Savings and Challenges with Reference-Based Pricing in Healthcare

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Summary and Findings: Savings and Challenges with Reference-Based Pricing in Healthcare

The cost of healthcare in the US is a burden for many and is expected to become even more so in coming years. Today, healthcare spending takes up roughly one in every five dollars of the US gross domestic product (GDP) and is expected to reach a total of $6.8 trillion by the end of the decade. Meanwhile, the costs of healthcare and health insurance for individuals and their families have grown to consume an ever-larger portion of household income. From 2010 to 2020, health insurance premiums in Tennessee grew at an average rate of 3.2% per year; recently, Tennesseans could expect to spend $6,564 on health insurance premiums alone (including employer contributions), and families could spend $18,756, to say nothing of deductibles, copayments, and other expenses. In 2010, Tennessee households on average might have had to spend the equivalent of about 10% of the median income before they could even begin to derive benefits from their insurance; by 2019, that had risen to 15%. Compounding the problem is that the costs of healthcare services are not only high, but variable, as healthcare providers such as physicians and hospitals can charge amounts for the same services that differ by orders of magnitude. Even at a single hospital, prices for the same service can vary by more than a hundredfold depending on whether a patient has insurance and who their insurer is.

Healthcare is not a commodity, and patients weigh many factors beyond price when seeking care. But the variation in healthcare prices, along with the fact that price variation isn't fully explained by differences in service quality, means that there are opportunities to reduce healthcare spending without sacrificing value for patients. Policymakers have weighed proposals for trying to restrain healthcare costs, from price transparency measures to incentive programs for using lower-cost services to regulating market consolidation and more. One measure that has gained attention in recent years is reference-based pricing, in which an insurer sets a limit on what it will pay for healthcare services, and that limit is indexed to some reference point, such as Medicare payment rates. Senate Bill 2330 by Senator Hensley and House Bill 2456 by Representative Sparks, introduced in 2022, directed the Tennessee Advisory Commission on Intergovernmental Relations to study the effects of reference-based pricing on healthcare insurance prices. While the bill passed in the Senate, it was referred for further study by the House Finance, Ways & Means Subcommittee. At its June 2022 meeting, the Commission voted to undertake the study.

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The Commission's study has found that reference-based pricing is likely to generate savings for insurers and employers. It could also create savings for patients, though that depends in part on how the reference-based pricing program is structured. Reference-based pricing could possibly also spur healthcare providers to lower their prices and operate more efficiently, although this is not assured. But regardless of how it is implemented, reference-based pricing is likely to be strongly opposed by hospitals, which generally argue that reference-based pricing may not meet their costs of providing services and that they would need to raise prices on services for other patients. Stiff opposition from hospitals in North Carolina prevented reference-based pricing from being fully implemented in the state's employee health plan.

Reference-based pricing is a method for lowering healthcare costs.

Reference-based pricing can be used by both public and private employers and insurers to set a limit on payments to healthcare providers for their services, with that limit indexed to some reference point. It should be noted that reference-based pricing is distinct from rate setting—that is, it does not set a single price for any given healthcare service. Rather, it simply sets upper—and sometimes lower—bounds on the prices that insurers are willing to negotiate with providers for certain healthcare services. There are different methods for setting the reference price. Often, the reference point is based on Medicare's average reimbursement rates for given procedures plus some margin. For instance, various states have enacted reference pricing caps ranging from 160% of Medicare rates in Washington state to 250% in Montana. In other cases, it may use market percentiles. An example would be setting the reference price at the 60th percentile of prices charged for a healthcare service.

Reference-based pricing plans can also take different forms depending on how bills are settled. In one form, the reference price is a cap only on what the insurer is willing to pay, not the overall price a provider charges for a service. In cases like this, the patient may be left liable for paying whatever remainder the provider demands above the reference price—that is, the patient may be balance billed. This is the type of reference-based pricing used by some private employers for their own health plans, and it is also used in California, where the state employee health plan applies reference-based pricing to select non-emergency procedures—such as cataract surgeries, knee and hip replacements, and colonoscopies—to incentivize patients to shop among providers for those that offer services at lower cost. This form of reference-based pricing is designed to penalize those patients who don't seek comparable care at a lower cost.

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In another form of reference-based pricing, the reference price sets a cap on what the provider requires as overall payment for a service so that balance billing does not arise as a concern. The North Carolina, Montana, and Oregon state employee healthcare plans have each adopted this method, either negotiating new contracts with providers directly or requiring a third-party administrator to achieve payment reductions. Oregon established its reference-based pricing program through statute, which also expressly prohibits balance billing of the employees.

The state of Washington chose to apply reference-based pricing to what it refers to as public option plans. These are insurance plans with requirements and benefit standards set by the state but offered and run by commercial insurers on the state's individual health insurance marketplace; the first one became available in 2021. The public option plans not only have a spending cap—160% of what Medicare would pay—but also set a floor of 101% for critical access hospitals—typically the sole hospitals in rural communities—and 135% for primary care services. The law permitting the public option plans does not expressly rule out balance billing, but as a result of other state requirements, state employees who manage the program say that balance billing has not been an issue. Similar to Washington, Colorado is also currently planning to develop and offer public option plans with reference-based pricing, and the authorizing legislation for these plans would prohibit balance billing.

Insurers will save money by using reference-based pricing, but the effects on patients and providers are less certain.

It appears that reference-based pricing is likely to generate savings for insurers. Even though it only applies to a few procedures, California's reference-based pricing plan for its public employees saw a reduction of 17.9% in the average price paid for cataract surgeries, 17.6% for knee arthroscopies, 17% for shoulder arthroscopies, and 12.5% for colonoscopies within the first two years of the program. The average price paid for knee and hip replacements declined by 26.7% in the first year of the program. States that apply reference-based pricing to a larger number of services have seen greater overall savings. In Montana, reference-based pricing rescued the state employee health plan from insolvency and produced savings of 21.6% on hospital inpatient procedures for the state's 2018-19 fiscal year. Oregon, after refining its plan rules in the first year, saw savings of 33% in 2021.

It is possible for patients with reference-based health plans to see savings, though it depends on how the program is structured. For the cost of insurance itself, in some cases reference-based pricing has slowed or even halted increases in premiums. Montana's

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state employee health plan has seen no increases in premiums since 2016, and it projects that premiums will likely remain stable up to 2025; by contrast, premiums for employer-based coverage in the state increased 2.9% annually from 2015 to 2020. The state's legislature has also previously passed bills for premium holidays—$25 million in 2018 and $27 million in 2022—but the state employee union negotiated for pay increases instead. Washington's public option plans are expected to see premium increases of about 2% for 2023, less than the 8% to 10% projected for other plans.

While in some instances reference-based pricing has lowered patients' out-of-pocket costs, in cases where balance billing is allowed, out-of-pocket costs for patients can actually increase. For example, members of California's state employee health plan seeking cataract surgery who did not choose a provider under the program's reference price saw out-of-pocket costs rise by nearly $5,000. It should be noted, though, that federal law does provide some limits on balance billing through the Affordable Care Act (ACA) and the more recent No Surprises Act (NSA). The ACA requires health insurance plans to have standards to ensure they have an adequate plan network, and for those not meeting the standards, any balance billing amounts count toward a patient's annual out-of-pocket maximum. The NSA prevents patients from being balance billed for non-emergency services provided by out-of-network providers at in-network facilities and out-of-network emergency services and air ambulance services. Again, some reference-based pricing programs take pains to rule out balance billing.

How providers might adapt their costs and fees to reference-based pricing is a matter of debate. In some instances, providers have lowered their prices after implementation of reference-based pricing. In the year after the California Public Employees' Retirement System (CalPERS) instituted reference-based pricing for knee and hip replacement surgeries, one study showed the average price charged to members fell 18.3%, and the higher-priced providers lowered their prices the most. Other studies, however, have found more modest effects or no clear evidence. And in the first year of Oregon's program, some hospitals responded by trying to raise prices on procedures up to the reference price limit.

Some advocates for providers argue that when payments from one group of payers are lowered, they must compensate by raising prices for other payers. But as often as claims of such cost-shifting—or the necessity of it—have been made, evidence suggests its occurrence may be limited. A study of reference-based pricing used by a national health insurance company for computed tomography (CT) scans and magnetic resonance imaging (MRI) scans found no evidence of cost-shifting, nor has there been any indication that cost-shifting has followed reference-based pricing in states that use it for their state

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employee health plans. Given that cost-shifting is often said to be a response to Medicare and Medicaid rates being lower than those paid by private insurance, research has also looked for it in other scenarios, but again, the evidence is limited. In fact, some research has seen reduced Medicare rates lead to *lower* prices for private insurers, not higher. One study found that an effective reduction in Medicare rates of 10% led to private payments that were an estimated 3% or 8% lower depending on the statistical model used.

Healthcare providers in general oppose reference-based pricing.

The American Hospital Association (AHA) and Tennessee Hospital Association have both expressed reservations about reference-based pricing, and the state Benefits Administration—which oversees the Tennessee state employee health plan—has raised concerns that providers could leave the plan's networks over reference-based pricing. Stakeholders who have advanced reference-based pricing programs in other states do report having faced stiff opposition from hospitals, including refusal to participate. In North Carolina, for example, the state treasurer uses reference-based pricing in the state employee health plan and has enrolled 28,000 healthcare providers including physicians, mental health professionals, and physical therapists. At present, however, no major hospital participates in the plan, and hospital representatives had earlier said they would not accept reference-based pricing no matter what level it was set at.

In Montana, out of the 59 hospitals in the state, reference-based pricing applies to services provided at only the 14 that agreed to reference pricing by contract. The reference-based pricing plan was able to be implemented in part because, according to the program's creator, the local hospital association had less leverage than it might in some other states. Oregon, after some experiments with reference-based pricing in 2015, passed legislation in 2019 to extend it to services for state employees and educators but only at 24 out of 70 hospitals in the state. The legislation faced strong opposition from the state's hospital association.

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Ultimately, the effect reference-based pricing might have on providers depends on what it costs healthcare providers to deliver their services. This is a heavily contested question with no simple answer, but research shows that some hospitals are able to operate more cost efficiently than others. The Medicare Payment Advisory Committee (MedPAC) examines data submitted by thousands of hospitals each year and has found that, while many hospitals appear to lose money on procedures for which they are paid at Medicare rates, a quarter of hospitals are able to break even or make a net gain on Medicare rates; in 2020, the AHA found that the proportion was even higher, at a third of hospitals. What distinguishes hospitals that can operate productively at Medicare payment rates is not

clear, but research suggests that they are actually the hospitals under greater financial pressure and who rely less on private insurance payments, suggesting that, when incentivized, they have found ways to reduce costs. One study, for example, found that when hospitals were faced with lower Medicare payments—contrary to the idea of cost-shifting—they managed to offset 90% of the reduced revenue by reducing costs.

According to the AHA's estimates, Medicare rates meet 84% of costs for the average hospital. Keeping in mind that every provider's financial situation is different, and some may have less leeway to reduce costs, that would imply a reference point of 119% of Medicare would meet the costs of the average hospital. To date, all reference-based pricing caps that have been proposed for states exceed that level.

