expenses that add to retention and productivity, such as higher wages, other benefits and training.

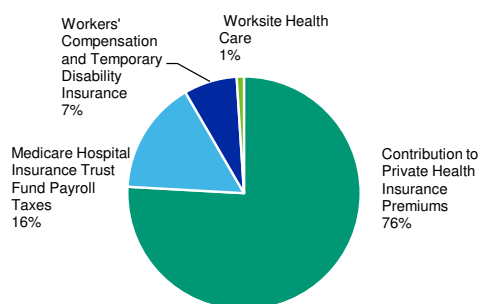
The ACA made employer-sponsored coverage mandatory for large employers in 2014, but many large businesses provided healthcare benefits to employees before the passage of the law. Employers have an incentive to offer health coverage because these benefits are highly valued by employees and support their workforce's health and productivity.

Insurance premiums account for most of private employers' healthcare spending (Exhibit 19). According to the Kaiser Family Foundation Employer Health Benefits Survey, the average annual employer contribution has increased nearly 50% for both single coverage and family insurance premiums over the past decade (Exhibit 20). In 2016, private businesses spent an average of \$5,727 per employee on contributions to employee healthcare plans.

Exhibit 19

Most health spending by private employers is on insurance premiums ...

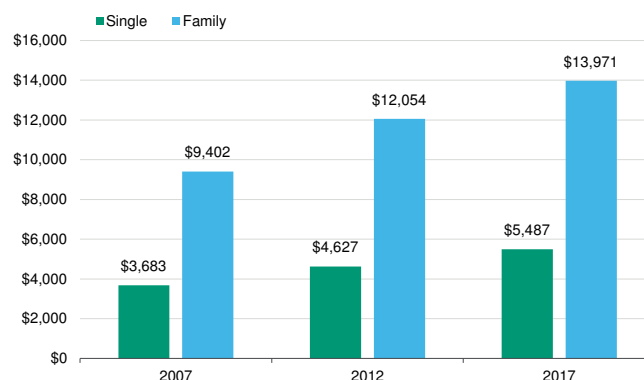
Composition of private business health spending, 2016



Sources: CMS, Moody's Investors Service

Exhibit 20

... which have risen nearly 50% over the past decade Employer contributions to premiums*



*Survey of employers with 200+ employees.

Sources: Kaiser Family Foundation, Moody's Investors Service

Rising cost of employee healthcare may dampen competitiveness of US companies

As the cost of employee healthcare continues to rise, companies operating in the US may find themselves at a competitive disadvantage to those operating in other countries, which are less exposed to rising cost. While statutory payroll taxes to contribute to national healthcare programs, pensions and other benefits are generally higher in other advanced economies, they have trended down in recent years as many governments cut labor costs in an effort to boost economic competitiveness. Meanwhile, US healthcare costs have continued to climb.

Moreover, while net tax liabilities generally trend lower during economic and profit downturns, per employee healthcare costs do not. And during economic upturns, US employers might find margin expansion tempered as they expand health benefits to remain a competitive employer in a tight labor market. One-third of US organizations surveyed by the Society of Human Resource Management in February and March 2018 reported increasing benefits in the last 12 months. Of these organizations, half of them expanded their health-related benefits. Healthcare benefits are the largest benefits that private employers offer, accounting for nearly 8% of total compensation (Exhibits 21 and 22).

Businesses can protect themselves against rising costs but these strategies come with tradeoffs

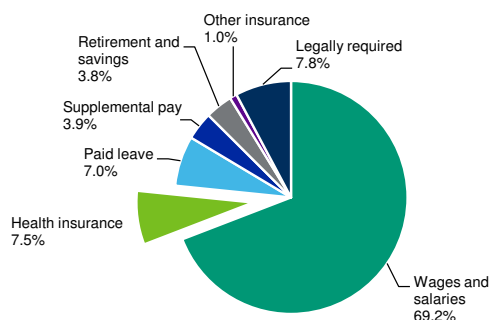
In recent decades, US employers have resorted to two main strategies to cope with rising healthcare costs: (1) self-insuring, whereby companies pay for their employees' healthcare costs rather than purchasing a health insurance policy from an insurer to cover claims, and (2) offering plans with more limited networks or higher out-of-pocket costs, including higher deductibles.

