



**ASPE**  
ASSISTANT SECRETARY FOR  
PLANNING AND EVALUATION

OFFICE OF  
HEALTH POLICY

## REPORT

# Evaluation of the Impact of the No Surprises Act on Health Care Market Outcomes: Baseline Trends and Framework for Analysis

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### First Annual Report

The First of Five Reports Required  
by the Consolidated Appropriations Act, 2021  
July 6, 2023

U.S. Department of Health and Human Services  
Office of the Assistant Secretary for Planning and Evaluation

## Office of the Assistant Secretary for Planning and Evaluation

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## Executive Summary

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The No Surprises Act (NSA)<sup>1</sup> was enacted on December 27, 2020, to address certain instances of surprise billing – circumstances where individuals with private health plans and coverage<sup>2</sup> receive unexpectedly high medical bills when they are unknowingly or unavoidably treated by an out-of-network (OON) provider, facility, or provider of air ambulance services. Under the law, an OON provider<sup>3</sup> subject to balance billing requirements generally may not charge more than the patient’s in-network cost sharing requirement based on the Recognized Amount for non-air ambulance items and services.<sup>4</sup> The law also creates a process for resolving disputes over payment rates between providers and plans and issuers under certain circumstances. The enactment of NSA, as well as several previous state surprise billing laws, was motivated by consumer concerns about the adverse financial impacts of surprise medical bills. Section 109 of NSA requires the Secretary, in consultation with the Federal Trade Commission and Attorney General, to produce five annual reports on the impact of NSA on patterns of vertical or horizontal integration, overall health care costs, and access to health care items and services. This is the first of those reports.

For several reasons, estimates of these impacts of NSA have some limitations. The surprise billing provisions in the law went into effect on January 1, 2022, and it may take time to see the full impact of the law on these outcomes. In addition, surprise bills are likely to be a relatively small proportion of total health care claims for items and services. Furthermore, existing data suggest these bills, and therefore the law’s impact, may be concentrated in a few services areas, such as emergency departments (EDs) and air ambulance services. These service areas may see significant impacts, while the majority of items and services in the health care sector may be less directly impacted by the law. Finally, the trends in NSA impacts that are the subject of these reports are influenced by many factors over time including but not limited to demographic changes, technology changes that affect health care delivery, economic conditions, the COVID-19 pandemic, and health care policies that alter financial incentives. Distinguishing NSA impacts from these other influences will be challenging methodologically.

This first report focuses largely on establishing a baseline and a framework for further evaluation. The report details key trends in factors that will be important to evaluate NSA effects including: the implementation and impacts of state surprise billing laws already in effect; trends in market consolidation and concentration; the impact of market consolidation and concentration on prices, quality, and spending;

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<sup>1</sup> The No Surprises Act was included as part of the Consolidated Appropriations Act, 2021 (P.L. 116-260, 134 Stat. 1182, Division BB, Title I).

<sup>2</sup> This report will use the term “private health plan and coverage” to refer to the products and “plans and issuers” to refer to the entities offering the private health plans and coverage regulated by NSA. See page 8 for additional detail on the private health plans and coverage regulated by NSA.

<sup>3</sup> In this report, “provider” refers to providers, facilities, and providers of air ambulance services that are subject to NSA requirements.

<sup>4</sup> The Recognized Amount is the lesser of the amount billed by the provider or facility or the Qualifying Payment Amount (QPA), if an applicable state law or All-Payer Model Agreement does not provide for a different out-of-network rate. For air ambulance services provided by a nonparticipating provider, the cost-sharing requirement must be based on the lesser of the QPA or the billed amount.

and trends in OON billing. This report also describes a conceptual framework for considering the health care market effects of NSA, as well as describing potential methodologic approaches (and their limitations) for estimating these effects. Subsequent reports will implement these approaches.

### **Estimating NSA Impacts: Baseline Factors**

Estimating the effects of NSA requires distinguishing them from other factors already influencing trends in health care market outcomes of interest and pre-existing trends in these outcomes. Three of these key factors are: the effect of state surprise billing laws, existing trends in market consolidation, and pre-NSA trends in OON billing.

State Surprise Billing Laws - Prior to the enactment of NSA on December 27, 2020, 33 states had enacted surprise billing protections which vary in level of protection and scope. NSA fills a major gap in these state laws by covering self-insured plans that are subject the Employee Retirement Income Security Act of 1974 (ERISA) rather than state regulation. Existing studies suggest that these preexisting state surprise billing protections affect both in-network and OON prices as well as providers' decisions to join networks. These effects will need to be accounted for in evaluating NSA.

Market Consolidation and Concentration - There are two concepts relevant for describing and measuring the degree of competition or market power: consolidation and concentration. Consolidation refers to actions by participants – such as a merger, purchase, or acquisition – that ultimately modify market structure and potentially increase their market power. Concentration refers to the relative size and number of competitors in a market at any given time; concentration is “high” when sales (or purchases) are made by a few competitors.

The number of hospital consolidations increased in 2010 relative to the previous decade and has followed a fairly consistent pattern through 2020. As a result, by one measure, the number of hospital markets that were of moderate or low concentration declined by nearly half during these years, from 23 percent of markets in 2008 to 12 percent of markets in 2020 (see Chapter 3 for more detail on how these measures were constructed). On the other hand, about one-third of commercial health insurance markets were of moderate or low concentration in both 2008 and 2020. Physicians have been involved in a considerable amount of consolidation activity during these years, both in terms of mergers between physician groups and mergers with hospitals (vertical consolidation) as well as private equity acquisition of physician practices.

Health care market consolidation and concentration may have independent impacts on outcomes of interest such as price and quality. It will be important to account for these impacts in evaluating the effects of NSA. An environmental scan conducted for this report examined evidence on impacts of consolidation on price, quality, and access to health care in health care provider and health insurance markets. It found strong evidence that horizontal consolidation of hospitals is associated with higher prices paid to providers and some evidence that vertical consolidation of hospitals and physician practices leads to higher prices paid to providers. It also found that horizontal consolidation of commercial insurers is associated with lower prices paid to providers as insurers gain market power in negotiations with providers. However, the lower prices paid to providers do not appear to be passed onto consumers, who face higher premiums

following insurer consolidation. Finally, the scan also assessed the evidence of the effects of consolidation on quality of care and found that evidence on these effects was generally weak and mixed as to the direction of the impact on quality measures.

In addition to the broader trends in health care consolidation described above, the health care system has undergone dramatic changes since 2020 due to the COVID-19 pandemic, and researchers are still examining the full scope of those changes – as well as what their long-term impacts will be on health care markets. This creates additional challenges and uncertainty in identifying the effects of NSA surprise billing protections that took effect in 2022.

**OON Billing** – In order to estimate the impacts of NSA, it is important to establish the overall trend in OON billing and drill down to the items and services most likely to be affected. Providers, items and services, and patients most commonly associated with surprise OON bills prior to NSA are likely to be those most affected by the law. Overall, there was a downward trend in OON claims prior to NSA implementation – the prevalence of professional claims that were OON decreased from 6.0 percent to 4.7 percent from 2012 to 2020. In addition, the share of total payments that were OON declined over this period from 9.2 percent in 2012 to 6.8 percent in 2020.

Most physicians have a very low prevalence of OON bills. Approximately 70 percent of physicians bill 2 percent or fewer of their claims OON. A small share of physicians account for a disproportionate share of OON bills, with just over 5 percent of physicians who bill the majority of their claims OON. The specialties with the highest rates of OON billing are psychiatry, emergency medicine, pathology, anesthesiology, and pain medicine, each of which, on average, bill over 4 percent of their claims OON. Another factor in the rate of OON bills is the place of service. Claims from EDs (13 percent) and ambulatory surgery centers (ASCs) (8 percent) are more likely to be billed OON than claims from office visits (4 percent).

## **A Conceptual Framework for Estimating NSA Impacts**

NSA requires the Secretary, in consultation with the Federal Trade Commission and Attorney General, to provide an assessment of the impact of NSA on market consolidation, health care spending, and access to health care. It is therefore useful to develop a conceptual framework that considers all of the pathways by which NSA might affect health care market outcomes. A primary goal of NSA is to reduce the number of surprise bills and the out-of-pocket spending associated with them. A potential downstream effect of the reduced out-of-pocket liability is that medical debt may be reduced. However, there may be other effects as well. Negotiations between providers and plans and insurers affect both in-network and OON prices, as well as network participation by providers. To the extent that these dynamics, impacted by NSA, lead to more market power for insurers, insurers may be able to negotiate lower in-network prices, reduce premiums, or limit overall health spending. One possible response to the increase in insurer market power is providers seeking to consolidate to increase their own market power and strengthen their bargaining positions, which could lead to higher relative prices and increased spending.

## **Methods for Estimating Potential NSA Impacts**

As described above, estimating the independent impacts of NSA on key outcomes such as prices, spending, quality, access to health care, and market consolidation will be challenging. For future reports, we will identify the most promising study designs and statistical methods to explore these questions as data become available. In addition, we will hold discussions with interested parties and use qualitative methods as appropriate to provide the most comprehensive picture of NSA impacts as possible.

## Chapter 1. Introduction and Overview

NSA was enacted to help protect participants, beneficiaries, and enrollees in group health plans and group and individual health insurance coverage from surprise medical bills in certain situations where surprise billing commonly occurs. The law's provisions providing protections against surprise billing took effect on January 1, 2022.

These NSA requirements apply to items and services provided to most individuals enrolled in private health plans and coverage, including:

- Employment-based group health plans, including both self-insured and fully insured plans, and plans sponsored by private employers, unions, or state and local government employers
- Individual or group health insurance coverage on or outside the Federal or State-based Exchanges
- Federal Employee Health Benefit (FEHB) plans
- Certain church plans within IRS jurisdiction
- Student health insurance coverage

Surprise billing refers to situations where an individual unexpectedly receives an OON bill for the difference between what the provider charges for an item or service and what the individual's plan or issuer will pay. Surprise medical bills from OON providers are often for emergency or ancillary services when patients do not have a choice of provider. Typical examples include emergency care, anesthesiology, or diagnostic testing. These situations occur at both OON facilities and in-network facilities where a treating physician or other provider is OON. Often surprise medical bills are much higher than patients had anticipated before receiving health care items and services. Patients may have had no way of knowing that these providers were not in their health plan's or issuer's network and might receive bills from these providers for items or services not fully covered by their plan or issuer. The NSA, as well as several previously enacted state surprise billing laws, was designed to address these kinds of surprise medical bills (ASPE, 2021).

Prior to the enactment of NSA, studies found OON bills were a common occurrence for patients treated in emergency departments or who were admitted to the hospital, many of which would be considered surprise bills. In 2016, patient OON responsibility for ED surprise bills averaged \$628 and was \$2,040 for inpatient admissions (Sun et al., 2019). These unexpected costs represent significant financial distress for many Americans, 63 percent of whom report not being able to cover a hypothetical \$400 emergency expense exclusively using cash or its equivalent (Board of Governors of the Federal Reserve System, 2023). In a 2016 survey, 69 percent of those who had problems paying for medical care received from an OON provider said they did not know that the provider was not in their plan's network (Hamel et al., 2016). In 2018, among those reporting problems affording health care, the second most frequently cited reason for those problems was unexpected medical bills, some of which may be surprise bills (Hamel, Muñana, and Brodie, 2019). In 2020, nearly 20 percent of insured adults in the two years prior received a surprise bill because the provider was OON and two-thirds of adults are worried about being able to afford unexpected medical bills (Pollitz et al., 2020). While the precise contribution of surprise billing to medical debt cannot



be determined from available data sources, surprise bills likely play a role in medical debt and financial stress for American families (ASPE, 2020).

Prior to NSA, patients frequently received OON items and services which may have resulted in a surprise bill. For large employer plans, 18 percent of ED visits and 16 percent of in-network inpatient stays had at least one OON charge in 2017 (Pollitz et al., 2020). Other studies have found that 22 percent of ED visits at in-network facilities included care by OON physicians from 2014 to 2015 (Cooper and Scott Morton, 2016), and 20 percent of inpatient admissions from the ED, 14 percent of outpatient visits to the ED, and 9 percent of elective inpatient admissions involved an OON provider in 2014 (Garmon and Chartock, 2017).

NSA provisions require plans and issuers to cover certain OON bills with patient cost-sharing requirements not greater than the requirements that would apply if the bill were in-network. Plans and issuers and providers that are unable to agree on the OON rate payable to the provider after a 30-day open negotiation period may enter the Federal independent dispute resolution (IDR) process<sup>5</sup> to arbitrate the OON rate. The most common medical procedure codes initially reported among disputes in the Federal IDR<sup>6</sup> system from April 15 to September 30, 2022 involving emergency or non-emergency items and services were ED services (66 percent), radiology (9 percent), and anesthesia (7 percent) (The Departments, 2022).

