## The Association Between Surprise Billing Legislation and Prices Paid for Anesthesia Services in Hospital Outpatient Departments and Ambulatory Surgery Centers

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## Key Points

## Question

What is the association of state surprise billing legislation with prices paid to anesthesiologists in hospital outpatients departments and ambulatory surgery centers?

## Findings

This cohort study of 2,713,913 privately insured patients who received anesthesia services in hospital outpatient departments and ambulatory surgery centers from 2012 to 2017 found that prices paid to out-of-network anesthesiologists at in-network facilities and to in-network anesthesiologists decreased in Florida, California, and New York after each state passed comprehensive surprise billing legislation.

## Meaning

State surprise billing legislation appears to directly lower out-of-network prices and indirectly lower in-network prices, by changing payer-provider negotiating dynamics.

## Abstract

**Importance:** Several states have passed surprise billing legislation, yet little is known about how each state's law influenced out-of-network prices and whether spillovers exist to in-network prices.

**Objectives:** To study changes in prices paid to out-of-network providers at in-network facilities and to in-network providers before and after the passage of comprehensive surprise billing legislation.

**Design:** Retrospective cohort study using a difference-in-differences analysis to compare prices changes in three states (California, Florida, and New York) that passed comprehensive surprise billing legislation between January 1, 2014 and December 31, 2017 to states that did not.

**Setting:** Commercial claims data from the Health Care Cost Institute were used to identify prices paid to anesthesiologists in hospital outpatient departments and ambulatory surgery centers.

**Participants:** 2,713,913 anesthesia claims across 3 treated states and 45 control states (including Washington, DC) for patients in PPO/POS plans. States that previously passed comprehensive surprise billing legislation were excluded (Maryland and Illinois) as was Connecticut, which passed legislation but had an insufficient number of out-of-network claims.

Exposure: Temporal and state-level variation in exposure to surprise billing legislation.

**Main outcomes and measures:** The unit price (allowed amounts standardized per unit of service) paid to out-of-network anesthesiologists at in-network facilities and to in-network anesthesiologists.

**Results:** After a state's surprise billing law went into effect, the unit price paid to out-of-network anesthesiologists at in-network facilities decreased by -12.71 (95% CI [-25.70, 0.27]; P=0.05) in California, and by -35.67 (95% CI [-46.27, -25.07]; P<.001) in Florida. In New York, the overall out-of-network price decline was not statistically significant (-7.91 (95% CI [-17.48, 1.68]; P=0.10)), however, by the last quarter of 2017, the price declined by -41.28 (95% CI [-70.24, -12.33]; P=0.01). In-network prices decreased by -10.68 (95% CI [-12.70, -8.66]; P<.001), -3.18 (95% CI [-5.17, -1.19]; P<.01) and -8.05 (95% CI [-11.46, -4.64]; P<.001), in California, Florida and New York, respectively.

**Conclusions and relevance:** Prices paid to both in and out-of-network anesthesiologists in hospital outpatient departments and ambulatory surgery centers decreased after the introduction of surprise billing legislation, providing early insights into how prices may change in states that have recently passed legislation and under the No Surprises Act.

### Introduction

On December 18, 2020, Congress passed the No Surprises Act to protect consumers from surprise medical bills, which occur when a patient unknowingly receives care from an out-of-network provider at an in-network facility.<sup>1</sup> In addition to protecting patients from financial liability for surprise medical bills, the law also established a method of determining payments made by a patient's insurer to the out-of-network provider. The Act requires that insurers and providers first negotiate out-of-network rates. If negotiations are unsuccessful, they may proceed to a federal independent dispute resolution (IDR) process in which each party submits a price and an arbiter selects one using the insurer's median in-network rate as a benchmark.<sup>2</sup>

However, the No Surprises Act comes after 18 states implemented comprehensive surprise billing legislation and defers to the states' provider payment rules for out-of-network providers at in-network facilities.<sup>1,3</sup> Several states, such as New York and Texas, adopted a dispute resolution process similar to the federal legislation but with higher price benchmarks to guide arbiter decision-making, raising concerns that out-of-network payments may actually increase under the law.<sup>4</sup> Other states, such as California and Florida, developed payment standards that ranged from basing provider payment on in-network rates or Medicare rates to the usual and customary provider charges for similar services.<sup>5</sup> If state provider payment rules are effective in lowering the prices paid for out-of-network care, they may also influence in-network prices by altering providers' negotiating leverage and incentives to remain out-of-network.<sup>6</sup>

Anesthesiology is one of the specialties with the highest proportion of potential surprise bills since patients do not usually choose their anesthesiologist.<sup>7,8</sup> We used commercial claims data

(2014-2017) to study the association between state surprise billing legislation and prices paid to out-of-network anesthesiologists at in-network facilities, and the potential spillovers onto prices paid to in-network anesthesiologists. We focused on non-emergency anesthesia services provided in hospital outpatient departments and Ambulatory Surgery Centers (ASCs).