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Analysis: Savings and Challenges with Reference-Based Pricing in Healthcare

The cost of healthcare in the United States has long been high, and as it has continued to grow, the expense of healthcare services and insurance have become an increasing burden for many. Taking note of these issues, policymakers in Tennessee and around the country have considered many ways to rein in healthcare costs and alleviate some of the burden on patients. One approach that has gained attention in recent years is known as reference-based pricing, in which an insurer sets a limit on what it is willing to pay for a healthcare service as a proportion of some reference price. If the healthcare provider does not agree to accept this amount, it may bill the patient for the difference between what the insurer paid and its final charges. Insurers have saved money using reference-based pricing, though its effects on patients depend on how it is structured.

For these reasons, in 2019, Senate Bill 1502 by Senator Hensley and House Bill 1366 by Representative Sparks was filed in the Tennessee General Assembly. An amendment to the bill would have established reference-based pricing for the Tennessee state employee health plans at 160% of Medicare rates. Healthcare providers would then have been sorted into a preferred tier for those who agreed to accept the reference-based price cap and a non-preferred tier for those who did not. The amendment stipulated higher cost-sharing for those patients who used providers in the non-preferred tier. The bill failed to pass.

However, in 2022, Senate Bill 2330 by Senator Hensley and House Bill 2456 by Representative Sparks was introduced in the Tennessee General Assembly directing the Commission to study the effects of reference-based pricing on healthcare insurance prices (see appendix A). The original legislation required the Commission to report its findings to the General Assembly by January 1, 2023, but this deadline was extended to January 31, 2023, through amendments to the bill in the Senate and House committees. The amended bill passed in the Senate, but the House version was referred to summer study by the House Finance, Ways & Means Subcommittee. At its June 2022 meeting, the Commission voted to study the issue.

Healthcare costs are high and continue to increase in the US.

Healthcare costs are continuing to grow both in Tennessee and throughout the nation. This is true not only in the amounts that individuals must pay in insurance premiums and out-of-pocket expenses but also in the percentage of the wider economy and

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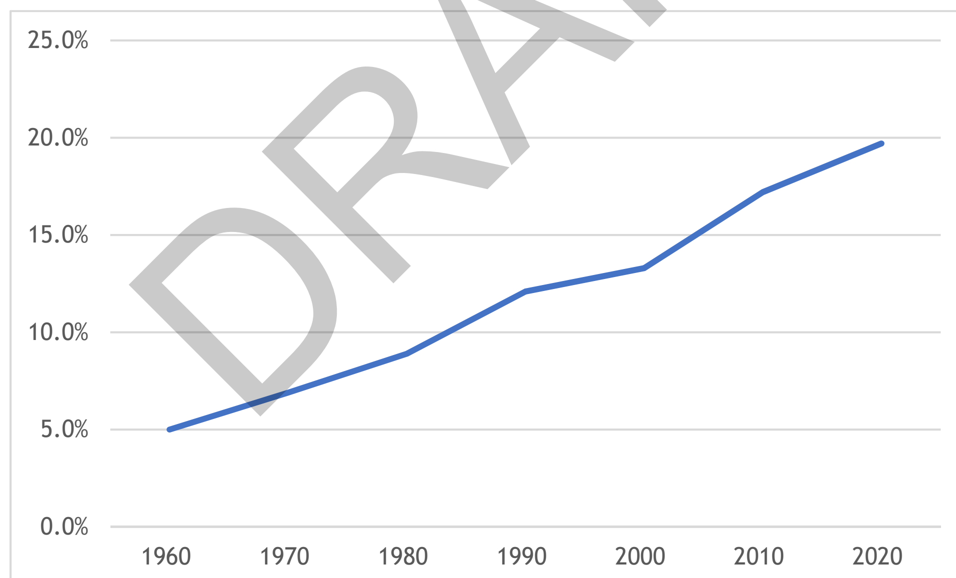
household incomes that must go to cover healthcare expenses. And while there is no one explanation for these ever-rising costs, research has identified some contributing factors.

Healthcare costs are increasing nationwide and will continue to increase in the future.

Over time, healthcare has grown to consume a large part of the national economy. In 1960, healthcare spending accounted for only 5% of national gross domestic product (GDP) in the US, but that share grew over the following decades. According to the Centers for Medicare and Medicaid Services (CMS), which tabulate national healthcare expenditures, as of 2020, roughly one-fifth (19.7%) of US GDP went to healthcare (see figure 1).[1] Internationally, this makes the US something of an outlier. The Organisation for Economic Co-operation and Development (OECD) consistently shows the proportion of US spending on healthcare as a share of GDP at nearly double the average for other OECD countries that have comparable standards of living and life expectancies. For instance, from 2010 to 2020, the share of US spending on healthcare was about 94% above the average for other OECD countries.[2]

Figure 1. Healthcare Spending as a Percentage of US GDP, 1960 to 2020



Source: US Centers for Medicare and Medicaid Services 2021.

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[1] US Centers for Medicare and Medicaid Services 2021. In 2019 and prior to the pandemic this figure was 17.6%.

[2] Organisation for Economic Co-operation and Development 2022.

Cost growth also tends to outpace inflation. In the years 2015 to 2019, for example, healthcare spending per person in the US rose 21.8%. This is nearly three times the rate of inflation in that period.[3]

The distribution of these cost increases is markedly uneven, as costs have also been diverging based upon who pays. In 1996 private insurers paid the equivalent of only about 106.1% of Medicare rates for hospital inpatient services.[4] In the decades since, however, a gap has opened up between Medicare rates—which are meant to be calculated based on the actual costs of delivering healthcare services as reported annually by hospitals—and the rates that private insurers and healthcare providers have negotiated. By 2020, a meta-analysis of 19 studies suggested the ratio of what private insurance paid for hospital services had reached 199% of Medicare.[5]

Costs and cost growth are not evenly distributed across all areas of healthcare either. Of all national healthcare expenditures, hospital services make up the single largest portion at 31%, a figure that has held quite steady since at least 2000, even as overall healthcare spending has grown.[6] There have also been surges in the spending on particular services. For example, from 2012 to 2019, emergency room costs rose 51%; when counting only out-of-pocket payments rose 85%, even though the actual number of emergency room visits declined by 4% in that time.[7] The rise in cost was seemingly driven by an increase in the number of visits that hospitals coded as high severity cases, leading in turn to higher charges.[8] See figure 2 for information on US healthcare expenditures by type in 2019.

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[3] Health Care Cost Institute 2021.

[4] Selden et al. 2015.

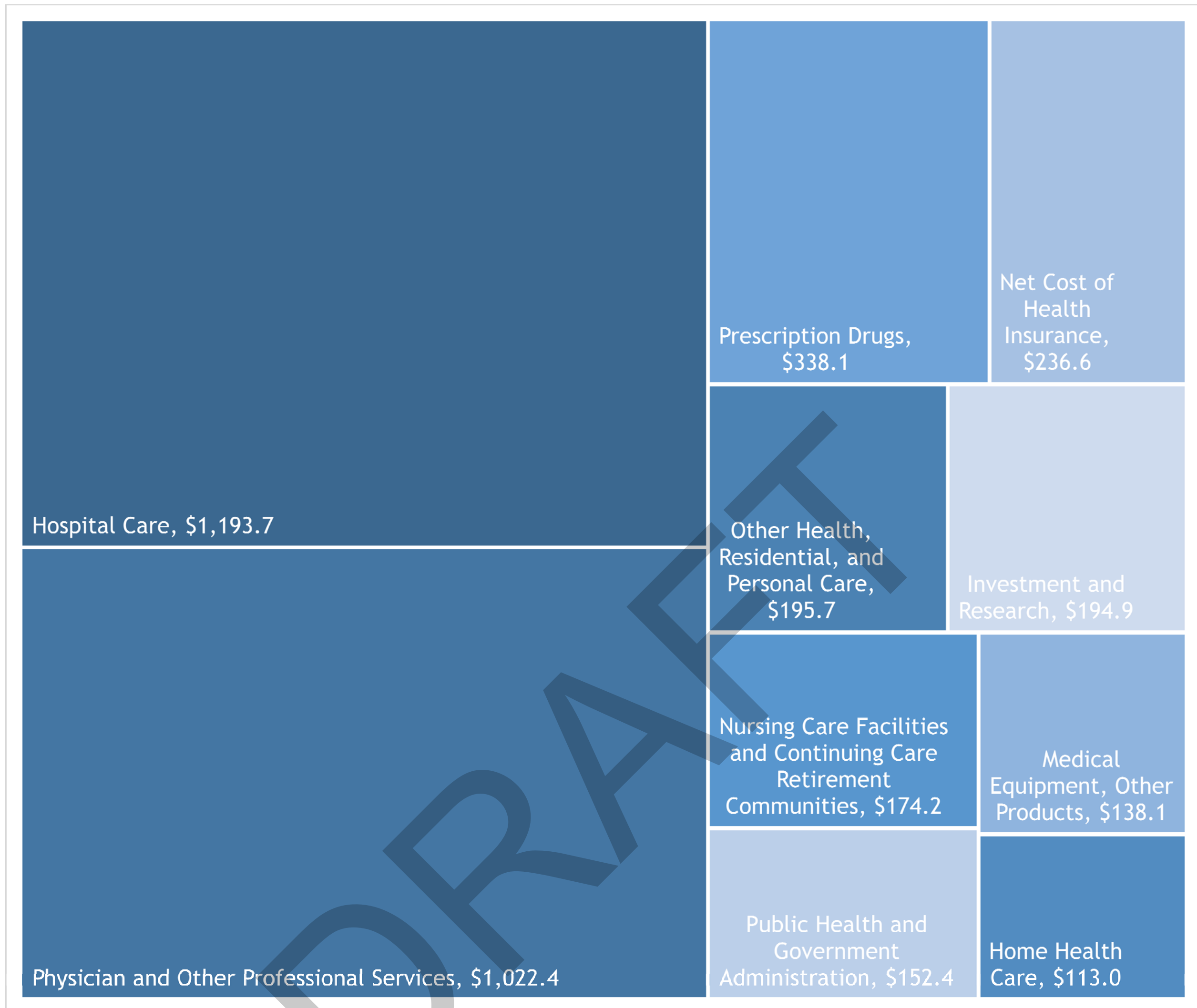
[5] Lopez et al. 2020.

[6] US Centers for Medicare and Medicaid Services 2021.

[7] Hargraves et al. 2021.

[8] Ibid.

Figure 2. US Healthcare Expenditures by Type for 2019 (Values in Billions of Dollars)



Source: US Centers for Medicare and Medicaid Services 2021.

Projecting future healthcare expenditures is of course full of uncertainty, but there is no sign that the trend in increasing costs is set to end any time soon. CMS projects that national healthcare spending will grow by about 5.2% per year from 2023 to 2030, nearing a total of $6.8 trillion annually.[9]

Healthcare costs are increasing for Tennesseans as well.