Section 109 of NSA directs the Secretary, in consultation with the Federal Trade Commission and Attorney General, to conduct a study on the effects of certain provisions of NSA on market consolidation, overall health care costs, and access to health care services (see Appendix A for details). Section 109 also directs the Secretary, in consultation with the Secretary of Labor and the Secretary of the Treasury, to make recommendations with respect to potential challenges to addressing anti-competitive consolidation of health care providers, plans and issuers. The effects of NSA on prices paid to OON providers will likely depend on how the Federal IDR process unfolds and expectations among disputing parties about how arbitrators may adjudicate cases. If OON rates decrease in general, then providers' alternative to being in a plan's or issuer's network would become less favorable and their bargaining power relative to health plans and issuers would decrease, which could in turn lead to changes in in-network prices. If OON rates increase, then the opposite could happen. Any price changes may have impacts on total health care spending, consumer spending, and health care market decisions that could affect health care consolidation, patient access to health care, and quality of care. The price effects of NSA may extend beyond OON items and services, as negotiations between providers and plans and issuers over in-network rates likely consider anticipated OON prices as the alternative to entering a contract. Given NSA's potential

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<sup>5</sup> Disputes are eligible for the Federal IDR process only if there is no All-Payer Model Agreement or specified state law that applies to the item or service, provider, and plan and issuer involved.

<sup>6</sup> If a provider and plan or issuer cannot reach an agreement on an OON payment dispute, then either party may initiate the Federal IDR process. The IDR process is a baseball-style arbitration process under which the provider and the plan or issuer each submit to a third-party arbitrator (i.e., certified IDR entity) their best and final offers. The certified IDR entity must review both offers and make a determination. Some states have their own separate IDR process.

effects on OON and in-network prices, the law may also affect provider decisions about contracting with plans and issuers, resulting in changes to network structures and the prevalence of OON billing.

Changes in prices and other aspects of the law may in turn lead to changes in OON spending, medical debt, total spending, and premiums. Financial protections and changes in prices would affect financial barriers to care. Changes in prices may affect provider decisions regarding consolidation, provider supply (e.g., staffing), and investments in quality improvement over the long term. Changes in the supply of providers would in turn have implications for access to health care, and changes in consolidation could influence prices, access to health care, and quality of care.

Section 109 of NSA requires this report and four additional annual reports continuing from 2024 through 2027. This first report presents broad context and baseline trends for assessing potential impacts in the future reports. The report also summarizes NSA, with a particular focus on the patient financial protections and dispute resolution process that are likely to affect outcomes in the health care sector. Because the surprise billing protections in NSA went into effect on January 1, 2022, robust data needed to estimate the effects of NSA on consolidation, overall health care costs, and access to health care items and services are not yet available. As data become available, future reports will contain empirical analysis of these outcomes.

Trends in consolidation, as well as trends in health care costs and access to health care, are also influenced by numerous factors such as local health care market characteristics, technology changes, and other policies of the federal and state governments. Estimating the independent effects of NSA requires data and methods that can distinguish them from these other influences. The report provides a description of the baseline factors needed to establish the existing trends in the outcomes of interest. It discusses state actions on surprise billing and literature on the impacts of those actions with a discussion of how those may be relevant to evaluating NSA (Chapter 2). Next, the report discusses the landscape and trends in health care market consolidation and how consolidation – a potential response by providers and health insurance issuers to NSA – has been found to impact health care costs, access to health care, and market concentration (Chapter 3). The report describes the recent trends in OON and surprise billing to better understand on which patients and providers NSA might have the most impact (Chapter 4). In Chapter 5, we present a conceptual model that will guide how we estimate NSA impacts relative to these baseline trends. Finally, in Chapter 6, the report concludes with the analyses that we aim to include in future reports. Future reports will continue to follow trends in OON and surprise billing, noting the types of patients, providers, and items and services where these trends appear to change following the implementation of NSA. Future reports will also track other primary effects of NSA on prices for items and services as found in analysis of claims data. We expect that future reports will include more thorough analysis of air ambulance services as well.

We intend to gather feedback from discussions with interested parties on initial impacts of NSA and anticipated impacts on consolidation, health care costs, and access to health care. These discussions may also form the basis for recommendations for effective enforcement of provisions of NSA required by section 109.

## Chapter 2. State Actions on Surprise Billing

Prior to the enactment of NSA, some states had implemented their own laws limiting surprise billing. According to an analysis from the Commonwealth Fund, 33 states (see Appendix B) had enacted surprise billing protections as of February 2021 (Kona, 2021). This includes 18 states with comprehensive protections that apply to both ED and in-network hospital settings; cover both health maintenance organization (HMO) and preferred provider organization (PPO) plans; prohibit balance billing; restrict patient cost sharing to in-network amounts; and establish a formula for determining how much an insurer will pay a provider in surprise billing scenarios, provide a dispute resolution process for settling disagreements over payments, or both (Kona, 2021). The structure of surprise billing protections varies by state, but there are two broad exemptions from state laws. First, pursuant to the Employee Retirement Income Security Act (ERISA), state surprise billing laws generally do not apply to self-insured employer plans sponsored by private employers (representing about 64 percent of commercial health coverage enrollment) (Rosso, Isserman, and Shen, 2021), though in certain states ERISA plans can opt in to state surprising billing laws. Second, federal law prohibits states from regulating prices of air ambulance services (Turrini et al., 2021). NSA addresses these gaps in protections for patients by creating federal protections for certain situations in which the state cannot or chooses not to regulate.

NSA does not supplant state surprise billing laws. If a state has an All-Payer Model Agreement or another state law that determines payment amounts to OON providers for a service, the All-Payer Model Agreement or other state law will generally determine the cost-sharing amount and the OON payment rate. However, if there is a dispute in cases when the state's process does not apply, but NSA does, the parties can use the Federal IDR process to resolve the dispute.

One complication for evaluating the impacts of NSA is that state methods for addressing surprise bills vary substantially by state, both in terms of the general approach (*i.e.*, whether the state relies on an IDR process, directly sets payment standards, or uses a hybrid approach) and in terms of the benchmark rates that state arbitrators must take into account during the state's arbitration process or the specified price levels, as applicable (Kona, 2021) (Table 2-1 ). For example, California sets payment benchmark rates for nonemergency services at the greater of 125 percent of Medicare rates or the average in-network rate for a given plan and region, while New York has established an IDR process where the arbitrator is required to consider the 80<sup>th</sup> percentile of charges in a given region as a benchmark. Some states with surprise billing laws have modified prior policies to align more closely with NSA standards—which apply to self-insured plans pursuant to NSA—in order to create a uniform approach and therefore simplify the regulations for providers and health insurance issuers (Hoadley, O'Brien, and Lucia, 2022; Adler et al., 2021). Other states may also consider aligning with NSA or addressing perceived gaps in the NSA protections.

**Table 2-1 Examples of Payment Determination Methods Under Surprise Billing Laws**

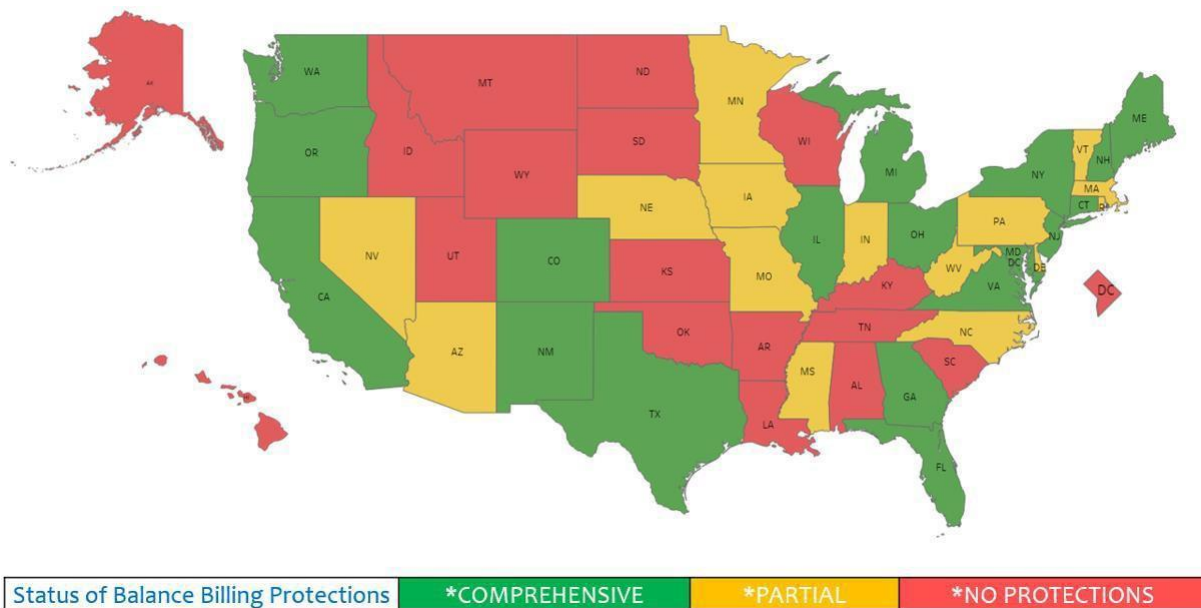
Source	Payment Determination Method	Details
California	Payment standard	<ul style="list-style-type: none"> <li>Emergency services: reasonable and customary amounts</li> <li>Nonemergency services: greater of 125% of Medicare or average in-network rate for plan and region</li> </ul>
Connecticut	Payment standard and IDR hybrid	<ul style="list-style-type: none"> <li>Emergency services: greater of 80th percentile of charges in region, in-network rate for plan, amount Medicare would reimburse for such services</li> <li>Nonemergency services: in-network rate for plan unless another amount is agreed on</li> </ul>
New York	IDR	<ul style="list-style-type: none"> <li>Arbitrator is required to consider the 80th percentile of charges</li> </ul>
Federal – NSA	Federal IDR	<ul style="list-style-type: none"> <li>Arbitrator is required to consider the Qualified Payment Amount, generally the median in-network rate for region</li> </ul>

IDR = independent dispute resolution

SOURCES: AHA, 2021; Corlette and Hoppe, 2019; Keith, Hoadley, and Lucia, 2021; and Kona, 2021.

These state laws represent important factors affecting baseline trends in OON billing and are therefore important to estimating the independent impact of NSA. Because states generally do not regulate ERISA plans with respect to surprise billing, many patients even in states that enacted surprise billing restrictions were not protected by them prior to the implementation of NSA. Figure 2-1 provides an overview of payment determination methods in NSA and a sample of states with various surprise billing laws enacted prior to the passage of NSA.

**Figure 2-1 – State Surprise Billing Protections Prior to NSA, 2021**



Source: Kona, M. (2021) State Balance-Billing Protections. <https://www.commonwealthfund.org/node/27021>

Additional detail on author’s criteria for comprehensive versus partial protections available:

[https://www.commonwealthfund.org/sites/default/files/2019-01/Criteria\\_for\\_Meeting\\_Standards\\_v2.pdf](https://www.commonwealthfund.org/sites/default/files/2019-01/Criteria_for_Meeting_Standards_v2.pdf)

## The Impact of State Surprise Billing Actions: Existing Evidence

Several studies have evaluated the effect of state surprise billing laws on the prevalence of care provided OON, and in-network and OON rates for health care item and services. This section provides a summary of these studies. While state surprise billing laws were designed to decrease occurrences of surprise billing, the potential impacts on in-network and OON prices are less clear. The emerging research suggests the impacts can be influenced by the regulatory approach taken by the state.

### **The benchmark rate for payment can be an anchor for prices determined through an arbitration process.**

States varied in their approach to addressing surprise medical bills. In particular, states vary in whether disputes are resolved through arbitration and what arbitrators should consider as “benchmark” rates for the arbitration process. In New Jersey and in New York, where arbitrators are required to consider the 80th percentile of charges, average arbitration decisions have been 7–8 percent above the 80th percentile of charges (Adler, 2019; Chartock et al., 2021). Further, the choice of a payment standard benchmark has been associated with different trajectories in nonemergency charges after the enactment of surprise billing protections as compared to states without surprise billing laws. In California, where the arbitration standard was tied to in-network prices, nonemergency OON charges decreased by 25 percent. In New York, where the arbitration standard is tied to billed charges, nonemergency OON charges increased by 24 percent (Gordon et al., 2022).

**The evidence of the effects of state surprise billing laws on both in-network and OON prices appears mixed.** This may reflect varying state approaches for determining OON prices in scenarios generating surprise bills. One study found that a state surprise billing law was associated with lower OON prices for anesthesiologists in California—which stipulates relatively low rates for those services—while another study found that a state surprise billing law was associated with higher OON prices for emergency services in Connecticut, which sets relatively high rates for that care (Adler, Duffy, Ly, et al., 2021; La Forgia et al., 2021). Two studies evaluating the same state (New York) and outcome (in-network prices for emergency physician services) yielded conflicting results, which suggests the potential difficulty of evaluating these laws (Adler, Duffy, Fiedler, et al., unpublished; Cooper, Scott Morton, and Shekita, 2020).