#### Methods

#### State Sample and Surprise Billing Laws

Before 2018, six states passed comprehensive legislation to protect patients from surprise bills: California, Connecticut, Florida, Maryland, Illinois, and New York. We excluded Connecticut from the analysis because of insufficient out-of-network claims to accurately calculate prices. We excluded Maryland and Illinois because they passed laws before our sample period (2014-2017). Therefore, our treated sample included California, Florida and New York, and our control states (n=45) included all remaining US states and Washington, DC. Following prior research, we defined a state's surprise billing law as comprehensive if it included emergency and nonemergency services, applied to both HMO and PPO plans, held patients harmless from extra provider charges and prohibited balance billing, and adopted a rule or dispute resolution process to determine how insurers would pay out-of-network providers at in-network facilities.<sup>9</sup>

While the surprise billing laws passed by California, Florida, and New York share several similarities, they differ most in their methods for determining prices paid to providers for out-of-network services. **Table 1** summarizes the payment rules that apply to non-emergency services provided to patients in PPO plans. California established a payment standard where the insurer pays the greater of 125% of Medicare or the average in-network rate paid by the insurer for that

region.<sup>3</sup> Florida established a payment standard where the insurer reimburses the lesser of: 1) the provider's charges (the price the provider requests for a given billing code), 2) the usual and customary provider charges for similar services, or 3) the mutually agreed upon charge between the insurer and provider.<sup>3</sup> New York implemented a dispute resolution process where insurers establish a reasonable payment amount and disagreements are resolved via arbitration.<sup>9</sup> New York law established the 80th percentile of billed charges (as calculated by FAIR Health, an independent insurance claims database) as the benchmark for reasonable payment in the IDR process, which can often be many times higher than in-network negotiated rates.<sup>4</sup> Therefore, differences in surprise billing legislation across states may lead to variation in prices paid to out-of-network providers.

### Data

To calculate prices paid to anesthesiologists we used patient-level commercial claims data from the Health Care Cost Institute (HCCI) between 2014 and 2017, which includes claims from Aetna, UnitedHealthcare and Humana. HCCI provides an indicator for the network status of both the provider and facility, allowing for identification of claims by in-network providers, and outof-network providers at in-network facilities.

The final analytic sample (n=2,713,913) included all anesthesia procedures (based on the CPT codes 00100-01999 with CMS base units) performed by an anesthesiologist at a hospital outpatient department or ASC. We excluded claims for anesthesia services provided to patients in HMOs (n=334,919), procedures that involved more than one anesthesiology claim (n=260,765), claims with time units at the top and bottom 1 percent of the distribution

(n=49,965), claims with negative allowed amounts (n=1,344), and claims with missing network status (n=118,133). We excluded HMOs because they are subject to different provider payment rules under state surprise billing legislation.<sup>3</sup> Our study included patients who are in self-insured and fully-insured plans, even though ERISA prohibits application of the surprise billing laws to self-insured plans. This decision is supported by previous research that suggests strong spillover effects between plan types<sup>10</sup>, and by our sensitivity analysis, which showed qualitatively similar results for self-funded and fully-insured plans.

#### **Measuring Prices**

We measured prices paid to in-network anesthesiologists and out-of-network (OON) anesthesiologists at in-network facilities using allowed amounts that are equal to the sum of the actual amount paid by the insurer to the provider plus the patient cost share, if any. When the provider is in-network, the allowed amount represents the contracted price between the insurer and provider. When the provider is out-of-network, the allowed amount represents the price that the health plan is willing to pay when there is no surprise billing legislation, and for qualifying services in states with surprise billing legislation, represents the price that the health plan pays according to the state's provider payment rules. While it is not possible to identify surprise bills in claims data, we use claims for services provided by out-of-network (OON) anesthesiologists at in-network facilities to identify instances that may result in a surprise bill.