Tennesseans with employer-based private insurance coverage pay much more for healthcare today than they did just 10 years ago, with premiums growing at 3.2% per

[9] US Centers for Medicare and Medicaid Services 2022a.

year between 2010 and 2020.[10] For the period 2019 to 2021, the average private insurance premium for someone living in Tennessee, including employer contribution, reached $6,564 (24% of which was paid directly by the employee), while for a family it was $18,756 (with 30% paid directly by the employee).[11] But premiums are not the sole cost for healthcare, even for the insured. Deductibles have risen even faster than premiums. For an individual in Tennessee, deductibles more than doubled between 2010 and 2019, rising to $2,334 on average; when weighted for the size of households, Tennesseans in 2019 could expect to spend $8,654 on healthcare before beginning to gain benefits from their insurance—roughly 15% of the median income for the state, up from 10% in 2010.[12]

Not everyone can meet those costs, however. Nationally, 41% of Americans report holding some amount of medical or dental debt,[13] while a separate recent analysis has found that 17.6% of Tennesseans not only have medical debt, but debt that has gone to collections—the eighth highest rate among all 50 states.[14] The implications of these debt levels are difficult to assess, but roughly eight out of 10 of those with medical debt also report skipping needed care, such as forgoing medications or tests recommended by a doctor.[15]

Many factors drive healthcare costs, including hospital consolidation and administrative complexity.

What drives the high cost of healthcare in the US has been a longstanding question, and while there is no single answer, some factors do appear to play more of a role than others. The Health Care Cost Institute (HCCI) for instance, analyzed cost data for those with commercial insurance over the years 2015 to 2019 and weighed several factors.[16] Increases in the total number of services received by patients—called utilization—accounted for some growth in costs but is less than a quarter of the total increase. Changes in the mix of services (that is, the relative amounts of different types of services

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[10] Collins, Radley, and Baumgartner 2022.

[11] Agency for Healthcare Research and Quality 2022.

[12] Collins, Radley, and Baumgartner 2022.

[13] Kaiser Family Foundation 2022.

[14] Urban Institute 2022.

[15] Kaiser Family Foundation 2022.

[16] The Health Care Cost Institute is an independent, non-profit organization with leading health care claims data that can be used for research.

being used, such as a visit to a primary care doctor versus a complex surgery that might mean a long hospital stay) actually decreased costs somewhat. Changes in the demographics of patients (there were slightly fewer older patients, for instance, whose care generally costs more) also helped restrain costs. In the final analysis, 76% of the total growth in healthcare spending per person from 2015 to 2019 was solely because of increases in the prices of services themselves.[17] Data from 2020 and at the start of the pandemic reinforces this finding—during that time, the utilization of healthcare services dropped by 7.5% as many patients deferred seeking non-emergency care. But the prices of services—including inpatient, outpatient, professional services, and drug prices—all rose by a total of 4.2%.[18]

Moreover, in the 10 years from 2012 to 2022, the hospital consumer price index (CPI)—that is, the prices that other people pay for hospital services—has grown at roughly twice the rate of the producer price index (PPI)—the prices hospitals pay for the goods and services they use themselves (see figure 3).

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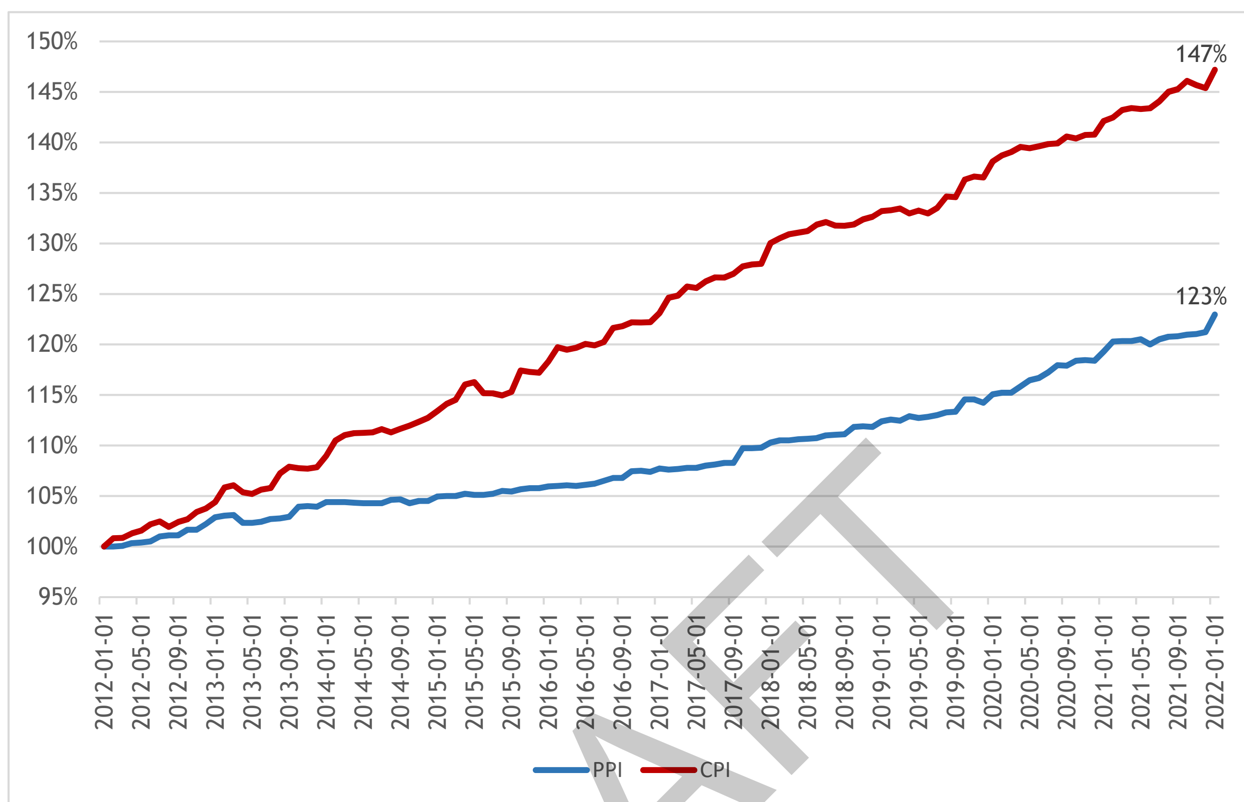
[17] Health Care Cost Institute 2021.

[18] Health Care Cost Institute 2022.

Figure 3. Hospital PPI and CPI Growth, January 2012 to January 2022



Source: US Bureau of Labor Statistics 2022a and 2022b.

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Some stakeholders also note that data from the American Hospital Association (AHA) itself indicate that hospitals' operating margins have been trending upwards over the last two decades.[19] In the five years up to 2000, annual margins averaged 3.2%. In the five years up through 2015, however, annual margins averaged 6.3%.[20] Separate research based on hospital data reported to CMS has found that, the financial effects of the COVID-19 pandemic notwithstanding, hospital profit margins in recent years have been consistent, standing at about 6.7% on average in 2020.[21]

The growth in healthcare costs therefore cannot be explained away by increasing volumes of patients seeking care or needing more expensive services. Rather, the majority of the cost growth comes from each unit of healthcare services becoming more expensive. An

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[19] Videoconference interview with Jeffrey Stensland, principal policy analyst, Medicare Payment Advisory Committee, August 2, 2022.

[20] TACIR calculation of data from the American Hospital Association 2018.

[21] Wang, Bai, and Anderson 2022.

exhaustive analysis of every factor that has been claimed as a driver of these healthcare costs is not possible here, but there are several that have been raised by stakeholders or have received special attention in the research literature.

Staffing costs

The AHA and Tennessee Hospital Association both attribute healthcare costs at least in part to a rise in staffing costs, which are said to have been exacerbated by a trend towards traveling nurses—who can charge more—and general staffing shortages beginning from the pandemic.[22] A 2021 report from the AHA on the cost of care says that the use of contract temporary labor to make up for labor shortages was up 132% for full-time staff since the start of the pandemic.[23] The US Bureau of Labor Statistics data shows hospital worker earnings rose at an average rate of 2.2% from 2012 through 2019, while for 2020 and 2021 the annual increase averaged 6.7%.[24] Staffing costs make up more than half (56%) of hospital expenses nationally.[25]

Drug costs

The AHA and Tennessee Hospital Association also attribute healthcare costs at least in part to rising prescription drug prices.[26] Prescription drug costs do constitute a significant portion of healthcare spending, but they do not appear to rise any faster than do costs for other healthcare services on the whole. HCCI data suggests the average price of prescription drugs grew at an average annual rate of 3.1% from 2015 to 2019. In the same period, hospital inpatient service costs grew 6.9%, and outpatient costs grew 5.2%.[27] Meanwhile, CMS data on national health expenditures shows total retail spending on

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[22] American Hospital Association 2021a; and videoconference interview with Lacey Blair, vice president, state government affairs, Rodney Adams, vice president of research and reimbursement, and Joe Burchfield, senior vice president of government affairs, Tennessee Hospital Association, June 22, 2022.

[23] American Hospital Association 2021a.

[24] US Bureau of Labor Statistics 2022c.

[25] American Hospital Association 2021a.

[26] American Hospital Association 2021a; and videoconferenceinterview with Lacey Blair, vice president, state government affairs, Rodney Adams, vice president of research and reimbursement, and Joe Burchfield, senior vice president of government affairs, Tennessee Hospital Association, June 22, 2022.

[27] Health Care Cost Institute 2021.

prescription drugs grew an average of 3.0% from 2010 to 2020, while hospital spending grew 4.7%, and spending on professional services grew 4.4%.[28]

Hospital consolidation

Market consolidation of healthcare providers has been an ongoing trend in the industry for many years. In principle, consolidation could lead to greater efficiencies as hospitals that join together into systems should be able to share resources and achieve better economies of scale. But, in fact, research shows that hospital mergers are actually associated with higher costs for patients.[29]

Market consolidation is commonly measured using what is called the Herfindahl-Hirschman Index (HHI), which uses a scale ranging from zero to 10,000 where anything above 2,500 counts as highly concentrated. In 1990, 65% of metropolitan statistical areas (MSA) in the country were highly concentrated markets for hospitals, but this had increased to 90% by 2016.[30] Recently, in 2020, the HCCI looked at a subset of metropolitan areas around the country and found that six out of the seven metropolitan areas it examined in Tennessee could be counted as highly concentrated.[31] See table 1 for the HHI hospital market consolidation rating given to seven metropolitan areas in Tennessee.

Table 1. Herfindahl-Hirschman Index Rating for Hospital Market Consolidation for Seven Metropolitan Areas in Tennessee

MSA	HHI
Nashville-Davidson	2,318
Clarksville	2,838
Knoxville	3,059
Chattanooga	3,836
Memphis	4,056
Kingsport	8,236
Johnson City	8,988

Source: Health Care Cost Institute 2020.

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[28] US Centers for Medicare and Medicaid Services 2021.