**Researchers generally found that state surprise billing laws affect in-network prices for covered services.** While state laws regulating or restricting surprise bills most directly impact OON prices, there is evidence that these laws can also impact in-network prices for health care items and services. In this way, surprise billing laws can influence health care prices more generally. Among studies finding an association between state surprise billing laws and in-network prices, two studies also evaluated OON prices and found that the estimates for in-network and OON prices both decreased (Adler, Duffy, Fiedler, et al., unpublished; La Forgia et al., 2021). These results suggest that surprise billing laws can impact OON prices and in-network prices as well.

**Some studies show that state surprise billing laws were associated with an increase in the share of medical bills that are for in-network care, while others show no significant change.** The limited impact found on in-network rates suggests that state surprise billing laws either increase or do not influence the

willingness of providers to join insurer networks. (Adler, 2019; Adler, Duffy, Fiedler, et al., unpublished; Cooper, Scott Morton, and Shekita, 2020; Maryland Health Care Commission, 2015).

**Numerous gaps remain in the understanding of the effects of state surprise billing laws.** Evaluations of state surprise billing laws have yielded varying results. Some of this variation likely stems from variation in how states determine OON prices in surprise billing scenarios as well as other differences in state regulation, state health care markets, and other state level variation. Additionally, many of these laws were recently implemented and understanding the full impact may take some time. Further research is needed to better understand the impacts of these laws.

To date, evaluations of state surprise billing laws have focused on primary outcomes like prices and rates of OON claims and have not assessed the effect of these laws on out-of-pocket spending by consumers. None of these state studies have evaluated downstream effects of the law, such as on total spending, premiums, health care consolidation, access to health care, or the quality of care.

NSA is in the early stage of implementation and evaluations will evolve as data become available over the coming years. As NSA is evaluated, it will be important to be cautious in making comparisons with evaluations of state surprise billing laws which vary in their approach from the federal law. Furthermore, because NSA was written to defer to some existing state surprise billing laws and limited the degree to which NSA preempts state laws, many state surprise billing prohibitions continue. The fact that existing trends likely differ depending on each state's laws, and that some of these state law provisions will continue along with NSA provisions, presents both opportunities and challenges as we develop methods to estimate NSA's impacts.

## Chapter 3. Consolidation and Competition – Trends and Evidence of Effects in Health Care Markets

NSA protections for consumers against surprise medical bills may have other effects on health care markets. To the extent that NSA results in lower OON prices, providers may choose to move in-network to increase patient volume if they no longer receive a significant price advantage by staying out of provider networks. This may cause providers to lose some of their bargaining power with plans and issuers and result in lower in-network prices (Cooper, Scott Morton, and Shekita, 2020). If these price changes do lead to decreased bargaining power for providers at their existing levels of market power, they might, in turn, look to consolidate to increase their market power to recoup some of their lost leverage in bargaining with plans and issuers.

To the extent NSA creates further incentives for health care providers to increase their market power by consolidating into larger groups, it is useful to review the literature on consolidation in health care to anticipate potential impacts if consolidation were to continue, or accelerate, post-NSA.

### Terminology – Competition, Concentration, Consolidation

In well-functioning markets, competition provides strong financial incentives for efficiency and value. Informed consumers shop for the best value in products or services, and sellers compete on the price and quality of those products or services. The financial incentives in this environment motivate sellers to innovate to reduce costs and improve their products by adopting new technologies or new business models. The consequences of not being innovative are that less efficient producers are driven from the market by more aggressive and creative competitors. In theory, markets that function well to assure lower prices and higher quality have several characteristics. In general, competition requires that there be a sufficient number of buyers and sellers, that the buyers are well informed, and that there are relatively low costs for market entry and exit. In general, competition and its favorable effects on price and quality decreases with fewer providers offering products or services in a given market. When there are fewer providers, participants gain market power which insulates them from the competitive forces that assure the lowest prices and high-quality products.

There are two concepts relevant to describing and measuring the degree of competition or market power that we focus on in this report: consolidation and concentration. Consolidation refers to actions by participants that ultimately modify market structure and potentially increase their market power. Concentration describes market structure as measured by the number and size of the competitors within that market.

A *consolidation* event often refers to a merger, purchase, or acquisition of an entity. An entity exiting a market can also increase the concentration of the remaining market. However, consolidation also encompasses less formal joint arrangements between organizations. For example, there has been growth in non-ownership arrangements and affiliations between organizations that allow for joint negotiations, such as clinically integrated networks (CINs) and accountable care organizations (ACOs) in a form of “soft consolidation” (Ridgely, Timbie, et al., 2020; Lyu, Chernew, and McWilliams, 2021). Consolidation that



eliminates or weakens competition often results in greater market power for the organization and the potential for less competitive prices and quality. Conversely, a purported benefit of consolidation is that greater integration will lead to increased efficiencies, coordination of care, and patient outcomes. However, the achievement of these benefits is most closely tied to the ability of the consolidating organizations to clinically integrate, which is not guaranteed simply because entities structurally integrate.

*Concentration* refers to the relative size and number of competitors in a market defined by product and geography. Market concentration is typically represented by measures such as the Herfindahl-Hirschman Index (HHI), which is described below. It is important to note that depending on existing market structure and the size of a merger or acquisition, a given consolidation event may or may not have an appreciable impact on concentration and market power.

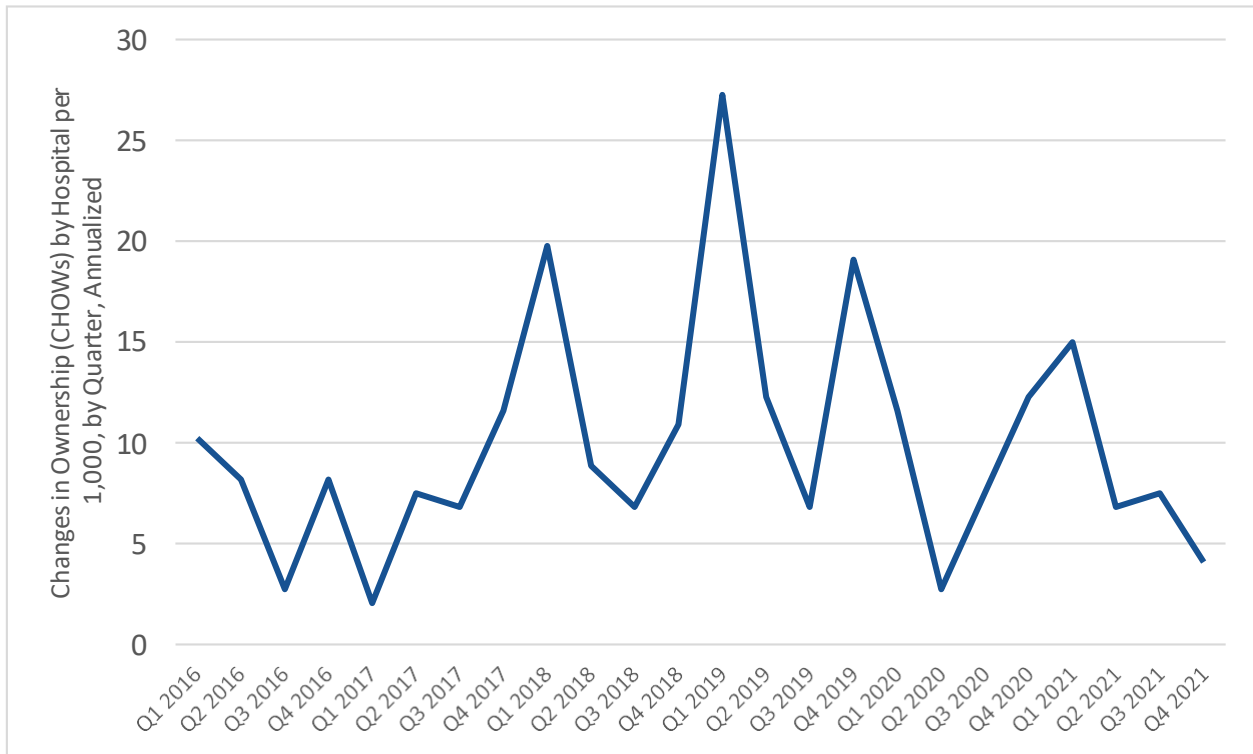
### **Recent Trends in Health Care Consolidation**

In this section, we summarize recent consolidation trends in both provider and insurance markets. More detailed descriptions can be found in a recent study conducted by the RAND Corporation for ASPE to help set the baseline for this series of reports to Congress (Liu et al., 2022). In future Reports to Congress, we will assess how these trends change after the implementation of NSA. Hospital markets are becoming more concentrated as a result of a steady stream of hospital consolidations. Physician practices have grown more consolidated in the past decade, with more physicians belonging to larger practices and fewer physicians in single or small practices (Capps, Dranove, and Ody, 2017; Muhlestein and Smith, 2016; Kane, 2021). Vertical consolidation between hospitals or health systems and physicians is increasing.

Trends in hospital consolidation began to increase in 2010 relative to prior years, though the number of deals and the number of hospitals involved in the mergers are no higher than in the late 1990s (AHA, 2016; NICHM, 2020). Between 2010 and 2020, there were more than 1,000 announced hospital mergers and acquisitions (Liu et al., 2022). As displayed in Figure 3-1, since 2017, the number of changes in hospital ownership have fluctuated on a quarterly basis but do not seem to be subject to an increasing overall trend. While many of these changes in ownership represent consolidation, some could be health care systems divesting a hospital or a sale from a larger parent company to a smaller one; the latter two changes of ownership could plausibly increase competition in a market.



**Figure 3-1 - Changes of Ownership, by Hospital per 1000, by Quarter (Annualized), 2016-2021**

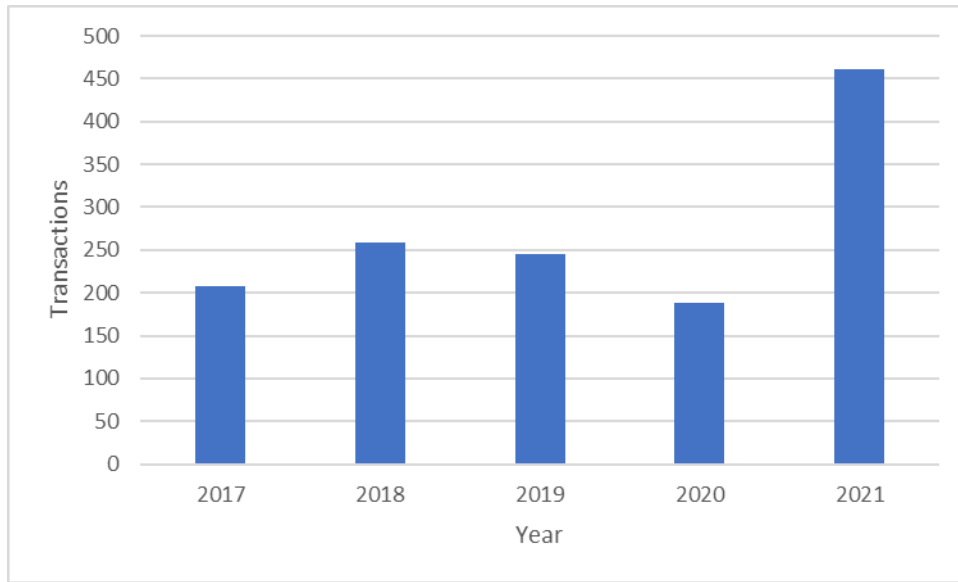


Source: W. Pete Welch et al. "Changes of Ownership of Hospital and Skilled Nursing Facilities: An Analysis of Newly Released CMS Data." ASPE Data Point. April 20, 2022.

### Physician Markets

Physician group mergers saw a major increase in 2021 (Figure 3-2). This increase occurred after a decline in 2020 that was presumably related to uncertainty surrounding the COVID-19 pandemic. Whether this increase is largely a function of mergers that might have otherwise happened in 2020 and were deferred or whether it represents an accelerating pace of physician group mergers is still unclear.

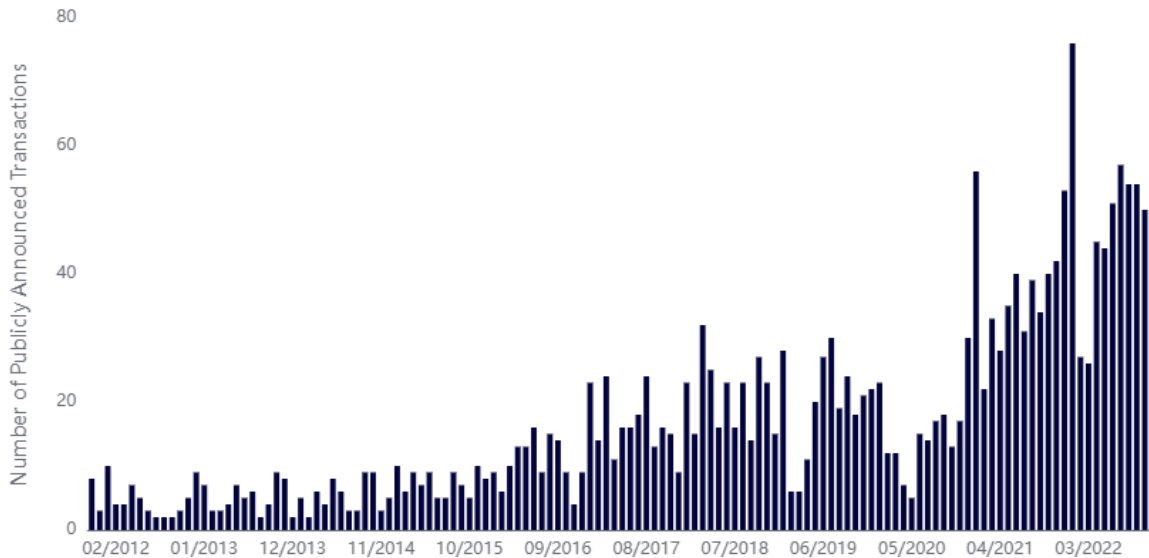
**Figure 3-2 – Physician Medical Groups Mergers and Acquisitions, 2017 - 2021**



Source: LevinPro HC, Levin Associates, December 2022 levinassociates.com

Over a longer timeframe, the period since 2017 has had a higher number of physician group mergers than the years prior to 2017, other than the early part of 2020 when the COVID-19 pandemic initially developed (Figure 3-3).