However, these strategies come with trade-offs. Self-insured companies can save money upfront but increase their exposure to unforeseen healthcare costs. And whereas plans with high deductibles and limited networks might also result in cost savings to employers, they may be less effective in attracting and retaining a competitive workforce. Moreover, some larger employers have started expressing concerns that high deductibles are challenging the ability of their employees to afford healthcare services, which can affect employees' well-being and dampen labor productivity.

Exhibit 21

Health insurance is the largest benefit provided by private employers ...

Private sector employee compensation, March 2018

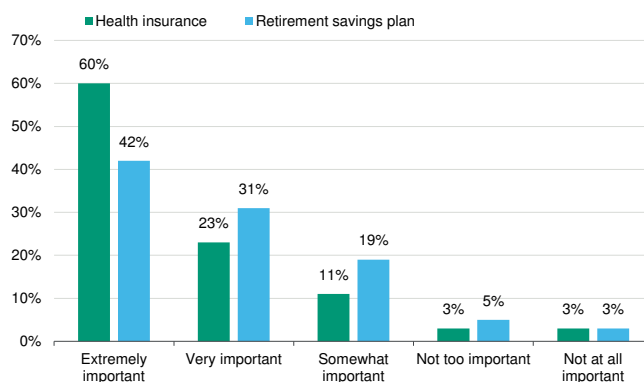


Sources: Bureau of Labor Statistics, Moody's Investors Service

Exhibit 22

... and a crucial recruiting tool

Importance of health and retirement benefits when considering employment decision



Sources: Employee Benefit Research Institute and Greenwald & Associates, 2017 Health and Workplace Benefits Survey

Cost reduction strategies will drive gradual change in payment and service delivery models

Public and private sector introducing new strategies to curb spending growth

Public and private consumers of healthcare are exploring new strategies to rein in the growth in spending without jeopardizing quality of care. In particular, the federal government, states and businesses are trying out new provider payment models that reward cost-effectiveness and quality of care rather than volume of services provided. As payment models gradually shift, providers that have traditionally operated under a fee-for-service model will have to adjust their service delivery models. While there is no clear road map for how to navigate this structural change, providers are already adopting strategies to prepare. For example, they are investing in technology and data solutions that will enable them to meet reporting requirements and identify areas for improvements. They are also exploring cheaper methods of service delivery, such as telehealth, partnerships with other providers to better coordinate care, and preventive care programs to more effectively treat chronic diseases.

Policy shifts most likely to disrupt status quo if implemented

New payment and service delivery models are in their early stages of implementation and could take time to yield savings for consumers, if at all. Faced with rising budgetary pressures, buyers could take more drastic measures to reduce spending. The federal government in particular, as the largest single buyer in the US, has powerful policy levers it can use to reduce its spending. These include changing the funding or eligibility for major healthcare programs. Such measures are unlikely in the near term because they would require legislative action. However, should they come to pass, they would have a material impact on healthcare consumers and providers.

Appendix

Exhibit 23

US population health insurance coverage, 2016*

Coverage type	Number (million)	Population covered	Structure
Public			
Medicare**	55.8	Age 65 and over or disabled	Federal
Medicaid	71.2	Low-income children, pregnant women, disabled and elderly	Federal/state
CHIP	6.5	Low-income children who do not qualify for Medicaid	Federal/state
Other public	13.1	Veterans, active-duty military, etc	Federal/state
Private			
Employer-sponsored insurance	173.1	Full-time employees and their children	Mandated for employers with 50+ employees
Direct purchase	24.8	Self employed, employees of small businesses, unemployed, Medicare recipients purchasing supplemental coverage	Federal/state regulated
Uninsured	28.6		

*Enrollment does not add up to total population because of overlap in coverage; for example, 20% of low-income Medicare recipients also receive Medicaid benefits.

** Medicare includes original Medicare and Medicare Advantage.

Sources: CMS, Moody's Investors Service

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