[29] Cooper et al., 2015; Dauda 2018; and Dafny, Ho, and Lee 2016.

[30] Fulton 2017.

[31] Health Care Cost Institute 2020.

Market consolidation does appear to have an influence on healthcare costs, as higher prices have been observed at hospitals that are larger, have more market share, or have merged into a system.[32] Some research attributes the growth in hospital costs in large part to a lack of competition.[33] Prices at monopoly hospitals have been found to be 12% higher than for those in markets with four or more rivals.[34] Monopoly markets could arise from hospital closures reducing the number of facilities available, but mergers or acquisitions of independent hospitals by hospital systems are also a common occurrence, with 1,412 hospital mergers documented between 1998 and 2015.[35]

Examining 366 hospital mergers and acquisitions that occurred between 2007 and 2011, one study found that prices increased by over 6% when the merging hospitals were geographically close (i.e., five miles or less apart), but not when they were more distant (i.e., over 25 miles apart).[36] When a hospital is bought out and made part of a system in the same state, prices can rise a further 7% to 10%.[37] The trend towards market consolidation has also extended to hospital systems acquiring physician practices, which has been shown to be associated with higher healthcare spending and may create incentives to refer patients to costlier service sites.[38]

In contrast, insurer consolidation seems to depress healthcare prices by giving insurers greater leverage with providers. One study has found that insurer consolidation lowered prices by 10.8%,[39] while another found that the local markets with the greatest insurer concentration have 12% lower service prices.[40]

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[32] White, Reschovsky, and Bond 2014.

[33] Berenson et al. 2020.

[34] Cooper et al. 2018.

[35] Gaynor 2018.

[36] Cooper et al. 2018.

[37] Dafny, Ho, and Lee 2016.

[38] Baker, Bundorf, and Kessler 2014.

[39] Dauda 2018.

[40] Melnick, Shen, and Wu 2011.

Administration costs

Administrative costs constitute an outsized portion of healthcare spending. Estimates from various sources put administrative costs at 25% to 31% of total national healthcare spending,[41] totaling nearly a trillion dollars or more.[42] In fact, the administrative costs of hospitals alone have been estimated to make up 1.43% of US GDP.[43]

These costs also seem to be growing. One researcher found that in 2009 the costs associated with a subset of provider administration—billing and insurance-related (BIR) activities—represented 14.4% of total health expenditures, but only three years later in 2012, BIR costs had grown to 16.8%.[44] And much of what makes up these costs for hospitals and other providers seems to arise from the complexity of billing, insurance, and payments.[45] Administrative costs in general may also reflect, in part, an unusual amount of administrative staffing in healthcare. For instance, by one count, in other service industries such as education, legal services, and finance, there are about 0.85 supporting administrative employees for each service professional; in healthcare, by contrast, administrative roles outnumber doctors and nurses two to one.[46]

Administrative costs in the US also account for a greater portion of healthcare spending than they do in several other wealthy countries, with the differences between countries seemingly explained by the complexity of billing and price negotiation. For example, where one study estimated administration to account for 25.3% of hospital costs in the US, it only makes up 19.8% of hospital costs in the Netherlands, 12.4% in Canada, and 11.6% in Scotland.[47] Other studies have arrived at different estimates by parsing administrative costs in different ways but still find that healthcare administration in the US is consistently more expensive than elsewhere.[48]

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[41] Richman et al. 2022.

[42] Sahni, Carrus, and Cutler 2021.

[43] Himmelstein et al. 2014.

[44] Pearson 2018.

[45] Tseng et al. 2018.

[46] Sahni, Carrus, and Cutler 2021.

[47] Himmelstein et al. 2014.

[48] Papanicolas et al. 2018.; and Richman et al. 2022.

There is wide variability in healthcare prices within and between healthcare markets.

Combined with the high and rising cost of healthcare services is the issue of price variability. The Commission's 2020 report *Cost Savings of Right to Shop Programs* observed that there is often wide variation in the prices for essentially identical services.[49] In the two years since that report's publication, further research and new price transparency regulations have brought more information to light, demonstrating that prices for healthcare services can vary drastically not only between different markets or providers but often with the same provider, who might bill at widely different rates for the same service.

Hospitals typically have what are referred to as chargemasters—lists of fees for their different services that, in theory, will be the amounts paid by someone without insurance—while insurers negotiate for particular discounts off of those chargemasters. As a result, two patients can receive different charges for the same procedure depending on what insurance, if any, they have.

There is wide variation in healthcare prices at the national level.

Several studies have found that there is wide variation in healthcare prices across the US. For example, one study found that in Kentucky the cost for magnetic resonance imaging scans (MRI) varied from $253 to $3,811 within and between different regions of the state.[50] Another study reported that the cost of laparoscopic gallbladder surgery for patients with the same commercial insurer ranged from $3,281 at an ambulatory surgical center (ASC) up to $40,626 at a hospital outpatient department in 2014 in Denver, Colorado.[51]

To try to get a fuller picture of price variation, researchers often use Medicare as a baseline for comparison. Medicare has a schedule of amounts it will pay to hospitals and ASCs for a given procedure, with some adjustments made for considerations such as the cost of living in the local area or whether the facility is a teaching hospital. For example, as of late 2022, Medicare would pay a hospital outpatient department an average of $90, including the patient's copayment, for a chest x-ray and $25 to an ASC for the same

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[49] Tennessee Advisory Commission on Intergovernmental Relations 2020.

[50] Rhoads 2019.

[51] United States Government Accountability Office 2014.

service.[52] These rates are continually revised based on annual reports made by hospitals to CMS about their operational costs. Medicare's rates thus make for a convenient baseline against which to measure payments made by other sources, including the total reimbursements paid to hospitals by commercial insurers and uninsured patients.

The RAND Corporation has made comparisons in a series of studies on hospital price variation, examining health insurance claims data to estimate what hospitals around the country receive in reimbursements relative to Medicare. The studies revealed wide price disparities both between and within states. In the latest round of data, the research found private payer reimbursement rates ranging from an average of 147% of Medicare in Hawaii to almost 322% in South Carolina. Tennessee's insurance claims reimbursements were estimated at 219% of Medicare.[53]

There is also wide variation in healthcare prices in Tennessee.

In the summer of 2022, the federal government released its Transparency in Coverage rules.[54] These require insurers and hospitals to publicly release pricing information for a select set of procedures that they offer. As yet, the release of this data has been limited, but it has offered some greater insight into pricing variability and shows the range of different rates negotiated by insurers for services at given hospitals.

For instance, at one hospital located in Nashville, emergency room service coded at a "moderate severity" level has price listings with at least 29 separate insurance plans or payers. The prices range from $87.77 for TennCare to $1,373, the hospital's price in its chargemaster list, which is a difference of 1,564%.[55] Notably, there is also a cash price of $521.85 that the hospital might choose to allow for those without insurance to pay. This happens to be lower than the rates negotiated with the hospital by 24 of the insurance plans. In fact, the rates given for some private insurers are at the list price, indicating the insurers in question have not obtained any discount from the hospital.

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[52] US Centers for Medicare and Medicaid Services 2022b. Note that payments to ASCs are generally lower because they have lower overhead costs to compensate for.

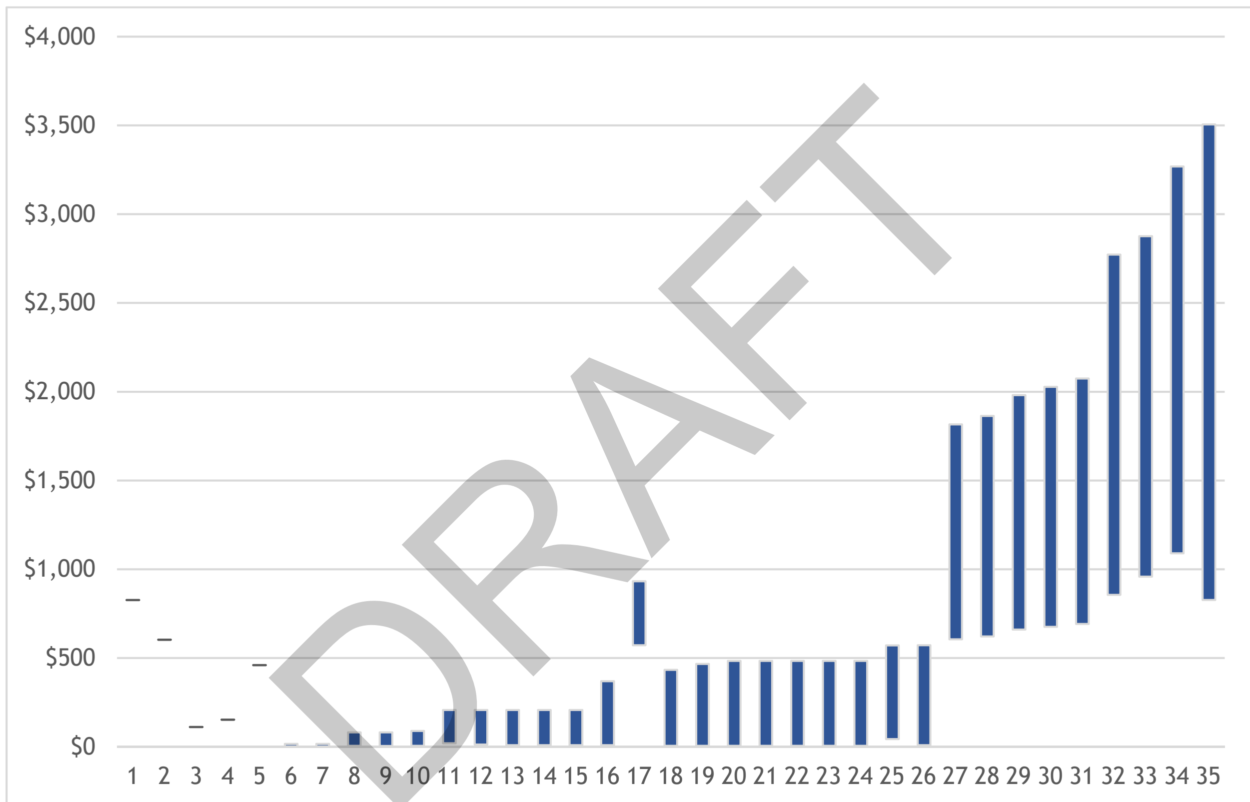
[53] Whaley et al. 2022.

[54] 85 FR 72158.

[55] Turquoise Health 2022.

Other procedures also show high degrees of price variability. For 35 hospitals that listed prices for renal function lab tests,[56] prices varied from $2.40 to $3,505.29 (see figure 4).[57] Even looking within individual hospitals, there were wide disparities between the minimum and maximum prices they might charge to different patients for the procedure. Of the 35 hospitals with data available to examine, just over half had price differentials in which the maximum price was at least 10 times the minimum, and in one out of five of the hospitals the differential was greater than 75 times.

Figure 4. Price Ranges Reported for Renal Function Lab Tests at 35 Tennessee Hospitals



Source: Turquoise Health 2022.