**Figure 3-3 – Physician Group Mergers and Acquisitions by Month, 2012-2020**

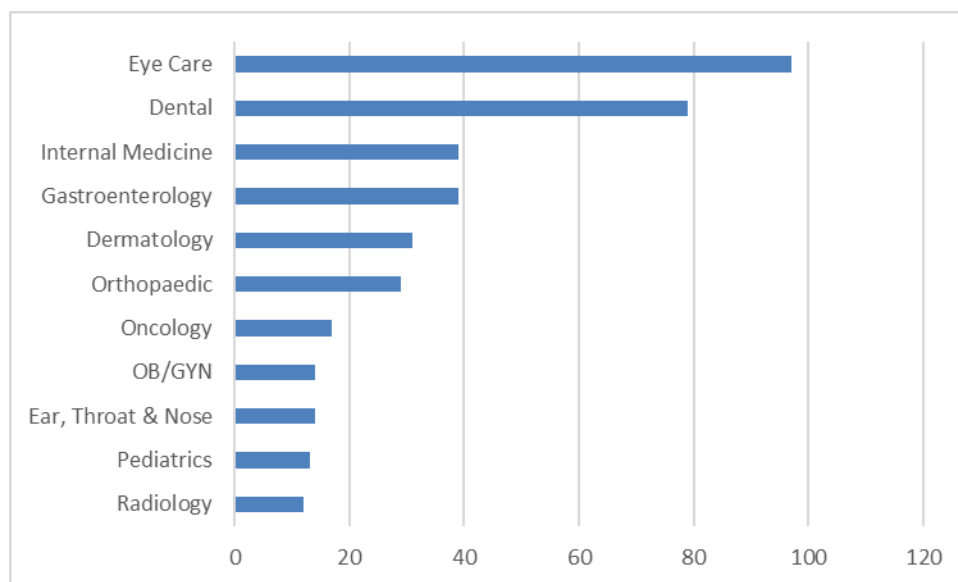


Source: LevinPro HC, Levin Associates, December 2022 levinassociates.com

The high number of mergers and acquisitions in 2021 was not focused in practice areas most associated with surprise billing (i.e. ED, radiology, anesthesiology), though radiology was 11<sup>th</sup> highest among

physician specialties by deal volume (Figure 3-4). Again, however, we cannot distinguish here between acquisitions that represent consolidation versus those that would be neutral or increase competition in a given market.

**Figure 3-4 – Physician Specialties by Merger and Acquisition Deal Volume, 2021**



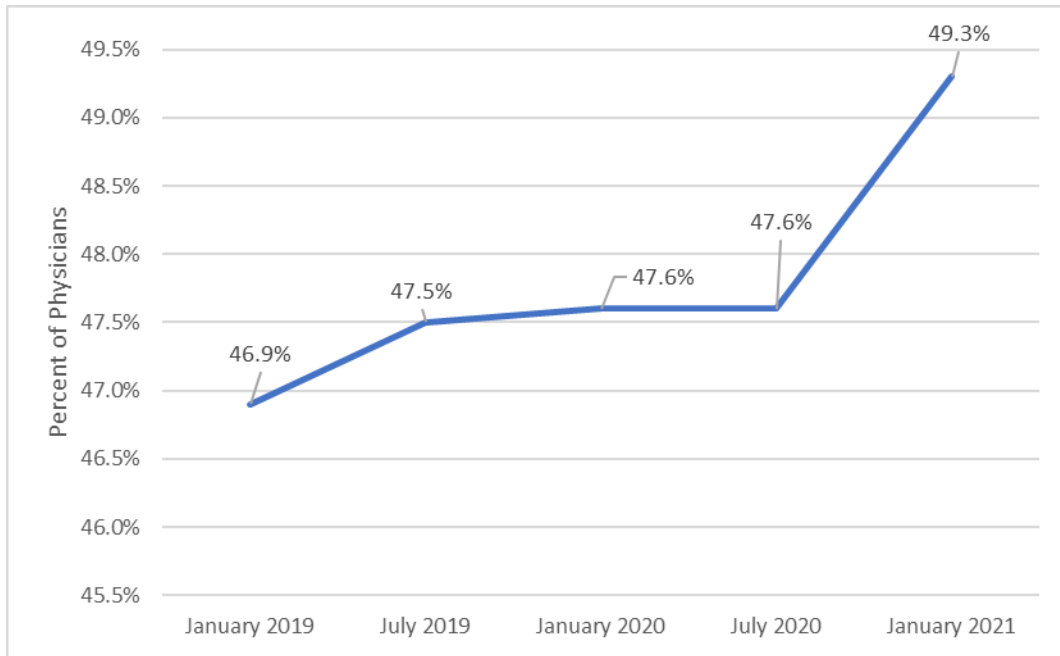
Source: LevinPro HC, Levin Associates, December 2022 levinassociates.com

Again, monitoring the composition of physician specialty mergers will be instructive for whether NSA is having a major impact on provider consolidation.

### **Consolidation and Vertical Integration**

In general, vertical consolidation or integration refers to a company acquiring or developing one or more important parts of their production process or supply chain. In recent years, there has been an acceleration of acquisitions combining traditionally independent elements of the health care supply chain. Most prominent among these consolidations has been hospitals purchasing or contracting with physicians' practices. A recent report estimated that in 2021, nearly 50 percent of physicians were employed by hospitals (Figure 3-5) (Avalere Health, 2021). Simultaneously, insurers and other corporate entities also appear to be acquiring physicians' practices and other health care providers. While the number of practices employed by hospitals, insurers, and other corporate entities has been rising over time, the uncertain revenue impacts of the COVID-19 pandemic during 2020 may have accelerated the trend into 2021.

**Figure 3-5 – Percent of Physicians Employed by Hospitals and Health Systems, 2019-2021**



Source: COVID-19's Impact On Acquisitions of Physician Practices and Physician Employment 2019-2020. June 2021. Physicians Advocacy Institute, prepared by Avalere Health. [http://www.physiciansadvocacyinstitute.org/Portals/0/assets/docs/Revised-6-8-21\\_PAI-Physician-Employment-Study-2021-FINAL.pdf?ver=K6dyoekRSC\\_c59U8QD1V-A%3d%3d](http://www.physiciansadvocacyinstitute.org/Portals/0/assets/docs/Revised-6-8-21_PAI-Physician-Employment-Study-2021-FINAL.pdf?ver=K6dyoekRSC_c59U8QD1V-A%3d%3d)

The acquisition of physician practices by private equity firms has increased in recent years (Tan et al., 2019; Patel et al., 2019). Private equity investment in anesthesia practices is associated with increased prices paid to anesthesia practitioners (La Forgia et al., 2022). What role NSA may play in the ongoing attractiveness of certain specialties to private equity investment is unclear.

### Trends in Health Care Market Concentration

Health insurance, hospital, and physician organization markets have been characterized as highly concentrated for years (Fulton, 2017). This section displays maps of a commonly-used measure of market concentration in the academic literature and by antitrust agencies, the HHI,<sup>7</sup> for several health care product markets at several levels of geography.<sup>8</sup> The HHI measures the relative sizes of firms in a market.

<sup>7</sup> The Herfindahl-Hirschman Index (HHI) is calculated as the sum of the squared market shares of firms in a given market and is scaled from 0 to 10,000.

<sup>8</sup> Throughout this document, market definitions are not necessarily antitrust product markets nor was a full analysis conducted in accordance with the U.S. Department of Justice and Federal Trade Commission Horizontal Merger Guidelines § 5.3 (revised Aug. 19, 2010) that would establish any of these as an antitrust product or geographic market.

There are multiple potential markets for health insurance and health care items and services. For example, in the context of commercial health insurance, the DOJ has defined markets for individual, small group, large group, and

The measure approaches zero when a market has a large number of firms of equal size (i.e., “perfect competition”) and reaches its maximum of 10,000 when the market is a monopoly. The Department of Justice and Federal Trade Commission’s 2010 horizontal merger guidelines generally classify markets into three types based on their HHI:

- Unconcentrated Markets: HHI below 1500
- Moderately Concentrated Markets: HHI between 1500 and 2500
- Highly Concentrated Markets: HHI above 2500.<sup>9</sup>

HHI scores for hospital markets are calculated based on data from the American Hospital Association Annual Survey. Adjusted hospital admissions<sup>10</sup> were used to measure the market share of each hospital or hospital system. For these analyses, hospital markets are defined as the hospital referral region (HRR). HRRs are regional health care markets designated by the Dartmouth Atlas Project (Wennberg and Cooper, 1999). HRRs reflect patterns in inpatient tertiary care referrals while core-based statistical areas (CBSAs)<sup>11</sup> reflect urban commuting patterns.<sup>12</sup> Federal antitrust agencies conduct relevant market analyses on a case-by-case basis, meaning the relevant markets in antitrust enforcement actions may differ from the methodology described here.

For at least the past three decades, hospital markets have become increasingly concentrated (Gaynor, 2020). The percentage of HRRs with an HHI <1,500 – meaning unconcentrated – decreased from 23 percent (71 of 306) in 2008 to 12 percent (36 of 306) in 2020 (Figure 3-6).

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national accounts. With respect to national accounts, it is not necessarily clear that concentration in a single geography is informative of overall competition for a given national account.

<sup>9</sup> U.S. Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines § 5.3 (2010). <https://www.justice.gov/atr/horizontal-merger-guidelines-08192010#5c>

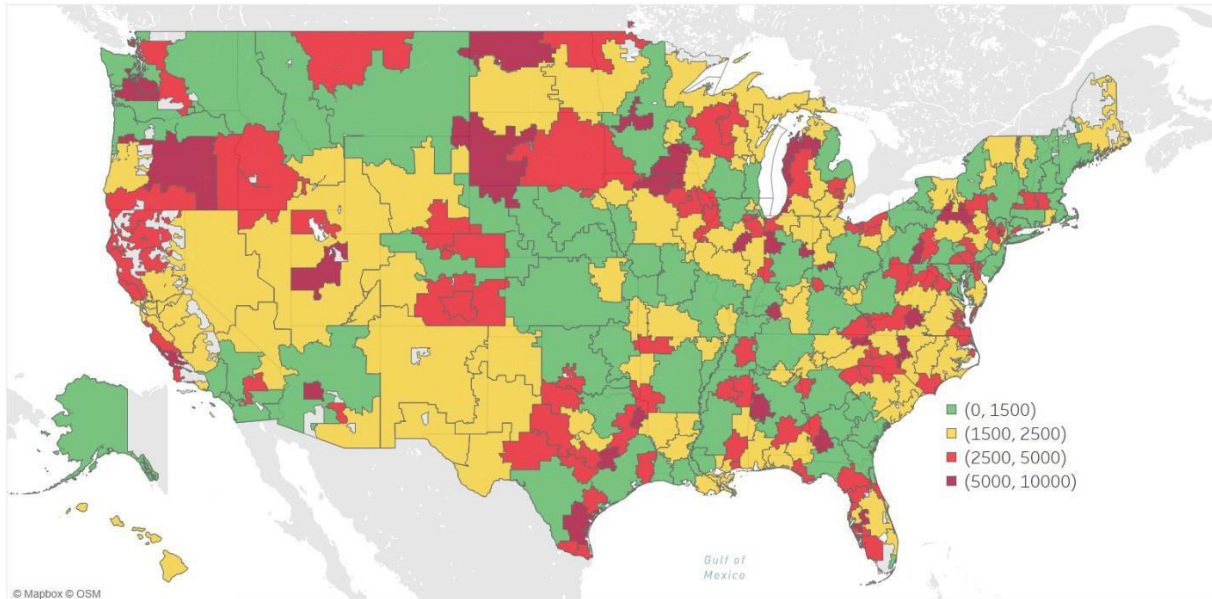
<sup>10</sup> AHA’s adjusted admissions measure attempts to capture both inpatient admissions and outpatient volume by scaling based on relative revenue. Adjusted Admissions = Admissions + (Admissions \* (Outpatient Revenue/Inpatient Revenue))

<sup>11</sup> A core based statistical area (CBSA) is that of an area containing a large population center, or urban area, and adjacent communities that have a high degree of integration with that population center.