[56] Renal function panel tests are often used in monitoring kidney disease. Many more hospitals in Tennessee offer some form of renal function testing than the 35 counted here, but not all may have fully complied with the release of data yet. A single type of procedure such as this can often have slight variations that can be coded in different ways with each coding priced differently. To control for this, the sample of data here was limited strictly to a single, consistent listing of the procedure.

[57] Turquoise Health 2022.

Information from the Tennessee Department of Health also shows variability in prices charged by hospitals in the state. The department provided Commission staff with aggregate data from hospitals on the amounts they had billed for certain types of procedures, such as chest x-rays, computed tomography scans (CT) of the head or brain, and MRIs of the spinal column. As noted above, Medicare pays an average of $90 for a chest x-ray at a hospital outpatient department. The amount Tennessee hospitals bill different payers for that procedure, however, varies and regularly exceeds the Medicare rate by a wide margin. Out of 67 hospitals for which billing amount data for commercial insurance plans was available, approximately 90% of them (61 in total) charged a median amount of more than 150% of Medicare.[58] Half (34) charged median amounts that were 1,000% of Medicare or more, ranging up to one hospital that charged 31,472% of Medicare as its median commercial rate for a chest x-ray.

And again, there is variation not only from the Medicare rate or between hospitals but also within hospitals. For example, chest x-ray billing data covering all payers—not only commercial insurance plans—was available for 102 hospitals, and only nine of these had no difference in what they reported billing different payers for a chest x-ray. In half of these hospitals, however, at least one patient was billed 100 times more than another, and approximately one in 10 hospitals billed at least one patient over 100,000 times more than another (see figure 5).[59] This is not unique to chest x-rays—similar variations can be found for other procedures.

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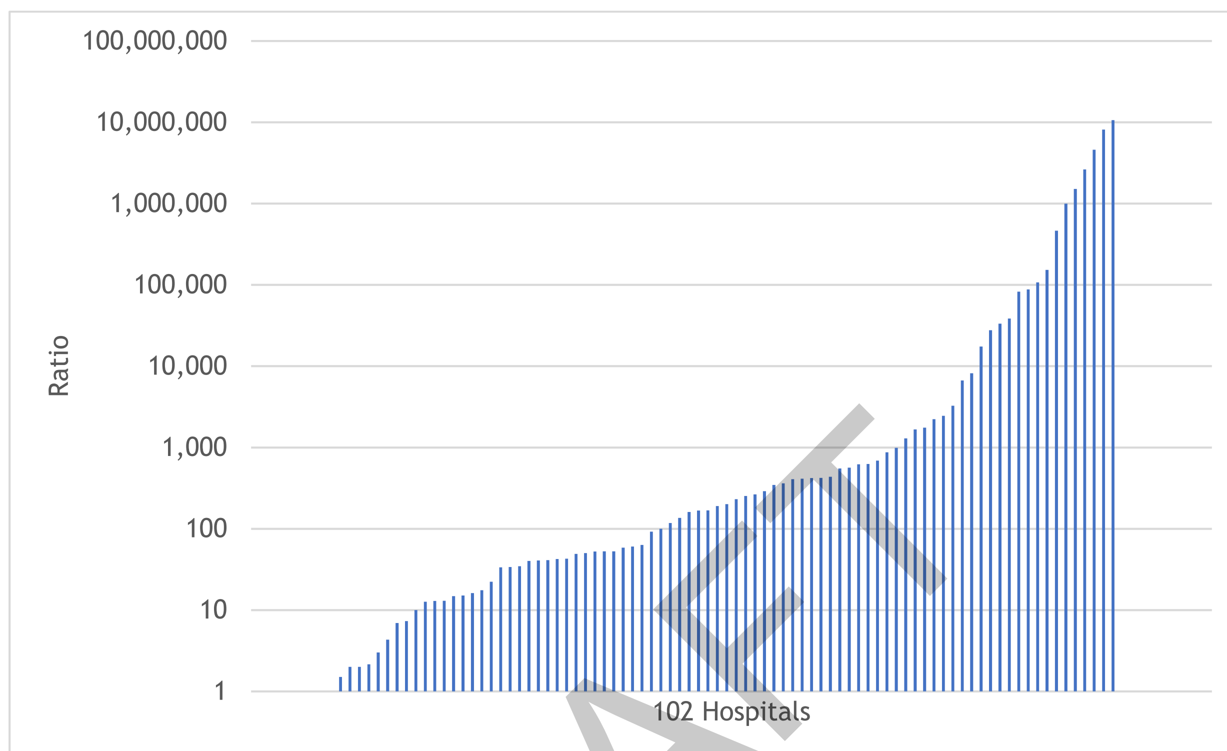
[58] TACIR staff analysis of Tennessee Department of Health 2022.

[59] Ten hospitals were excluded because of anomalies in their reported data, such as negative amounts, which typically indicate overpayments and reimbursements. For 10 other hospitals that were included in the sample the minimum billed amount was zero, which makes the ratio of maximum to minimum bill undefined; they cannot be displayed here. But of this group the maximum billed amount at all but one hospital was in the tens of thousands of dollars, indicating that while some patients may have received no charge for the procedure, others were charged amounts hundreds of times the Medicare rate.

Figure 5. Ratios of Maximum to Minimum Billed Amounts for Chest X-Rays for Each Hospital, All Payers



Source: TACIR staff analysis of data provided by Tennessee Department of Health of 102 hospitals billing for this procedure.

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The reasons for price variation are complex.

Stakeholders have suggested many possible explanations for price variations. When looking at price differences between providers, they could conceivably arise because of basic market differences such as cost of living and the available supply of healthcare services and providers. Prices may also differ because of the type of facility; advocates for hospitals say that costs are higher at hospital outpatient departments than at physician offices because they offer around-the-clock care for all types of patients as well as emergency care, and they are subject to more regulations.[60]

Some healthcare provider stakeholders say that some payers must be charged more to compensate for the lower payments made by Medicare or to offset the charity care that hospitals might provide to some patients. One study, however, was unable to find a

[60] Videoconference interview with Lacey Blair, vice president, state government affairs, Rodney Adams, vice president of research and reimbursement, and Joe Burchfield, senior vice president of government affairs, Tennessee Hospital Association, June 22, 2022.

correlation between price variation and the number of patients on Medicare or Medicaid under the provider's care.[61] Research has also found that prices paid for the same service can vary within the same market because providers often negotiate different prices with insurers for different health plans depending on the leveraging power of the providers and insurers during negotiations.[62] Other arguments for price variation include differences in quality of services or the medical needs of the population being served.[63] Various studies, however, have been unable to find correlations between price variations and differences in quality of services or the medical needs of the population.[64]

Higher prices for a healthcare service do not guarantee the service will be of higher quality.

It is important to remember that healthcare is not a commodity. Choosing the right provider can be a complex decision with serious ramifications, and price is not the only factor people consider when selecting a healthcare provider. People are also concerned about quality, especially when it comes to serious health issues, and yet it is more difficult to assess quality of healthcare than it is for other goods and services.

There are some quality measures for healthcare service outcomes, but the data can be difficult for patients to find, access, or interpret.[65] There can be real differences in the quality of services, though, which have practical effects. Patients with a low-quality provider, for instance, might be more likely to develop an infection or need to be readmitted for additional care after a procedure, which in turn may lead to further expenses.

While providers do vary in quality, research has not shown that there is a substantial correlation between quality and cost in healthcare. Many patients might assume that a

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[61] Massachusetts Attorney General 2010.

[62] Berenson et al. 2020; Massachusetts Office of the Attorney General 2010; Minnesota Department of Health 2015; Roberts, Chernew, and McWilliams 2017; Scheffler and Arnold 2017; Sinaiko, Kakani, and Rosenthal 2019; and White, Reschovsky, and Bond 2014.

[63] Videoconference interview with Laurie Lee, executive director, Kendra Gipson, director of vendor services, Meagan Jones, director of policy research and legislative analysis, and David Solon, legislative liaison, Benefits Administration, July 6, 2022; and videoconference interview with Ronnie Cook, finance and managed care consultant, North Carolina Hospital Association, July 12, 2022.

[64] Health Care Cost Institute 2016; Hussey, Wertheimer, and Mehrotra 2013; and Massachusetts Office of the Attorney General 2010.

[65] Sinaiko and Rosenthal 2011.

higher-cost provider is better quality, but the data on this question is mixed. Some studies show a modest correlation between providers' costs and quality, but the majority actually show either no correlation or even a *negative* one, implying higher costs are associated with lower-quality care.[66] One study found that hospital prices do correlate with reputational rankings—yet those same rankings do not, in fact, correlate with objective measures of quality and health outcomes.[67] Anecdotally, some stakeholders working with state employee health plans have also found that quality does not appear to consistently relate to cost—some of their best quality providers are also the most affordable.[68]

Reference-based pricing is one method that can be used to address high healthcare costs.

Price variation in healthcare prices and the fact that price variation isn't fully explained by differences in quality means there are opportunities to reduce healthcare spending without any loss of value to the patient.[69] Growing awareness of price differences in healthcare services has led to calls to steer patients toward lower-cost service providers.[70] It is argued that this could increase competition and lead to decreases in healthcare prices.[71] Different methods of steering patients toward lower-price providers include shared savings and rewards programs, narrow or tiered networks, and at least some versions of reference-based pricing. See figure 6 for additional information on methods other than reference-based pricing for controlling healthcare costs.

Reference-based pricing is the practice of setting a limit on healthcare costs that insurers pay to healthcare providers based on some reference point—usually a price cap, although in a couple of instances it is a price floor that dictates the minimum amount insurers must pay for services. The reference price is indexed to an objective benchmark such as

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[66] Hussey, Wertheimer, and Mehrotra 2013.

[67] White, Reschovsky, and Bond 2014.

[68] Videoconference interview with David Cowling, assistant division chief, Health Plan Research & Administration Division, CalPERS, July 12, 2022; and videoconference interview with Marilyn Bartlett, senior policy fellow, National Academy of State Health Policy, June 17, 2022.

[69] Sinaiko, Kakani, and Rosenthal 2019.

[70] Mehrotra, Chernew, and Sinaiko 2018; Sinaiko, Kakani, and Rosenthal 2019; and United States Government Accountability Office 2014.

[71] Mehrotra, Chernew, and Sinaiko 2018.

Medicare rates. It should be noted that this is distinct from the concept of rate setting for a service, such as Medicare uses.

Under reference-based pricing, providers could set different prices under the limits of the reference price when it is a cap. This allows for some price variation. Part of the expectation is that the cap will compel higher-priced providers to adapt to lower rates by operating more efficiently, and they could perhaps lower prices to attract more patients. Providers, however, may be reluctant to accept reference-based pricing health plans, which might in turn hinder patients' access to healthcare, especially in rural areas where there might be less access to begin with.

There are different forms of reference-based pricing.

Reference-based pricing can be implemented in different ways. In one version, the reference price is the amount the provider is willing to accept as payment in full for the service. In another version, the insurer will pay up to the reference price amount, but the provider might not accept the reference price amount as payment in full for the service. The provider could then balance bill the patient for the difference between the reference price amount paid by the insurer and the price charged for the service. For example, suppose a patient had a reference-based pricing insurance plan that set a reference price of $30,000 for knee surgery. If after the surgery the hospital issued a bill for $30,000 or less, then the patient would pay nothing beyond their usual deductible and copayments or coinsurance. But if the hospital bill was for $50,000, then the patient's insurer would only pay $30,000 and no more. The patient, however, would then be liable for $20,000—the difference between the $30,000 reference price and the $50,000 charge for the procedure. In health plans where balance billing is left open as a possibility, patients

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could sometimes face inordinately large bills that might negate any potential savings from reference-based pricing.

Figure 6. Other Approaches to Controlling Healthcare Costs

There are numerous cost-containment measures insurers can use to try to reduce healthcare costs. Two that are of note include shared savings incentives with price transparency and narrow or tiered provider networks.

Price transparency and shared savings and rewards programs

Transparent price information enables people to shop for lower price healthcare providers, while shared savings and rewards programs entice them to shop for lower-priced providers by having the insurer share the savings with the patient.

Narrow or tiered provider networks

A tiered provider network is a modification of the standard network of providers that insurers contract with, in which lower-cost providers are given preference, and patients pay less out-of-pocket if they choose them. Narrow networks go slightly further by excluding high-priced providers from the network. As usual, if patients go to an out-of-network provider, they must pay much more out-of-pocket. Patients may be less receptive if they perceive a narrow network as limiting their choice of providers.

Source: TACIR staff review of literature.

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Federal laws help protect patients who have health insurance plans that use reference-based pricing.

The Affordable Care Act and the new No Surprises Act can help to limit the amount that patients can be balance billed by healthcare providers. The protections don't apply to all episodes of balance billing but do cover some specific circumstances.

Affordable Care Act

The Affordable Care Act (ACA) has provisions that help limit balance billing amounts.[72] The provisions help ensure that health insurance plans that use reference-based pricing have adequate networks of providers, if they have networks. Plans otherwise might have very small networks that could force patients to look out-of-network for some care, leading them to pay more out-of-pocket as well. Health insurance plans must have standards to ensure that a plan network is designed to offer high-quality providers at reduced costs and not serve as a subterfuge to evade a set limit on maximum out-of-pocket (MOOP) spending for patients. Balance billed amounts do not count towards that out-of-pocket limit if the plan has a reasonable method for ensuring adequate access. If, however, a health plan does not have a reasonable method for ensuring adequate access to quality providers, any amount balance billed to the patient counts toward the MOOP limit, which is $9,100 for individuals and $18,200 for families in 2023.[73]

Therefore, if a plan includes a network of providers, it may treat providers that accept the reference-based price as the only in-network providers, and so long as it uses a reasonable method to ensure that it offers adequate access to quality providers, any balance billing would not count toward the MOOP limit. Otherwise, any amount balance billed to the patient would count toward the MOOP limit. In determining whether the plan has a reasonable method to ensure that it offers adequate access to quality providers, the US Departments of Labor, Health and Human Services (HHS), and the Treasury will consider all relevant facts and circumstances, including

- Type of service—reference pricing should be used for non-emergency healthcare services where the provider can be chosen ahead of time;
- Reasonable access—plans should consider reasonable geographic distance measures and patient wait times;

[72] Public Law Number 111–148, title I, Section 1101, Mar. 23, 2010, 124 Stat. 141.; and 42 United States Code Service Chapter 157.

[73] US Centers for Medicare and Medicaid Services 2022c.

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- Quality standards;
- Exceptions process—plans should have an exceptions process that allows providers that don't accept the reference price to be treated as if they were a provider that does accept the reference price in some circumstances; and
- Disclosure—the plan must provide information regarding the pricing structure, including a list of services to which the pricing applies, the exceptions process, a list of providers that will accept the reference price, and a list of providers that will accept a negotiated price above the reference price.[74]

No Surprises Act

The federal No Surprises Act (NSA), which went effect in 2022, will help protect patients with health insurance from balance billing in some situations.[75] The Act prevents patients from being balance billed for non-emergency services provided by out-of-network providers at in-network facilities and out-of-network emergency services and air ambulance services. The Act requires private health plans to cover these out-of-network claims and apply in-network cost-sharing. Healthcare providers are prohibited from billing patients more than their in-network cost-sharing amount. If the patient's health insurance plan does not have a network, the NSA limits will only apply to emergency services and air ambulance services.

If the healthcare provider is not satisfied with the payment from the insurer, they can initiate an arbitration process to reach an agreed upon payment with the insurer, but the NSA prohibits the patient from being balance billed. America's Health Insurance Plans (AHIP), a trade association for commercial insurers, estimated that in the first two months of 2022 the NSA averted more than two million surprise balance bills—although this was only 0.23% of commercial insurance claims.[76] It does not appear, however, that these parts of the NSA necessarily have any direct interaction with reference-based pricing plans per se.[77] There is another part of the NSA that requires healthcare providers to deliver a good faith estimate to insurers whenever a patient schedules a procedure so that

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[74] US Department of Labor 2014.

[75] Public Law Number 116-260, 134 Stat. 1182, Division BB, section 109; and 42 United States Code Service section 300gg-111.

[76] AHIP 2022.

[77] Videoconference interview with Katie Keith, director, O'Neill Institute, Georgetown Law School, July 7, 2022.

the insurer can then give the patient an "advanced explanation of benefits." This part of the law has not yet been implemented and is pending input from healthcare providers.[78]

Both public and private entities use reference-based pricing.

Public and private employers have used reference-based pricing in their health insurance plans, though it has had limited uptake so far. A 2019 survey of over 1,300 employers by Lockton, an insurance broker, found that only 2% of the employers surveyed were using reference-based pricing; another 10% were considering using reference-based pricing at some point in the future.[79] Human resources professionals report various reasons for why reference-based pricing has not seen wider adoption among employer-based health plans, including concerns that it would be difficult to administer a reference-based pricing program with different reference prices in different markets, and employees could face large out-of-pocket costs.[80] They also expressed concerns that adoption of reference-based pricing could hinder competition for and retention of employees and that the potential for savings using reference-based pricing was low when looking at their healthcare costs as a whole.[81]

A few states use reference-based pricing in their state employee health plans and require or might require it in their public option health insurance plans in the future. Currently four states—California, Montana, North Carolina, and Oregon—use it in their state employee health plans. One state, Washington, is requiring its public option plan to use reference-based pricing, while Colorado may use reference-pricing in its plan in the future. These public option health plans created by Washington and Colorado are public-private partnerships in which the state designs the health insurance plan—outlining certain requirements for benefits coverage—but it is commercial insurers that offer and administer the plans. Each state's experience with reference-based pricing has been different, but together their experiences illustrate some of the important considerations that must be taken into account when designing reference-based pricing programs.

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[78] Public Law Number 116-260, 134 Stat. 1182, Division BB, section 109; and 42 United States Code Service section 300gg-111.

[79] Lockton 2019.

[80] Sinaiko, Alidina, and Mehrotra 2019.

[81] Ibid.

State employee health plans

California, Montana, North Carolina, and Oregon all use reference-based pricing in their state employee health plans in some capacity. None of them apply it to all services provided by all healthcare providers in the state. These states instead apply reference-based pricing in a more targeted manner to help them save money.

California

California was the first state employee health plan to use reference-based pricing, beginning in 2011. Like with many other states' employee health plans, California's Public Employees' Retirement System (CalPERS), which oversees the pension and health benefits of the state's public employees, saw wide variation in prices billed for the same procedures, and there appeared to be no correlation between cost and the quality of the care. Looking for a way to reduce costs and inspired by the results that some private employers had achieved, CalPERS turned to the idea of reference-based pricing.[82]

CalPERS began by looking at the distribution of costs for specific, shoppable procedures—non-emergency care that patients could schedule in advance—and decided to apply reference-based pricing to only hip and knee surgeries in its preferred provider organization (PPO) plan. It then took the 67th percentile of the market rate for each procedure and rounded it off to an even figure—$30,000 in the case of knee surgeries—and used that as the reference price for the procedure.[83] It had a lot of success with that initiative, partly because facilities lowered their prices after it was implemented.[84] CalPERS then expanded the program and now uses reference-based pricing in its PPO plan for orthoscopic surgeries, cataract surgeries, and ASC colonoscopies in addition to hip and knee surgeries. The reference-based pricing program therefore continues to apply only to some shoppable procedures and not to all healthcare services. It is also not used in all of CalPERS's health insurance plans but only in its PPO health insurance plan.

In CalPERS's program, the reference price is a cap on what the state, as payer for its employees, agrees to pay to providers but not a cap on what the providers may bill. In other words, it leaves patients open to balance billing. CalPERS has taken efforts to

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[82] Videoconference interview with David Cowling, assistant division chief, Health Plan Research & Administration Division, CalPERS, July 12, 2022.

[83] Zhang, Cowling, and Facer 2017.

[84] Videoconference interview with David Cowling, assistant division chief, Health Plan Research & Administration Division, CalPERS, July 12, 2022.

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minimize that risk, however. When a patient wishes to schedule a procedure such as a knee surgery, the insurer that administers the program on behalf of the state contacts the patient and notifies them of what providers fall under the reference price and which do not.[85] If the patient receives their surgery at a qualifying provider, then CalPERS pays for the procedure just as it would in other cases (minus any cost-sharing), but if the patient instead elects to go to a provider who charges above the reference price, then they are cautioned that they are responsible for paying the balance themselves. There are also exemptions made for those who live more than a certain distance from an eligible provider. Although there was some dissatisfaction among the insurance plan's members at the beginning—for having to switch providers, for example—a CalPERS representative said that now more than 10 years into the program plan members had grown familiar with it, and there were few complaints.[86] For CalPERS, reference-based pricing has proven effective enough that they have considered extending it to prescription drugs, though they have not yet done so. Staff were also considering applying reference-based pricing to lab tests and high-cost imaging services; for lab tests, they estimated a possible $10 to 12 million in savings.[87]

<u>Montana</u>

In 2014, Montana's state employee health plan was facing insolvency because of its high costs; it was estimated that for 2017 the state's healthcare plan would be $9 million in the red. When the state looked at their healthcare spending, they saw that 43% of it was for hospitals and that 87% of the hospital spending was for acute care,[88] which is care for brief but severe illness, such as conditions resulting from trauma and recovery from surgery. To try to bring those costs back under control, the state chose to pursue reference-based pricing, but there were two key differences between the approach that Montana decided upon and that used by California. First, reference-based pricing was applied to services in general at acute care hospitals in the state's network rather than to just a few selected procedures. And second, instead of being a cap on what the state would pay, it was to be a cap on what hospitals would bill for procedures.

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[85] Videoconference interview with David Cowling, assistant division chief, Health Plan Research & Administration Division, CalPERS, July 12, 2022.