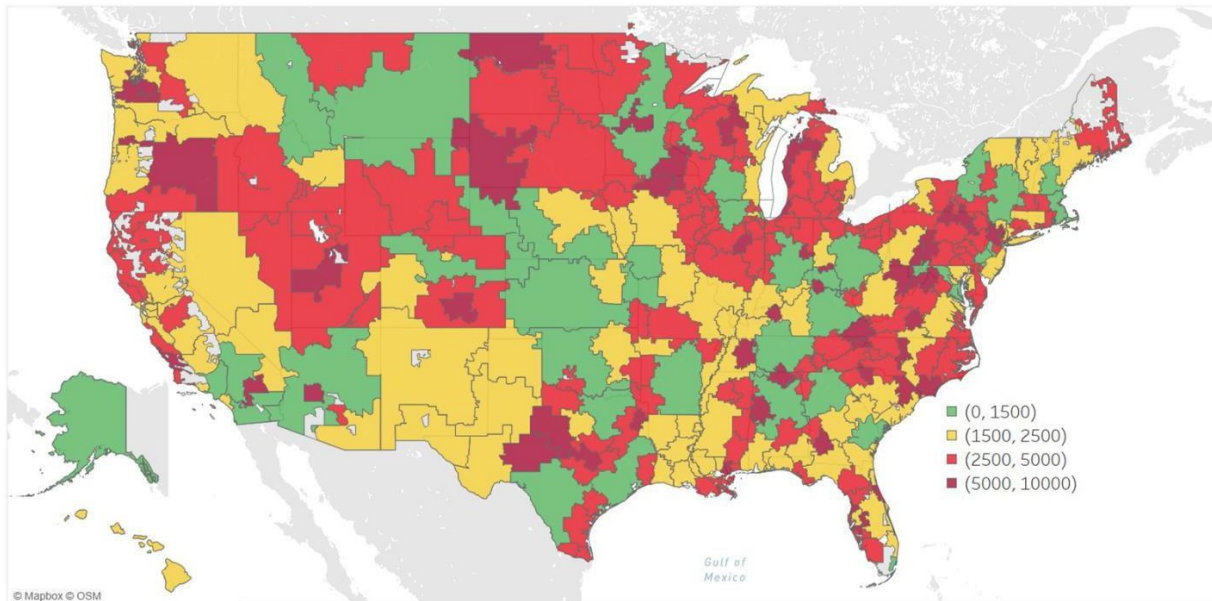
<sup>12</sup> The increase in remote work and telehealth due to the COVID-19 pandemic may also influence the construction of relevant markets.

**Figure 3-6 – Hospital Referral Region (HRR) Level Herfindahl-Hirschman Index (HHI) Scores For Adjusted Admissions, 2008 and 2020**

2008



2020



Source: ASPE Analysis of AHA Data

Below, in Figure 3-7, health insurance HHI scores are calculated using Clarivate Managed Market Surveyor<sup>13</sup> data and are presented at the CBSA level. Markets for health insurance are also frequently concentrated, but the distribution has not changed substantially in recent years. In 2008, 31 percent of

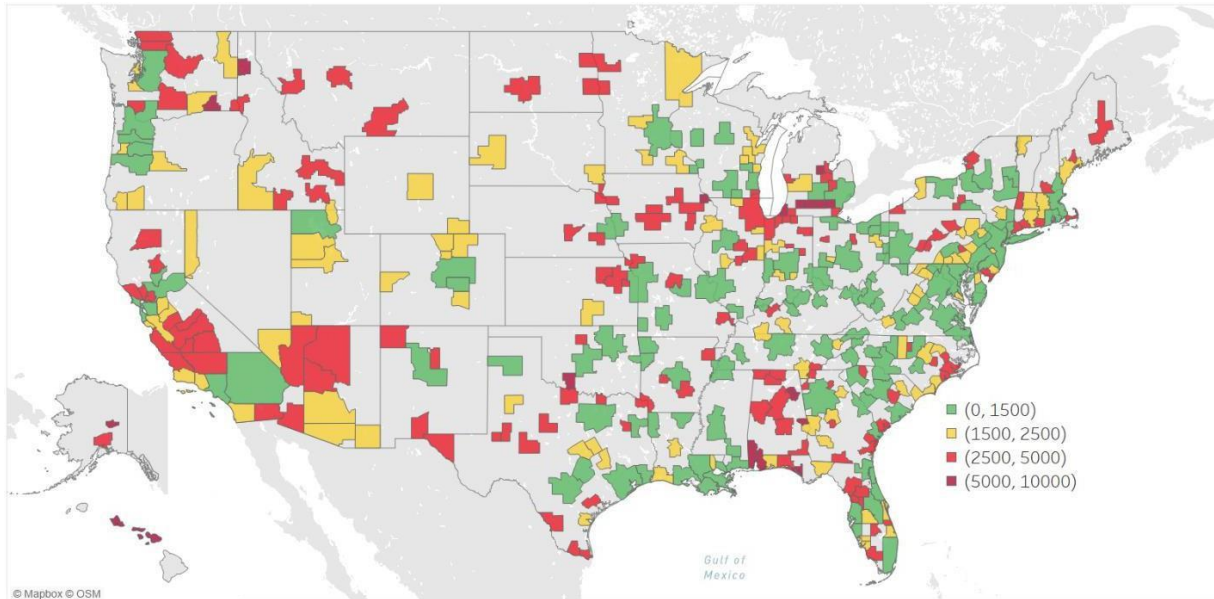
<sup>13</sup> Clarivate Managed Market Surveyor captures enrollment of health lives and affiliations by payer and geography.



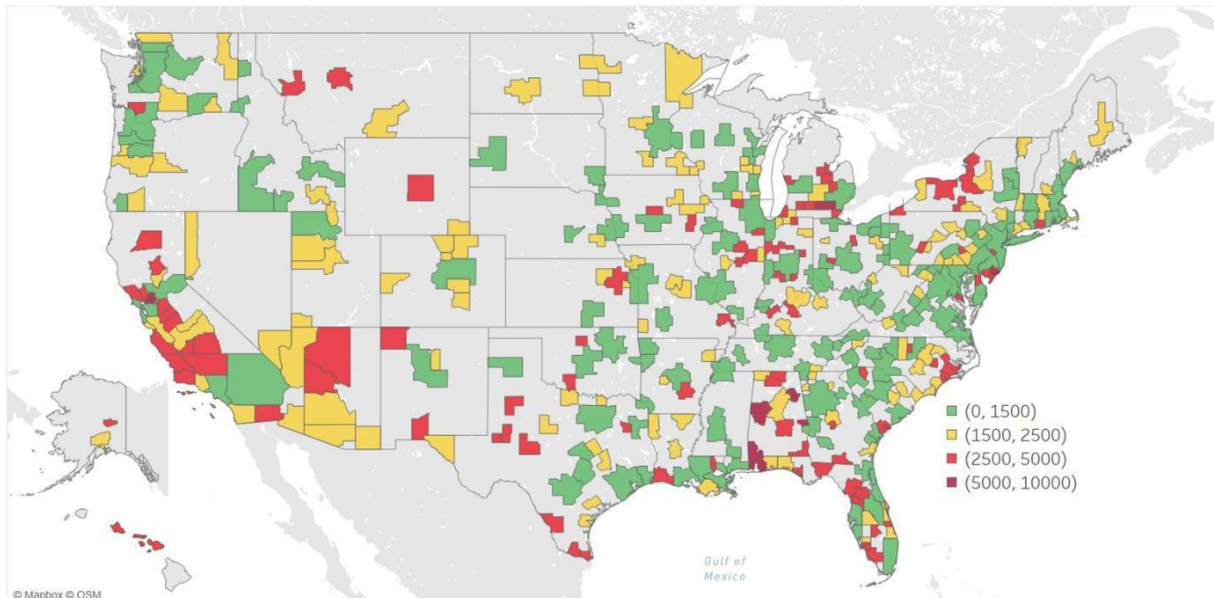
CBSAs had commercial health insurance HHI scores below 1,500 (120 of 384). In 2020, a similar 35 percent of CBSAs had commercial health insurance HHI scores below 1,500 (134 of 384).

**Figure 3-7 – Core-based Statistical Area (CBSA) Level Herfindahl-Hirschman Index (HHI) Scores for Commercial Health Insurance Membership, 2008 and 2020**

2008



2020



Source: ASPE Analysis of Clarivate | Clarivate Managed Market Surveyor

## Impact of Consolidation and Concentration on Health Care Outcomes: Current Evidence

As part of an environmental scan of evidence on consolidation trends and the impacts of consolidation on price, quality, and access to health care in health care provider and insurance markets conducted by the RAND Corporation for ASPE, researchers reviewed 172 articles for evidence of the effects of consolidation on these outcomes (Liu et al., 2022). They found strong evidence that hospital horizontal consolidation is associated with higher prices paid to providers and some evidence of the same for vertical consolidation of hospitals and physician practices. Few studies have directly examined total spending rather than prices for items and services.

The report found that horizontal consolidation of commercial insurers is associated with lower prices paid to providers as insurers gain market power in negotiations with providers. However, the lower prices paid to providers do not appear to be passed onto consumers, who face higher premiums following insurer consolidation.

The report also assessed the evidence of the effects of consolidation on quality of care. These assessments of quality can be challenging to generalize as quality performance is complex and multifaceted. Furthermore, studies often examine a small number of quality measures that may not overlap with those used in other studies. Studies often examine a specific instance of a merger rather than examine effects nationally. These studies show mixed findings depending on the quality measures studied, setting, and degree of integration. Several studies show no change in most quality measures following horizontal and vertical consolidation. Other studies find mixed effects that vary with the degree of vertical integration.

There was insufficient evidence of the effects of horizontal or vertical consolidation on patient access to health care, and low or insufficient evidence on the effects of consolidation on health care wages.

Despite increasing interest in the effects of consolidation in other care settings such as pharmacy and telehealth provider markets as well as growing attention to private equity ownership and investment, the report found insufficient or weak evidence on the effects of these changes in health care markets. Most of the empirical studies included in the report on private equity investments focused on nursing homes, and findings were either mixed or too limited to draw clear conclusions.

The report found moderate evidence that an expanding scope of practice is associated with, if anything, a decrease in health care spending and increase in access to health care and quality of care, but the report found insufficient evidence on the effects on health care prices and wages. The report also found moderate evidence that certificate of need laws<sup>14</sup> are associated with no change or a decrease in health care quality, but the evidence was low or insufficient for other outcomes.

The report found limited mixed evidence on the effects of hospital and physician consolidation on the provision of charity care and insufficient evidence on its effects on medical debt burden and collection

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<sup>14</sup> Certificate of need (CON) laws require health care providers to obtain permission from a state (or state-authorized) agency to construct new health care facilities, expand existing ones, or offer certain health care services.



(not shown in Appendix C). The report found no studies examining the effects of insurer consolidation on charity care and medical debt.

State surprise billing protections are relatively new. The report noted, that, to date, the effects of these protections on prices have been heterogeneous depending on the various approaches taken and their implementation. Few studies have examined outcomes other than prices.

The report also identified areas where there are gaps in evidence. Non-ownership forms of consolidation that involve contractual arrangements or memorandum of understanding agreements between hospitals or health systems and physicians are understudied and often difficult for researchers to measure. The report noted that in addition to the limited evidence of the average effects of consolidation on quality of care, there is very little evidence on the heterogeneity of these effects on quality for different care settings, subpopulations, and extent of integration.

**Table 3-1 Condensed Summary of Consolidation Effects on Health Care Prices, Spending, Quality, Access, and Wages**

Domain	Health Care Prices	Health Care Spending	Quality of Care	Patient Access	Health Care Wages
Horizontal					
Hospital	Increase <sup>a</sup>	Increase <sup>a</sup>	Mixed depending on measure and setting <sup>b</sup>	Possible decrease <sup>d</sup>	Decrease <sup>a</sup>
Physician	Increase <sup>a</sup>	Mixed <sup>d</sup>	Mixed <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>
Commercial insurers	Decrease <sup>c</sup>	Increase in premiums <sup>a</sup>	Possible increase in patient experience <sup>d</sup>	No direct evidence, might decrease with premium increase <sup>d</sup>	Possible decrease <sup>d</sup>
Vertical					
Hospitals and physicians	Mixed: increase or no change <sup>a</sup>	Increase <sup>a</sup>	Mixed: small increase or no change <sup>b</sup>	Possible increase <sup>d</sup>	Mixed <sup>d</sup>

<sup>a</sup> Cells shaded in red indicate effects that have sufficient SOE and are detrimental to consumers.

<sup>b</sup> Cells shaded in yellow indicate effects that have sufficient SOE and are unclear for consumers.

<sup>c</sup> Cells shaded in green indicate effects that have sufficient SOE and are beneficial to consumers.

<sup>d</sup> Cells shaded in gray indicate effects that have insufficient SOE.

Appendix C summarizes the report’s assessment based on its environmental scan.

## Chapter 4. Descriptive Analysis of Trends in OON Billing – Baseline Before NSA Implementation

### Recent Trends in OON and Surprise Bills

To anticipate potential impacts of NSA on the health care system, it is important to understand where its provisions are most likely to have an impact. The providers, items and services, and patients most associated with OON and surprise bills prior to NSA are likely to be the parties most affected by the law. In addition, items and services with the largest differences between in-network and OON rates will be most impacted by restrictions on balance billing and cost-sharing as well as the Federal IDR process which change the dynamics of negotiation between payers and providers.

This section presents an analysis of Health Care Cost Institute (HCCI) data presenting descriptive statistics of the trends and variation in OON billing in the United States in the period before NSA was enacted. The HCCI 2.0 data contain claim and enrollment information for 55 million commercially insured individuals per year between 2012 and 2020. The data are from three national insurers – Aetna, Humana, Kaiser Permanente – and Blue Health Intelligence<sup>15</sup>. Together, the data constitute roughly one-third of enrollees with employer-sponsored insurance in the United States, covering all 50 states. Below, in Figure 4-1, the time trend of OON prevalence from 2012 to 2020 is shown. When presenting a snapshot of OON prevalence by patient or provider characteristics for a given year, we show 2019 rather than 2020 data due to possible effects from the COVID-19 pandemic

There are limitations to this analysis. It examines all types of OON billing, including OON bills incurred at in-network and OON facilities, not surprise billing specifically. A recent study found the share of total spending that occurred OON ranged from 6 to 8 percent in 2014 to 2017, which is similar to the results presented here (Song et al., 2020). In contrast, studies focused on OON bills incurred at in-network inpatient facilities from 2014 to 2016 found that about 15 percent of admissions had at least one associated OON professional claim (Garmon and Chartock, 2017; Kennedy, Johnson, and Fuglesten Biniek, 2019). Additionally, while data on all states are included, the data may be less representative in states where the largest commercial insurers are not included in the HCCI data.

OON prevalence is defined as the share of claims that were OON out of all professional claims. The HCCI 2.0 data include a network status flag that indicates whether the claim was paid in-network or OON. This analysis focuses on professional claims since surprise billing often occurs for physician or other professional services furnished by an OON provider at an in-network facility. While inpatient and outpatient facility claims can be OON, the network status of facilities may be known for non-emergency services, and therefore bills from OON inpatient and outpatient facilities may be less commonly unexpected to the patient than professional claims. The network status for both facility and professional claims for emergency services can be unknown to the patient at the time of care, but an OON facility claim for an emergency service would typically be accompanied by OON professional claims as well.

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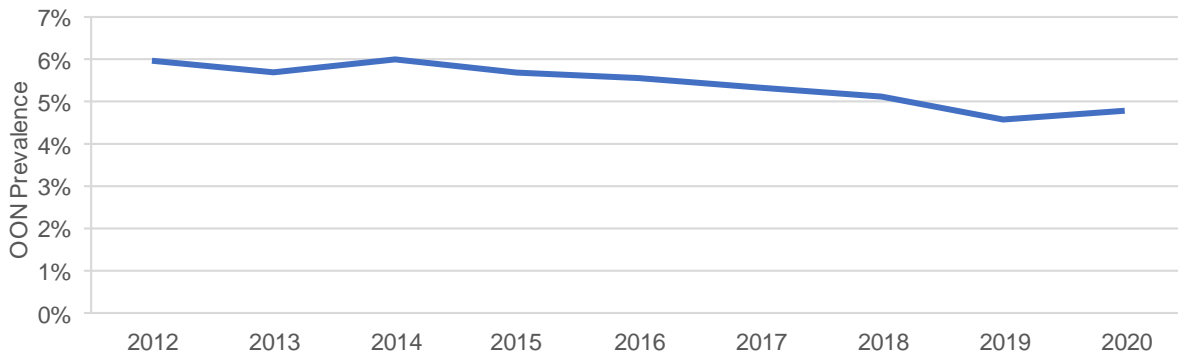
<sup>15</sup> Blue Health Intelligence is a data and analytics company that is a licensee of the Blue Cross Blue Shield Association and that collects and maintains claims data from the 36 independent Blue Cross Blue Shield licensee insurance companies.

Additionally, in some circumstances, a patient may affirmatively choose to receive services from an OON provider, a decision that would not be captured by claims data if the patient chooses to finance the service out-of-pocket.

### Overall Trends in OON Billing

The overall prevalence of professional claims that were OON decreased from 6.0 percent to 4.7 percent from 2012 to 2020 (Figure 4-1). Similarly, the share of payments that were OON out of total payments also declined over this period from 9.2 percent in 2012 to 6.8 percent in 2020 (data not shown). These declines seem to have been robust across insurance type, geography (urban vs. rural), age, and sex.

**Figure 4-1 - OON Prevalence, 2012-2020**

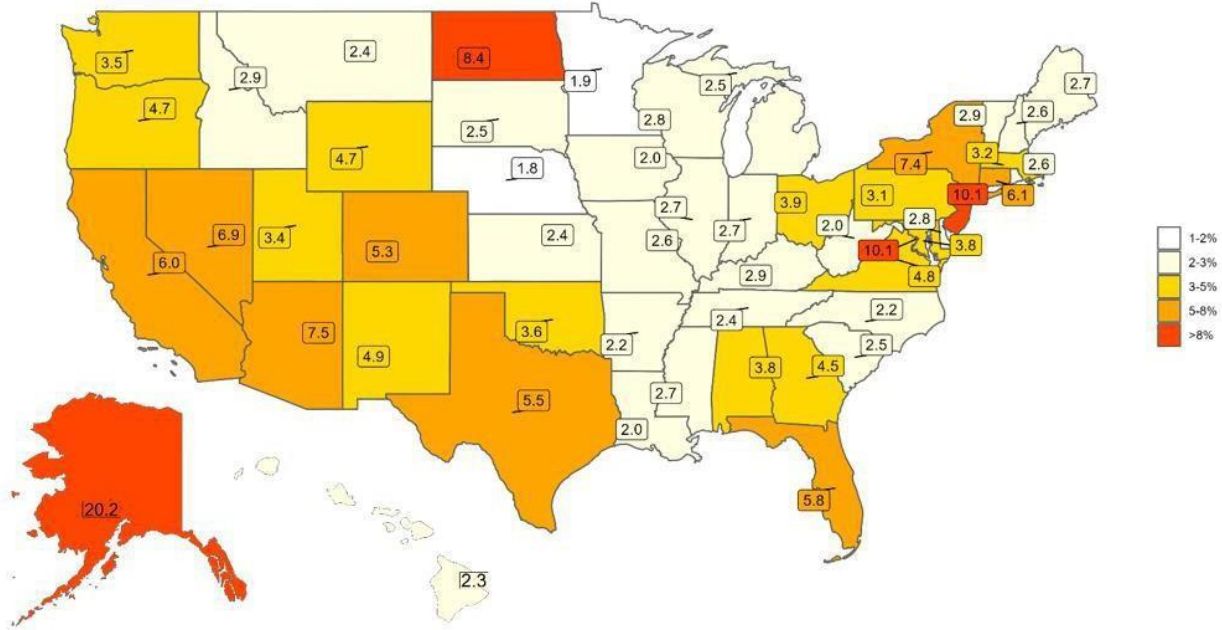


Source: RAND analysis of OON trends using Health Care Cost Institute 2.0 data

### Geographic Variation in OON prevalence

In 2019, 4.6 percent of professional claims were OON. However, there was substantial variation in the rates of OON claims by state. Rates of OON claims were generally higher in the southwest and east than in other regions of the country. Alaska (20.2 percent) had the highest rate of OON claims, and Nebraska (1.8 percent) had the lowest.

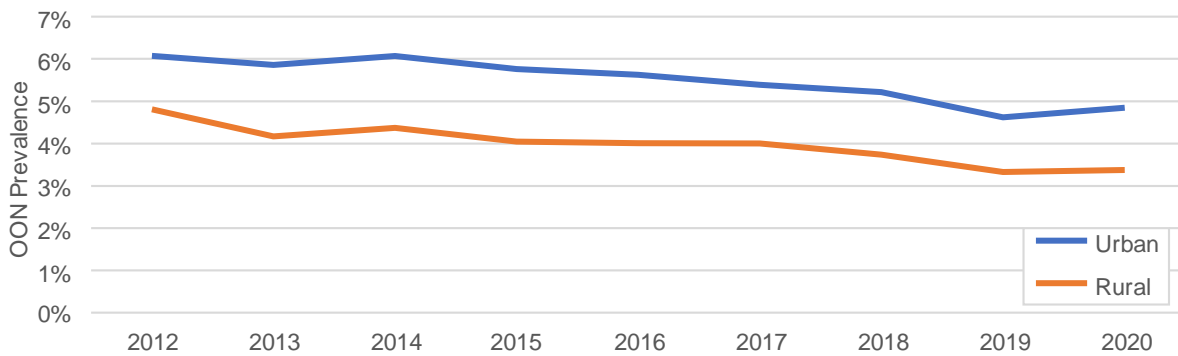
**Figure 4-2 - OON Prevalence by State, 2019**



Source: Analysis of OON trends using Health Care Cost Institute 2.0 data

Figure 4-3 below shows rates of OON prevalence by urban vs. rural residence based on patient ZIP code. Overall, among all professional claims, OON prevalence was slightly higher in urban areas than in rural areas though the decline in OON prevalence has been similar for both in the period 2012 to 2020.

**Figure 4-3 - OON Prevalence by Urban versus Rural Zip code of Residence**



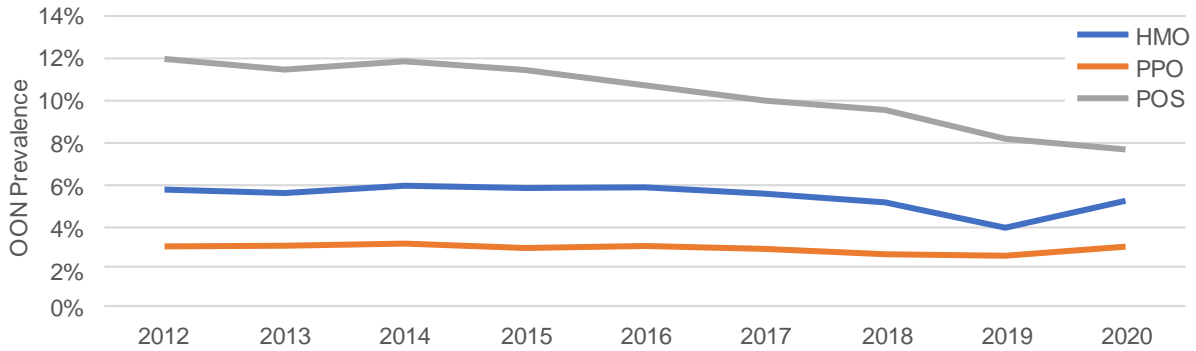
Source: Analysis of OON trends using Health Care Cost Institute 2.0 data

**Insurance Plan Type**

The share of claims that are OON was highest among those with point of service (POS) insurance, with health maintenance organizations (HMO) next, and preferred provider organizations (PPO) the lowest. The rate of OON claims jumped for HMO and PPO plans in 2020, but declined from 2012-2019 for all plan

types; the gap between the rates of OON claims in POS/HMO plans and PPO plans also shrank over this time period.

**Figure 4-4 - OON Prevalence by Insurance Plan Type**

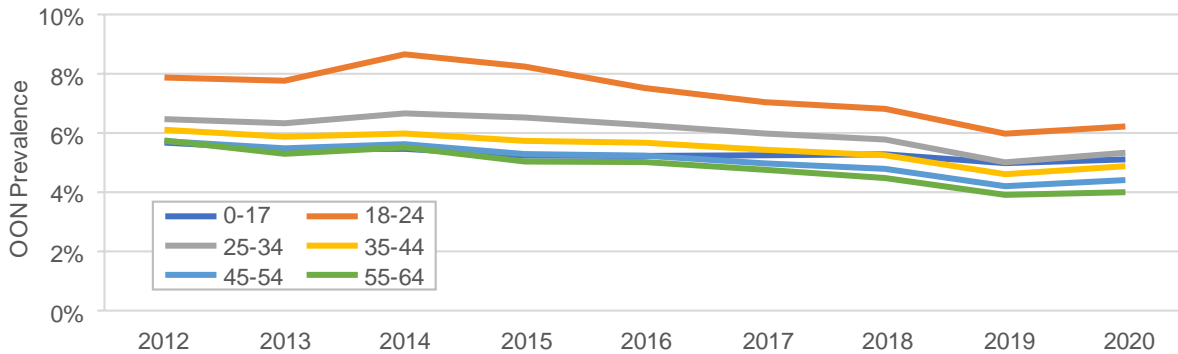


Source: Analysis of OON trends using Health Care Cost Institute 2.0 data

Age

OON claims were most common among those aged 18-24 and least common for those aged 55-64. The share of claims that are OON for all age groups has declined from 2012-2020.