[86] Ibid.

[87] Ibid.

[88] Videoconference interview with Marilyn Bartlett, senior policy fellow, National Academy of State Health Policy, June 17, 2022.

To achieve this, the Montana state government had to negotiate with hospitals and establish new service contracts with them where the negotiated discounts from the chargemasters were replaced with a reference-based cap. The state did not want to rely on a discount of the chargemaster rates because rates could escalate, and that wouldn't allow them to control costs. The governor at the time said he did not want to steer patients to one medical provider over another, and the state took that into consideration. The state employee labor union was also quite strong and took part in the negotiations. At that point, the state was paying up to 350% of Medicare for inpatient services and 611% for outpatient services.[89] The reference prices set the limits for service charges to between 220% and 225% of Medicare for inpatient services and 230% to 250% for outpatient services.[90]

Implementing the program was not easy. The state faced resistance from the hospitals and the state legislature complained that they were price fixing.[91] The state health plan put out a request-for-proposal for an insurer to act as a third-party administrator to administer the program, but out of nine insurers, only one was willing to do it. The insurers were reluctant because they saw the reference-based pricing program as minimizing the value of their networks.

The state health plan did succeed in establishing contracts with 11 acute care hospitals and added three more later.[92] When creating the program, the state chose not to pursue reference-based pricing at the state's 48 critical access hospitals because they needed to get the program off the ground quickly.[93] The program's creator attributes her success to the fact that Montana's hospital association held comparatively less leverage than hospital associations in some other states. Once the program came online it began to save money, even running a surplus. The savings from the program also enabled state

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[89] Videoconference interview with Marilyn Bartlett, senior policy fellow, National Academy of State Health Policy, June 17, 2022.

[90] Optumas 2021.

[91] Videoconference interview with Marilyn Bartlett, senior policy fellow, National Academy of State Health Policy, June 17, 2022.

[92] Ibid.

[93] "Critical access hospital" is an official designation by the US Centers for Medicare and Medicaid Services for certain rural hospitals that may be the only facility available in their area. An acute care hospital is one that offers care for immediate but short-term needs, as opposed to a long-term care facility.

employees to negotiate for wage increases, in part because of a promise from a state legislator who bet, incorrectly, that the program would not be able to deliver.

In September 2022, however, the state chose to hire a new insurer, BlueCross BlueShield, to administer its self-funded state health plan,[94] and the state is planning alterations to the reference-based pricing program.[95] Medicare rates will serve as a baseline for the amounts the state will reimburse health care providers. BlueCross BlueShield has the option to use reference-based pricing but can also negotiate prices with health care providers. In a press release, the state said that projected over the next three years they would save $28 million.[96]

North Carolina

In North Carolina, the state employee health plan falls under the purview of the state treasurer. In 2017, the employee health plan had high levels of unfunded healthcare liabilities. The state treasurer decided to pursue a reference-based pricing plan similar to Montana's in order to save the state of North Carolina money.[97] He also wanted to try to freeze healthcare premiums for employees. The plan was originally meant to launch in 2020 using a reference price of 177% of Medicare.[98]

Almost all hospitals in North Carolina opposed the plan, even as the reference price was revised upwards. As a group, hospitals' representatives said they would refuse a reference price, no matter what level it was set at. The state legislature also refused to sign on to any possible penalties for hospitals, leaving the state treasurer without leverage. In North Carolina, the hospitals are said to have significant political clout.[99] Ultimately, the state was unable to get any hospitals to agree to a reference-based pricing plan. Four hospitals did initially agree to the plan, but two of these hospitals later

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[94] Many public and private employers use self-funded health plans, in which they are responsible for any costs that arise, effectively acting in the role of insurer. In these types of plans, commercial insurance companies act only as third-party administrators.

[95] Houghton 2022.

[96] State of Montana 2022.

[97] Videoconference interview with Dale Folwell, state treasurer, North Carolina, August 17, 2022.

[98] State Treasurer of North Carolina 2018.

[99] Rau 2020.

withdrew, and two closed.[100] The state was able to get 28,000 smaller healthcare providers to participate, most of whom are primary care physicians.[101] Reference-based pricing was still being used in the state's health plan as of 2022, though without any major hospitals taking part.[102]

Oregon

In 2015, the Oregon Educator's Benefit Board (OEBB) and Public Employees' Benefit Board (PEBB) sought to lower their healthcare costs by basing their payments for joint replacement surgeries on the prices paid by Medicare.[103] After saving money and seeing price reductions for joint replacements, the state passed legislation in 2017, which was sponsored by the state Senate President, to expand reference-based pricing to its hospital payments from OEBB and PEBB.[104] The legislation faced significant resistance from hospitals, but it had high-level support in the state legislature, which helped it to pass.[105]

Oregon's law requires that whatever insurer administers the state's health plan limit reimbursements to 200% of Medicare for in-network hospitals and 185% for out-of-network hospitals, while also prohibiting balance billing.[106] The law exempts several types of hospitals from reference-based pricing including some rural hospitals, hospitals in counties with a population less than 70,000, hospitals with Medicare payments composing at least 40% of the hospital's total annual patient revenue, hospitals classified as sole community hospitals by CMS, and out-of-state hospitals. Out of 70 hospitals in the state, approximately 40 were considered suitable for the application of reference-based pricing; the plan's network now includes 24 of these hospitals.[107]

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[100] Videoconference interview with Dale Folwell, state treasurer, North Carolina, August 17, 2022.

[101] Pifer 2019; and videoconference interview with Dale Folwell, state treasurer, North Carolina, August 17, 2022.

[102] Videoconference interview with Dale Folwell, state treasurer, North Carolina, August 17, 2022.

[103] Rakotoniaina 2021.

[104] Oregon Public Chapter 746, Act of 2017.

[105] Videoconference with Margaret Smith-Isa, program development coordinator, Oregon Health Authority, July 25, 2022.

[106] Oregon Revised Statutes, sections 243.256 and 243.879.

[107] National Academy for State Health Policy 2021; and videoconference with Margaret Smith-Isa, program development coordinator, Oregon Health Authority, July 25, 2022.

An early audit of the program found that while it generated savings in the first year, some unexpected issues arose. For instance, some hospitals that had been under the cap to start with later raised their prices to 200% of Medicare. And while Medicare has well-established rates for most procedures, there are a few exceptions, such as neonatal care procedures, and in those cases the health plan temporarily saw its payment rates go up. The state quickly adapted by instituting a new rule specifying that the health plan would pay whichever was least: the reference price, the existing insurer's contracted rate, or the billed amount.[108] Oregon's state employee health plan is also subject under law to a cost growth benchmark, limiting premium increases to no more than 3.4% per year,[109] and some stakeholders see the reference-based pricing program as helping the state health plan to keep premium growth in check.[110]

Public Option Health Plans

Washington was the first state to offer public option health plans. These plans are offered on the states' health benefit exchanges, which are services that helps individuals, families, and small businesses shop for and enroll in affordable health insurance.[111] The public option plans are in addition to the other plans on the exchanges, and more conventional insurance plans continue to be offered. Anyone can enroll in these public option plans.

Washington

Washington's state legislature passed legislation establishing a public option plan for its health benefit exchange in 2019,[112] in part because of rising affordability issues in the marketplace.[113] Hospitals were very opposed to reference-based pricing, but the state was able to argue it would not be too disruptive because the public option plan would

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[108] Videoconference with Margaret Smith-Isa, program development coordinator, Oregon Health Authority, July 25, 2022.

[109] Oregon Revised Statutes 243.135.

[110] Email correspondence with Margaret Smith-Isa, program development coordinator, Oregon Health Authority, October 13, 2022.

[111] US Centers for Medicare and Medicaid Services 2022d.

[112] Washington State Public Chapter 364, Laws of 2019.

[113] Videoconference interview with Leah Hole-Marshall, general counsel and chief strategist, Washington Health Benefit Exchange, July 11, 2022.

only be available to individuals buying insurance through the marketplace, which covers about 200,000 enrollees, or 4% of the state's total insurance market.[114]

Like Oregon, Washington defined its reference-based price in law, requiring that the plans cap payments at 160% of Medicare. However, in addition to a payment ceiling, it also set reference-priced payment floors, mandating at least 101% of Medicare rate payments to critical access hospitals and 135% for primary care.[115] But like Oregon, the state had to make adaptive rule changes in the first year because hospitals showed reluctance to accept the public option plans. For insurers, offering a public option plan is voluntary, but under the revised rules, if an insurer offers a public option plan in a given county, then local hospitals must contract with at least one insurer to accept a public option plan.[116] The law establishing the public option plans does not prohibit balance billing.[117] There are state subsidies for those below 250% of the federal poverty level if they use a public option plan.[118]

The public option plans were first offered to patients in Washington in 2021. In its first year, public option plans were available in 19 of 39 counties; only 1% of people buying plans on the exchange signed up for a public option plan.[119] However, the number of insurers offering public option plans has grown from three to five, and the number of counties where the plans were available grew to 25 in the second year, rising to 34 beginning in 2023 and covering approximately 95% of the state's market of eligible enrollees.[120]

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[114] Ibid.

[115] Revised Code Washington Section 41.05.410.

[116] Revised Code of Washington section 41.05.405.

[117] Videoconference interview with Leah Hole-Marshall, general counsel and chief strategist, Washington Health Benefit Exchange, July 11, 2022; and email correspondence with Leah Hole-Marshall, general counsel and chief strategist, Washington Health Benefit Exchange, October 10, 2022.

[118] Videoconference interview with Leah Hole-Marshall, general counsel and chief strategist, Washington Health Benefit Exchange, July 11, 2022.

[119] Sen et al. 2021.

[120] Videoconference interview with Leah Hole-Marshall, general counsel and chief strategist, Washington Health Benefit Exchange, July 11, 2022; and Washington State Health Care Authority 2022.

Colorado

Colorado has created a public option plan akin to Washington's. In 2021, Colorado passed a law requiring commercial insurers operating in the individual and small group insurance marketplace to offer a public option plan. Beginning in 2023, those plans must meet certain premium reduction targets: in the first year, a standardized plan must be at least 5% below the insurer's 2021 premium rates, with that percentage ramping up to 15% by 2025.[121] If insurers fail to meet these reduction targets, then the state's insurance commissioner may set reimbursement rates for hospitals in that plan, provided that those rates are no less than 155% of Medicare with set numbers of percentage points added for certain classes of hospitals. In this case, the reference price designates a floor, rather than a cap on what a hospital can charge.

Effects of Reference-Based Pricing on Healthcare Spending and Pricing

As an approach for controlling healthcare costs, research shows that reference-based pricing is effective. However, its exact effects and the savings it might generate depend on how it is structured and whether and how those savings are distributed to different stakeholders.

Reference-based pricing can lower healthcare costs for insurers.