**Figure 4.5 - OON Prevalence by Patient Age**

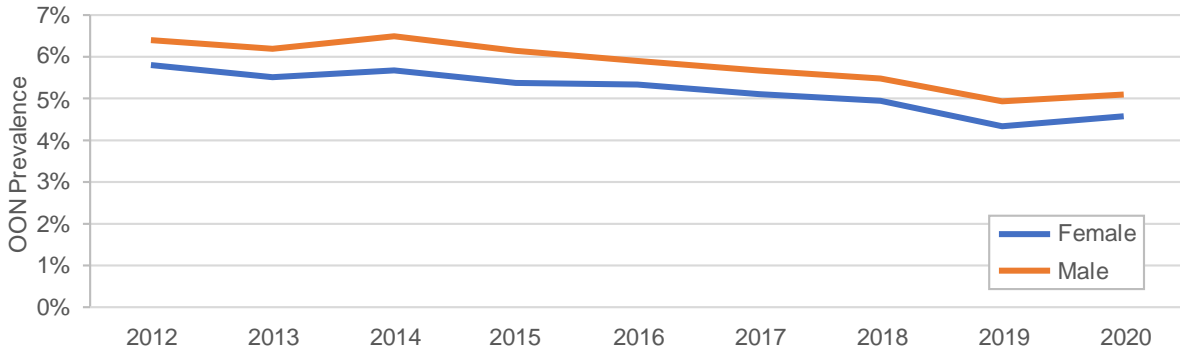


Source: Analysis of OON trends using Health Care Cost Institute 2.0 data

Sex

The percentages of claims that are OON were consistently higher for men than for women, though both have seen similar declines in the percentage of OON claims from 2012- 2020.

**Figure 4-6 - OON Prevalence by Gender**

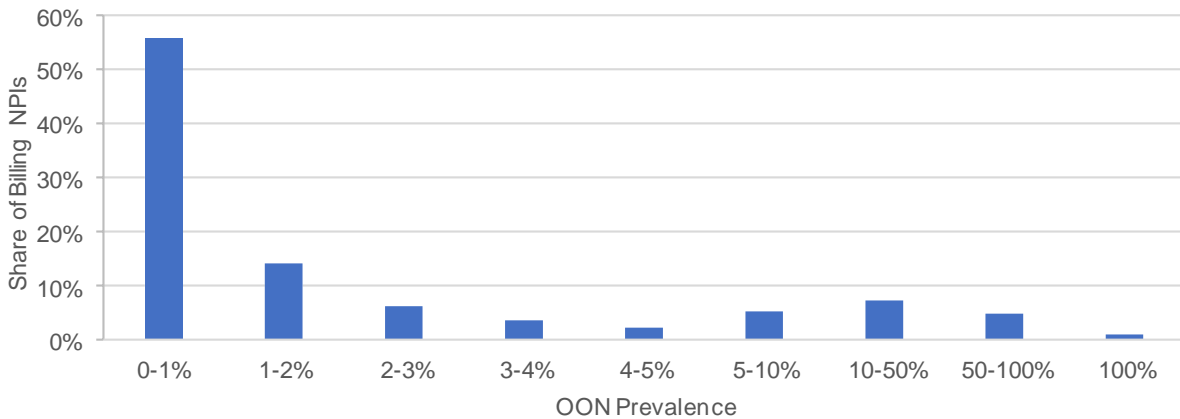


Source: Analysis of OON trends using Health Care Cost Institute 2.0 data

**OON Prevalence by Provider Characteristics**

In Figure 4-7, physicians are grouped by the share of their total claims that were billed OON. The majority of physicians had a very low prevalence of OON bills. Approximately 56 percent of physicians billed one percent or less of their claims as OON and 70 percent of physicians billed 2 percent or fewer OON claims (0-1 percent and 1-2 percent bars combined). Just over 5 percent of physicians billed the majority of their claims OON.

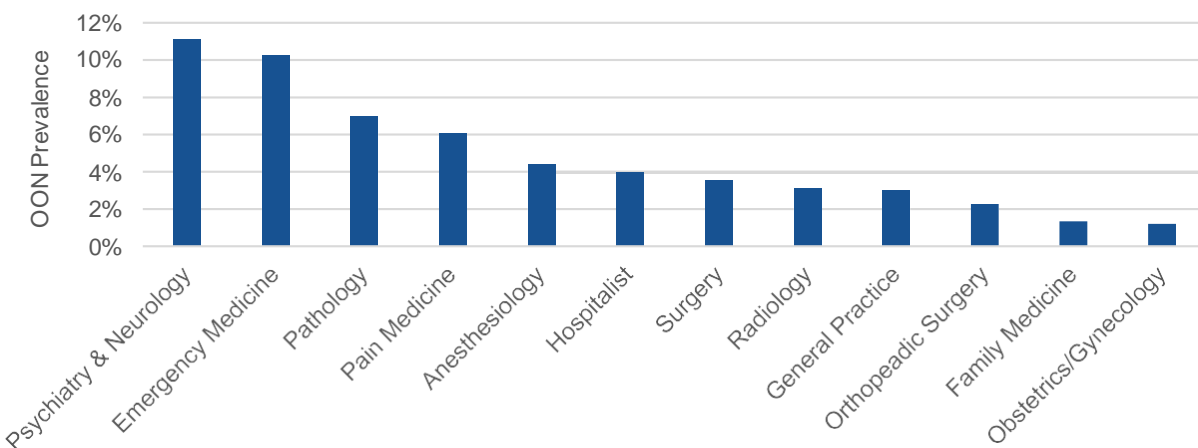
**Figure 4-7 - Share of Physician National Provider Identifiers (NPIs) by OON Billing Prevalence, 2019**



Source: Analysis of 2019 OON prevalence using Health Care Cost Institute 2.0 data

The prevalence of physician OON billing varied by physician specialty. Some specialties show much higher rates of OON billing than others. Psychiatry, emergency medicine, pathology, pain medicine, and anesthesiology all billed greater than 4 percent of their claims OON on average.

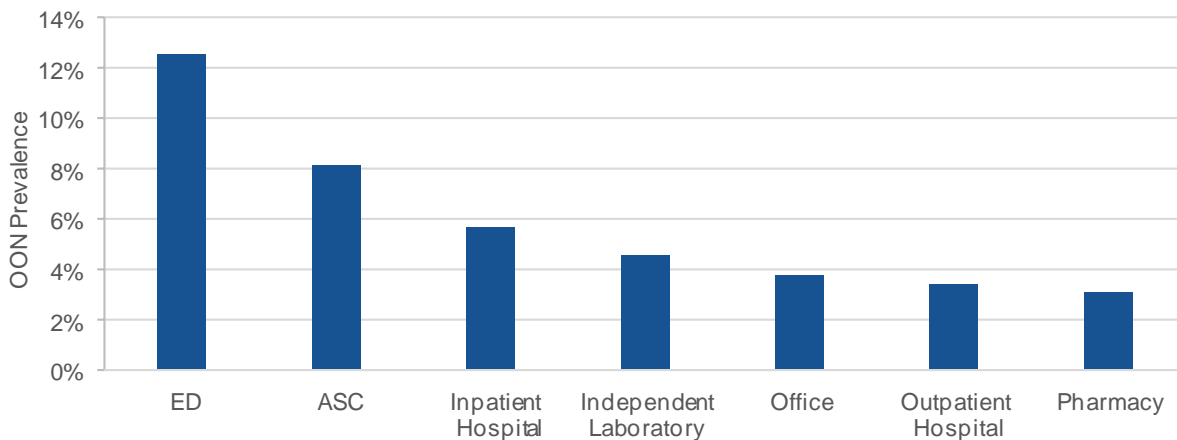
**Figure 4-8 - OON Prevalence for Selected Specialties, 2019**



Source: Analysis of 2019 OON prevalence using Health Care Cost Institute 2.0 data

Another factor in the rate of OON bills is the place of service. Claims from EDs (13 percent) and ASCs (8 percent) were more likely to be OON than office visits (4 percent).

**Figure 4-9 - OON Prevalence by Place of Service, 2019**



Source: Analysis of 2019 OON prevalence using Health Care Cost Institute 2.0 data

## Chapter 5. A Conceptual Framework and Potential Methods

NSA requires the Secretary, in consultation with the Federal Trade Commission and Attorney General, to study the effects of certain NSA provisions on consolidation, overall health care costs, and access to health care items and services. The provisions of NSA may have several other potential effects on health care markets and their outcomes including out-of-pocket spending, prices, and quality. In this chapter, we present a framework for understanding these effects and their interrelationships. Figure 5.1 summarizes the potential effects NSA may have on health care market outcomes.

NSA creates financial protections for certain patients and establishes a process for determining OON payment rates for certain surprise billing scenarios. Thus, a primary effect of NSA should be to reduce the number of surprise bills and the out-of-pocket spending associated with them. A potential downstream effect of the reduced out-of-pocket liability is that medical debt may be reduced.

These effects may extend beyond the financial protections afforded to patients for certain OON items and services. To the extent that negotiations between providers and plans and issuers regarding payment rates consider the rates providers would receive if they remain OON, there could be impacts on both in-network rates and network participation by the providers. For example, in some areas, providers may see attractive OON billing opportunities as an alternative to joining an issuer's or plan's network. By modifying expectations about OON payments, the NSA may change the bargaining dynamic between plans and issuers and providers and place more pressure on providers to join plan and issuer networks. The resulting changes to network structures could further reduce the incidence of OON billing. Alternatively, providers may believe that IDR process provides them with higher reimbursement than they would be able to negotiate themselves, and making providers more willing to go out-of-network.

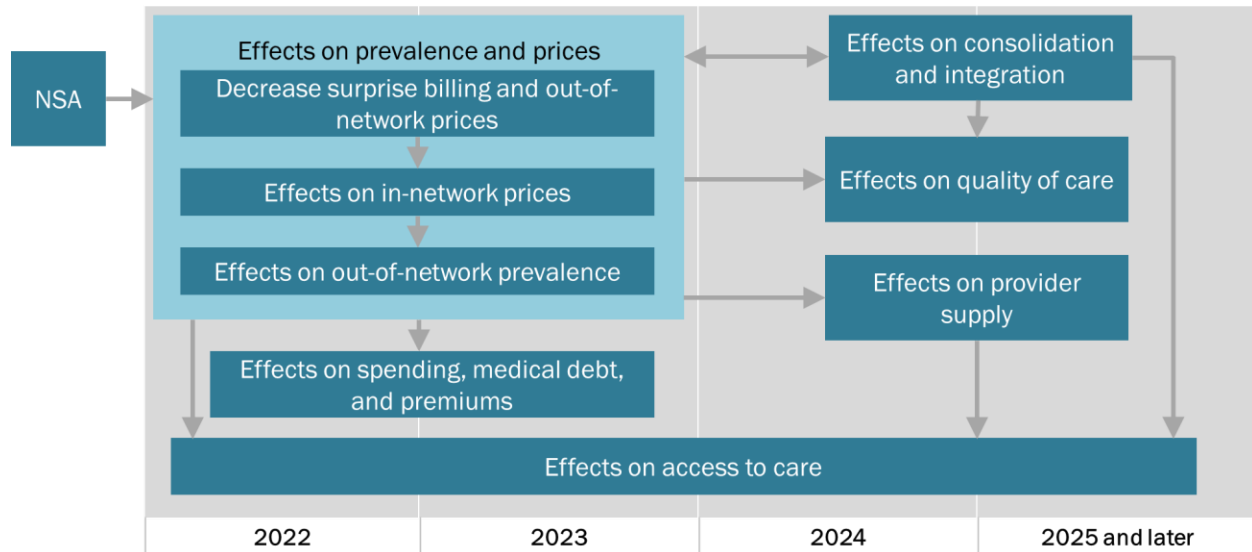
To the extent that these pressures provide more market power for issuers, they may be able to negotiate lower in-network prices. Lower in-network prices could reduce growth in premiums and overall health care spending, though as noted above, the evidence is not clear that such savings are consistently passed on to consumers – particularly in the insurer market itself is highly concentrated.

Changes in prices may affect provider decisions regarding consolidation, provider supply (e.g., staffing), and investments in quality improvement over the long term. Changes in the supply of providers would in turn have implications for access to health care, and changes in consolidation could influence prices, access to health care, and quality of care.

One possible response to this dynamic is providers seeking to strengthen their bargaining positions by increasing their market power through consolidation. In turn, changes in market consolidation can adversely affect prices and quality of care (see Chapter 3). Thus, as indicated in Figure 5-1, NSA may have direct effects on these outcomes of interest as well as indirect effects on them through changes in market consolidation.



**Figure 5-1 - Potential Effects of NSA**



**Looking Forward: Planning for Future Research and Methods for Evaluating the Impact of NSA**

Estimating the independent effects of NSA on the key outcomes in Figure 5-1 will be very challenging and may require a variety of statistical methods and data sources. In this report, we include baseline information on important trends – such as the prevalence of OON bills – that will be critical to conducting these analyses. In this section, we describe the potential methodologies that could be applied in future reports to analyze the impact of NSA on the key outcomes of interest. These methods include both quantitative and qualitative analyses.

**Interested-Party Discussions**

Discussions with interested parties can generate information about the impact of NSA where there is a lack of quantitative data or when evaluating NSA empirically would be difficult. These discussions can also lead to uncovering important areas of impact not previously considered and suggesting other qualitative (e.g., provider surveys) or quantitative analyses.

Interested-party discussions may be especially informative early in the implementation of NSA while key sources of quantitative data are unavailable. Interested-party discussions and other qualitative methods will continue to play an important role in later years, especially given the limitations of quantitative approaches for assessing the nationwide implementation of NSA.

## Descriptive Analysis

A descriptive analysis of quantitative data can show changes in outcomes following implementation of NSA. In addition to evaluating changes in outcomes and trends, descriptive analysis can include outcomes that would only be available after implementation of NSA (e.g., consumer complaints submitted via the federal surprise billing complaints process). This report establishes some baseline trends in OON and surprise billing (see Chapter 4) that we anticipate tracking in future reports.

In some instances, only descriptive analyses will be possible with the available data.

## Quantitative Analyses

Estimating the independent impacts of NSA on key outcomes such as prices, spending, quality, access to health care, and market consolidation will require the use of statistical modeling and leveraging multiple research designs. Below we describe the potential methods that may be applied as the appropriate data become available.

### Interrupted Time Series (ITS) Methods

Interrupted Time Series (ITS) is a statistical analysis in which a period of time before an intervention is compared to a period of time after an intervention, controlling for certain observable influences. The difference between those trends – in rate and level – is one way to measure the effect of the interruption or intervention. An ITS approach can evaluate a given outcome over time to assess whether the change (e.g., an increase or decrease in prices for emergency services) occurred immediately following the implementation of NSA.

As described above, many factors other than the implementation of NSA have likely affected trends in the outcomes of interest. Therefore, ITS is not a strong method for attributing observed changes in these trends fully or even partially to NSA. A stronger method is known as comparative interrupted time series (CITS) in which changes in trends are analyzed and compared between a group subject to NSA and a similar group not subject to NSA. One advantage of this approach is that it allows for the possibility that other factors, such as the COVID-19 pandemic, may affect outcomes as long as that factor has the same effect on both the treatment and comparator groups. While NSA will be implemented nationally, one approach for this design might be to compare the trends for states that had strong surprise billing laws prior to NSA with those that had no laws or weaker ones; alternatives could be to examine trends for service types or providers in fields more likely to have sent surprise bills prior to NSA, compared to service types or providers less likely to be impacted by the law. One disadvantage to CITS is that it requires the availability of several data points both before and after implementation of NSA.

### Difference-in-Difference Analysis

Difference-in-difference (DID) is a similar statistical technique to CITS in that it compares trends in outcomes measured from a “treatment” group and a “comparison” group. After adjusting for some observable differences between the groups, outcome differences that change more for the treatment

group than the control group are thought to be associated with the treatment. In contrast to CITS, DID can use a single time point before and after the treatment, often an average calculated for those time periods. Thus, fewer time periods of data are needed for DID than for CITS. A disadvantage to this approach is that it assumes that the trends occurring prior to NSA would have continued similarly if not for the law.

For the future reports, we will carefully examine relevant data as it becomes available and examine the appropriate application of these methods to estimating changes in key outcomes.

## Chapter 6. Conclusion

NSA provides protections for patients against the financial consequences of many surprise bills in certain circumstances. Surprise bills occur when individuals with a private health plan or coverage receive unexpectedly high medical bills when they are unknowingly treated by an out-of-network (OON) provider. For items and services furnished in certain situations, the law places requirements on both providers and health plans and issuers to limit patients' out-of-pocket consequences of surprise bills.

While the primary intended effect of NSA is to reduce the number of surprise bills and the associated adverse financial consequences for patients, there are several potential health care market impacts that may also occur. For this and subsequent reports, HHS, in consultation with the Federal Trade Commission and the Attorney General, intend to examine the potential impacts on market consolidation, overall health care costs, and access to health care items and services. This report presents a conceptual model of how NSA may affect several related outcomes such as in-network and OON pricing, insurance and health plan premiums, and quality of care. Health insurance and health plan claims data for items and services furnished after the implementation of NSA should become available during 2023 and will be used for the next report due January 2024.

There will be significant challenges for estimating these NSA effects relative to other important influences on trends in the outcomes of interest. In beginning to address these challenges, we have provided baseline information on OON billing, market consolidation and concentration, and current state surprise billing laws already in effect. Subsequent reports will employ a variety of methodological approaches to examine changes in these trends that may be attributable to the implementation of NSA.

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## Appendix A. Section 109 of the No Surprises Act

### SEC. 109. REPORTS.

(a) REPORTS IN CONSULTATION WITH FTC AND AG.—Not later than January 1, 2023, and annually thereafter for each of the following 4 years, the Secretary of Health and Human Services, in consultation with the Federal Trade Commission and the Attorney General, shall—

(1) conduct a study on the effects of the provisions of, including amendments made by, this Act on—

(A) any patterns of vertical or horizontal integration of health care facilities, providers, group health plans, or health insurance issuers offering group or individual health insurance coverage;

(B) overall health care costs; and

(C) access to health care items and services, including specialty services, in rural areas and health professional shortage areas, as defined in section 332 of the Public Health Service Act (42 U.S.C. 254e);

(2) for purposes of the reports under paragraph (3), in consultation with the Secretary of Labor and the Secretary of the Treasury, make recommendations for the effective enforcement of subsections (a)(1)(C)(iv) and (b)(1)(C) of section 2799A–1 of the Public Health Service Act, subsections (a)(1)(C)(iv) and (b)(1)(C) of section 716 of the Employee Retirement Income Security Act of 1974, and subsections (a)(1)(C)(iv) and (b)(1)(C) of section 9816 of the Internal Revenue Code of 1986, including with respect to potential challenges to addressing anti-competitive consolidation of health care facilities, providers, group health plans, or health insurance issuers offering group or individual health insurance coverage; and

(3) submit a report on such study and including such recommendations to the Committees on Energy and Commerce; on Education and Labor; on Ways and Means; and on the Judiciary of the House of Representatives and the Committees on Health, Education, Labor, and Pensions; on Commerce, Science, and Transportation; on Finance; and on the Judiciary of the Senate.

## Appendix B. Recent State Balance Billing Protections

STATUS OF BALANCE BILLING PROTECTION - OVER YEARS			
States	By 2017	By 2019	By 2021
Alabama	NP	NP	NP
Alaska	NP	NP	NP
Arizona	NP	P	P
Arkansas	NP	NP	NP
California	C	C	C
Colorado	P	P	C
Connecticut	C	C	C
Delaware	P	P	P
District of Columbia	NP	NP	NP
Florida	C	C	C
Georgia	NP	NP	C
Hawaii	NP	NP	NP
Idaho	NP	NP	NP
Illinois	C	C	C
Indiana	P	P	P
Iowa	P	P	P
Kansas	NP	NP	NP
Kentucky	NP	NP	NP
Louisiana	NP	NP	NP
Maine	NP	P	C
Maryland	C	C	C
Massachusetts	P	P	P
Michigan	NP	NP	C
Minnesota	NP	P	P
Mississippi	P	P	P
Missouri	NP	NP	P
Montana	NP	NP	NP
Nebraska	NP	NP	P
Nevada	NP	NP	P
New Hampshire	P	C	C
New Jersey	P	C	C
New Mexico	P	P	C
New York	C	C	C
North Carolina	P	P	P
North Dakota	NP	NP	NP
Ohio	NP	NP	C
Oklahoma	NP	NP	NP
Oregon	NP	C	C
Pennsylvania	P	P	P

Rhode Island	P	P	P
South Carolina	NP	NP	NP
South Dakota	NP	NP	NP
Tennessee	NP	NP	NP
Texas	P	P	C
Utah	NP	NP	NP
Vermont	P	P	P
Virginia	NP	NP	C
Washington	NP	NP	C
West Virginia	P	P	P
Wisconsin	NP	NP	NP
Wyoming	NP	NP	NP

Key:

Comprehensive (C)
Partial (P)
No Protection (NP)

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## Appendix C. Condensed Summary of the Effects of Consolidation on Health Care Prices, Spending, Quality, Access, and Wages

Domain	Assessment	Health Care Prices	Health Care Spending	Quality of Care	Patient Access	Health Care Wages
<b>Horizontal</b>						
Hospital	Impact	Increase <sup>a</sup>	Increase <sup>a</sup>	Mixed depending on measure and setting <sup>b</sup>	Possible decrease <sup>d</sup>	Decrease <sup>a</sup>
	SOE	High	Moderate	Moderate	Insufficient	Low
Physician	Impact	Increase <sup>a</sup>	Mixed <sup>d</sup>	Mixed <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>
	SOE	Low	Insufficient	Insufficient	Insufficient	Insufficient
Commercial insurers	Impact	Decrease <sup>c</sup>	Increase in premiums <sup>a</sup>	Possible increase in patient experience <sup>d</sup>	No direct evidence, might decrease with premium increase <sup>d</sup>	Possible decrease <sup>d</sup>
	SOE	Low	Moderate	Insufficient	Insufficient	Insufficient
Medicare Advantage	Impact	No evidence <sup>d</sup>	Possible decrease in premiums <sup>d</sup>	No evidence <sup>d</sup>	Mixed for plan generosity and ratings <sup>d</sup>	No evidence <sup>d</sup>
	SOE	Insufficient	Insufficient	Insufficient	Insufficient	Insufficient
Medicaid managed care	Impact	No evidence <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>	Possible decrease in plan choice <sup>d</sup>	No evidence <sup>d</sup>
	SOE	Insufficient	Insufficient	Insufficient	Insufficient	Insufficient
<b>Vertical</b>						
Hospitals and physicians	Impact	Mixed: increase or no change <sup>a</sup>	Increase <sup>a</sup>	Mixed: small increase or no change <sup>b</sup>	Possible increase <sup>d</sup>	Mixed <sup>d</sup>
	SOE	Moderate	High	Low	Insufficient	Insufficient
Providers and insurers	Impact	No evidence <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>
	SOE	Insufficient	Insufficient	Insufficient	Insufficient	Insufficient
<b>Other Markets</b>						
Pharmacy	Impact	Possible decrease <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>
	SOE	Insufficient	Insufficient	Insufficient	Insufficient	Insufficient
Telehealth providers	Impact	No evidence <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>
	SOE	Insufficient	Insufficient	Insufficient	Insufficient	Insufficient
<b>Private Equity</b>						
Nursing homes	Impact	No evidence <sup>d</sup>	Increase <sup>a</sup>	Mixed <sup>b</sup>	Possible decrease <sup>d</sup>	No evidence <sup>d</sup>
	SOE	Insufficient	Low	Low	Insufficient	Insufficient
Hospitals	Impact	Possible increase <sup>b</sup>	No evidence <sup>d</sup>	Mixed <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>
	SOE	Low	Insufficient	Insufficient	Insufficient	Insufficient
Physician practices	Impact	Possible increase <sup>d</sup>	Possibly no change <sup>d</sup>	Possible increase <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>
	SOE	Insufficient	Insufficient	Insufficient	Insufficient	Insufficient
<b>Other Topics</b>						
Anticompetitive practices	Impact	No evidence <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>	No evidence <sup>d</sup>
	SOE	Insufficient	Insufficient	Insufficient	Insufficient	Insufficient

Domain	Assessment	Health Care Prices	Health Care Spending	Quality of Care	Patient Access	Health Care Wages
Expanded scope of practice	Impact	Possible decrease <sup>d</sup>	No change or decrease <sup>b</sup>	No change or increase <sup>b</sup>	No change or increase <sup>b</sup>	Mixed: no change or increase for nurse practitioners, decrease for physicians <sup>d</sup>
	SOE	Insufficient	Moderate	Moderate	Moderate	Insufficient
Certificate of need laws	Impact	No change or increase <sup>d</sup>	No change or increase <sup>d</sup>	No change or decrease <sup>b</sup>	No change or decrease <sup>b</sup>	No evidence <sup>d</sup>
	SOE	Insufficient	Insufficient	Moderate	Low	Insufficient
Surprise billing policies	Impact	Mixed <sup>b</sup>	No direct evidence <sup>d</sup>	No evidence <sup>d</sup>	Possible increase or no change <sup>d</sup>	No direct evidence <sup>d</sup>
	SOE	Low	Insufficient	Insufficient	Insufficient	Insufficient

NOTE: *Health care prices* refers to prices per service paid to providers. *Health care spending* includes premiums. *Quality of care* reflects clinical quality and patient experience measures. *No evidence* refers to the lack of empirical studies. Strength of evidence grades are high, moderate, low, and insufficient; evidence was graded based on the number of studies, methodological quality, consistency, directness, and applicability.

<sup>a</sup> Cells shaded in red indicate effects that have sufficient SOE and are detrimental to consumers.

<sup>b</sup> Cells shaded in yellow indicate effects that have sufficient SOE and are unclear for consumers.

<sup>c</sup> Cells shaded in green indicate effects that have sufficient SOE and are beneficial to consumers.

<sup>d</sup> Cells shaded in gray indicate effects that have insufficient SOE.