Reference-based pricing does produce savings for insurers, including employers who self-fund their insurance plans. For instance, one study showed that the grocery store chain Safeway saw a 13% reduction in the average paid for imaging tests (such as CT scans and MRIs) and a 27% reduction in the average paid for lab tests three years after implementing reference-based pricing in its employee health plan.[122]

In the same way, reference-based pricing has generated savings for states that have used it in their state employee health plans. Within the first two years of implementation, CalPERS's plan saw a 17.9% reduction in average procedure costs for cataract surgery and saved $1.3 million.[123] It saw a reduction of 17.6% in average costs for knee arthroscopy and 17% for shoulder arthroscopy, which resulted in savings of $2.3 million on these two procedures.[124] CalPERS saw a reduction of 12.5% in average costs for

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[121] Colorado Revised Statutes 10-16-1301 et seq.

[122] Whaley, Brown, and Robinson 2019.

[123] Robinson, Brown, and Whaley 2015.

[124] Robinson et al. 2015.

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colonoscopies[125] and saved $7 million on them.[126] The average price paid for knee and hip replacements declined by 26.7% in the first year of the program; by 2013, CalPERS had saved $14.7 million on these procedures.[127]

Montana's state employee health plan, which applied reference-based pricing to hospital services more generally, saw broader savings. In the state's 2019 fiscal year, it saved 21.6% on all inpatient expenses and 14.3% on outpatient expenses, along with 23% savings on pharmacy benefits.[128] Reference-based pricing has also been credited with saving the plan from insolvency, so that it was able to turn around from a projected shortfall of $9 million to generate a surplus of $27 million.[129]

Oregon was able to generate savings of 14% in the first full year that it used reference-based pricing for its state employee health plan.[130] While this was a net gain, it was less than had been initially projected; actuaries for the plan had estimated a savings of $81 million, but the adjusted result was $59 million.[131] After some amendments to the payment rules, however, an audit found that the estimated savings increased to 33% in 2021—a greater rate of savings than had first been anticipated.[132] And while the reference price was set to 200% of Medicare for in-network services, the actual rate yielded was 160% of Medicare.

Patients may see their healthcare costs decline with reference-based pricing, but they could also go up significantly if they choose higher-priced providers.

While reference-based pricing does lead to savings for insurers and employers who offer health insurance, patients may not always see significant savings in reference-based

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[125] Whaley, Guo, and Brown 2017.

[126] Robinson et al. 2015.

[127] Zhang, Cowling, and Facer 2017.

[128] Optumas 2021; and videoconference interview with Marilyn Bartlett, senior policy fellow, National Academy of State Health Policy, June 17, 2022.

[129] Videoconference interview with Marilyn Bartlett, senior policy fellow, National Academy of State Health Policy, June 17, 2022.

[130] Videoconference interview with Margaret Smith-Isa, program development coordinator, Oregon Health Authority, July 25, 2022.

[131] Ibid.

[132] Willis Towers Watson 2022.

pricing programs. States that use reference-based pricing in their public employee health plans have been able to reduce insurance premiums for health plan members or at least limit the amount of their premium increases. In Montana, state employee premiums have been flat since 2016 and are projected to remain so until 2025, even though premiums for employer-based coverage in the state grewt 2.9% annually from 2015 to 2020. The state legislature passed bills for premium holidays for $25 million in 2018 and $27 million in 2022, during which employees would not have had to pay health insurance premiums, but the state employees' union was able to negotiate for pay raises in lieu of the premium holidays.[133] And while Washington state's reference-based public option plan did not realize premium reductions as hoped for, the plans are expected to see slower premium increases than other individual marketplace plans in the next year, about 2% for the public option versus 8% to 10% for other plans.[134]

Research has shown that reference-based pricing plans have allowed patients to reduce out-of-pocket expenses if they choose lower-priced providers. One study found that Safeway's reference-based pricing plan, for example, saved the company's employees $1.05 million total in out-of-pocket costs for lab tests over three years.[135] Another study showed that the out-of-pocket costs for MRIs fell from an average of $344 to $287 per procedure and the average out-of-pocket costs for CT scans fell from $164 to $136 two years after implementation of reference-based pricing.[136] In these cases, employees were able to save money because they chose lower-priced service providers.

Patients who choose higher-priced providers may see their out-of-pocket costs go up. If a healthcare provider charges a price that is above the reference price, a patient may be balance billed the difference between the reference price and the cost of the service, which could be significant. One study found that in 2009 and before CalPERS implemented reference-based pricing, the median cost-sharing for diagnostic colonoscopies was $194 higher for employees under CalPERS at hospital outpatient departments (HOPD) than

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[133] Email correspondence with Marilyn Bartlett, senior policy fellow, National Academy of State Health Policy, October 12, 2022. As of late 2022, it is unclear whether the newly announced changes to the state employee plan might alter premiums.

[134] Videoconference interview with Leah Hole-Marshall, general counsel and chief strategist, Washington Health Benefit Exchange, July 11, 2022.

[135] Robinson, Whaley, and Brown 2016a.

[136] Robinson, Brown, and Whaley 2016b.

for those selecting an ASC.[137] In 2013, after they implemented reference-based pricing, median cost-sharing was $584 higher for those selecting a HOPD than for those selecting an ASC. Employees who had cataract surgery in an HOPD saw their out-of-pocket costs rise from $1,024 in 2009 to $5,681 in 2013, while those who had surgery in an ASC only saw their costs rise from $517 to $587.

Providers may reduce their prices after implementation of reference-based pricing, but there is no guarantee.

Providers could respond to reference-based pricing in several ways: by lowering their prices, making no change to them, or raising their prices for other payers to offset reduced revenue, a practice known as cost-shifting. Research has been somewhat mixed on this question, however. One study found that the average price charged to CalPERS members for knee and hip replacement surgery fell from $34,823 in 2010, the year before they instituted reference-based pricing, to $28,461 in 2011, the year after.[138] This was a decline of 18.3%. Examining the data more closely, this decline was largely driven by price reductions at higher-priced facilities: the average price at more affordable facilities fell by 4.6% on average, while higher-priced facilities dropped their average price from $43,441 in 2010 to $35,631 in 2011, a difference of 18%.[139] Another study showed more modest declines for colonoscopies and cataract surgery after CalPERS started its reference-based pricing program, seeing a 0.4% reduction in mean prices for colonoscopies at ASCs and a 1.7% reduction for colonoscopy prices at hospital outpatient departments that had been above the reference price.[140] Not all studies have found lowered prices, though; at least one did not find any evidence of providers lowering prices for CT scans and MRIs two years after a large national insurance company implemented a reference-based pricing program for these services.[141]

There is the possibility that if a reference price based on Medicare is set too low it could be inadequate to cover costs of care and compel providers to cost-shift onto other payers. Yet there is some evidence to suggest that cost-shifting may be limited when reference-

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[137] Robinson et al. 2015.

[138] Robinson and Brown 2013.

[139] Robinson and Brown 2013. Affordable facilities were counted as those that charged less than $30,000 for knee and hip replacements and whose quality was deemed acceptable by CalPERS and Anthem Blue Cross of California.

[140] Whaley and Brown 2018.

[141] Sinaiko and Mehrotra 2020.

based pricing is used. A researcher who had studied the CalPERS program extensively also said he had found no evidence of cost-shifting onto other payers.[142]

More broadly, other studies have looked at purported cost-shifting in response to Medicare and Medicaid payments. But as often as claims of cost-shifting—or the necessity of it—have been made, evidence suggests its occurrence may be limited.[143] Instead, when faced with reduced or slower-growing Medicare payments, one study showed that hospitals most often compensate by cutting expenses,[144] though this could possibly have the unintended consequence of lowering quality of care as one study indicates.[145] Another study found that a 10% reduction in Medicare rates led to a reduction in private payment rates of 3% or 8%, depending on the statistical model used.[146] It also appears as though slower increases in Medicare rates might constrain growth in private insurance payments.[147]

The question of what it costs healthcare providers to deliver their services—and thus whether they need to cost-shift—is a complex and heavily contested one that goes far beyond the scope of this report. But it is relevant for understanding how feasible reference-based pricing may be and gauging what effect it might have on providers. Each year, the Medicare Payment Advisory Committee (MedPAC) reviews financial and other data submitted by thousands of hospitals across the country to determine what are reasonable rates for Medicare to pay for various services and what is needed to meet providers' costs of providing care.

MedPAC has found that most hospitals do seem to make a net loss on any given procedure where they are reimbursed at Medicare rates—but this is not true of all hospitals, and the differences between hospitals on this point are difficult to explain. As of 2017, about a quarter of hospitals were able to actually make a net gain by operating at Medicare rates,[148] although the AHA, which makes its own separate analysis, said in 2020

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142 Videoconference interview with Chris Whaley, policy researcher, RAND Corporation, June 22, 2022.

143 Frakt 2014.

144 White and Wu 2013.

145 Wu and Shen 2014.

146 White 2013.

147 White and Wu 2013.

148 Medicare Payment Advisory Committee 2017.

that a third of hospitals were able to break even at Medicare rates.[149] In any case, when researchers have looked at this disparity in efficiency between hospitals, the key correlation that has emerged is that the hospitals that are able to break even or make a net gain on Medicare rates are actually those that are under greater financial pressure and already rely less on commercial insurance payments for their revenue—that is, they appear to have greater incentives to control costs and have adapted accordingly.[150] One study has suggested that, when faced with constrained Medicare payments in the recent past, hospitals offset 90% of their revenue reductions by reducing their operating expenses, rather than cost-shifting.[151]

By the AHA's own estimates, Medicare rates meet 84% of hospital costs on average.[152] While it must be remembered that each provider's financial situation and market is different, and some may have fewer means to adapt to lowered revenue, the figure of 84% would suggest that a reference point of 119% of Medicare would meet costs on average. To date, all reference-based pricing caps that have been proposed for states exceed that level.

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[149] American Hospital Association 2020b.

[150] Medicare Payment Advisory Committee 2017; and Stensland, Gaumer, and Miller 2010.

[151] White and Wu 2013.

[152] American Hospital Association 2020b.

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Appendix A: Senate Bill 2330 by Hensley, House Bill 2456 by Sparks

<BillNo> <Sponsor>

SENATE BILL 2330

By Hensley

AN ACT to amend Tennessee Code Annotated, Title 8; Title 56 and Title 71, relative to reference-based health insurance pricing.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF TENNESSEE:

SECTION 1.

(a) The Tennessee advisory commission on intergovernmental relations (TACIR) is directed to perform a study of the overall effect on health insurance prices when reference-based pricing is used. The study must be conducted from TACIR's existing resources.

(b) All appropriate state departments and agencies shall provide assistance to TACIR.

(c) On or before January 1, 2023, TACIR shall report its findings and recommendations, including any proposed legislation, to each member of the general assembly, and shall provide a copy of the report to the legislative librarian. The report may be delivered electronically.

SECTION 2. This act takes effect upon becoming a law, the public welfare requiring it.

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Amendment No. 1 to SB2330

Bailey

Signature of Sponsor

AMEND Senate Bill No. 2330* House Bill No. 2456

by deleting "January 1, 2023" in subsection (c) in SECTION 1 and substituting "January 31, 2023".

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