We geographically adjusted the allowed amounts using the CMS Geographic Variation Public Use File and converted prices to 2017 dollars using the U.S. Bureau of Labor Statistics Consumer Price Index. We then converted allowed amounts into a single "unit price" (also known as the conversion factor), since in anesthesiology contract negotiations are based on the price paid per unit of service. The unit price standardizes payment across all procedures according to procedure complexity (base units), length of time (time units), and a patient's health status (modifying units). Therefore, the unit price captures the price paid to anesthesiologists irrespective of patient risk status, procedure type, or procedure length. Time units and modifying units are reported per claim in HCCI data. Base units are assigned to anesthesia CPT codes by CMS<sup>11</sup> and capture anesthesia procedure complexity, risk, and skill requirements. Anesthesia time is measured continuously from the start of anesthesia to the end of an anesthesia service, and each 15-minute interval represents one time unit. Modifying units account for a patient's pre-anesthesia medical comorbidities reported on a scale of 1 to 6. We winsorized unit prices at the top and bottom 0.5 percent to limit the influence of idiosyncratically high or low unit prices.

#### Statistical Methods

We used linear regression and a difference-in-differences approach to measure the differential change in prices paid to anesthesiologists in states that passed comprehensive surprise billing legislation (California, Florida, and New York) to 45 states that did not.<sup>9</sup> For both OON prices and in-network prices, a separate regression was run between each treated state and the set of control states. The key explanatory variable of interest was an indicator for when the state's surprise billing legislation went into effect. We also include an indicator to control for the period between when the law was first passed and when the law went into effect (referred to as the transition period). We adjusted for physician and quarter-year fixed effects to account for secular variation and time-invariant differences across physicians during the study period. Standard errors were clustered at the physician level. P values were 2-tailed and statistical significance

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was defined as P < .05. Statistical analysis were performed using Stata, release 16.0 (StataCorp LLC).

To address concerns that a patient's physical status score may not fully account for differences in patient risk, in sensitivity analysis we included controls for patient age, sex, and indicators for the 30 comorbidities included in the Elixhauser Comorbidity Index. We also conducted analysis using a balanced sample of physicians to account for compositional changes in the provider population and conducted subsample analysis that compared prices paid in fully-insured and self-funded plans to validate combining the different plan types.

The key assumption of our difference-in-differences model is that the treatment and control states would have had similar trends in prices in the absence of the surprise billing legislation. To assess whether trends in the pre-legislation period were not meaningfully different, we graphed coefficients from interaction terms between indicators for quarter relative to the passage of the law and an indicator for when the state passed a surprise billing law. Since payer-provider negotiations could occur in anticipation of a state passing a law, we also conducted analyses using interactions with indicators relative to the quarter the law was introduced to a state's legislature (see **eMethods 1** in the Supplement). We set the first quarter of 2014 for each state as the omitted category; therefore, the coefficients on the interaction terms describe changes in prices relative to this reference period.<sup>12</sup> For New York, we are unable to evaluate the existence of pre-existing differential trends because the data set only includes one quarter before legislation was passed.

#### Results

#### **Baseline Characteristics**

Summary statistics for the sample are presented in **eTable 1** and show that patient characteristics are similar between treatment and control states. Recall that since the unit price is standardized by base units, time units and a patient's physical status score, changes in procedure type, length or patient's health status before and after the laws do not impact the unit price.

#### Association of Surprise Billing Laws with Prices Paid to Anesthesiologists

**Table 2** shows adjusted differential changes in unit prices relative to control states. After the laws' effective date, prices paid to OON anesthesiologists at in-network facilities decreased by - \$12.71 (95% CI [-25.70, 0.27], P=0.05) in California, and by -\$35.67 (95% CI [-46.27, -25.07], P<.001) in Florida, while the differential change was negative but not statistically significant in New York (-\$7.91 (95% CI [-17.48, 1.68], P=0.10)). In-network prices decreased by \$-10.68 (95% CI [-12.70, -8.66], P<.001), \$-3.18 (95% CI [-5.17, -1.19], P<.01) and \$-8.05 (95% CI [-11.46, -4.64], P<.001), in California, Florida and New York, respectively. To put these unit prices in context, for a routine colonoscopy provided by an in-network anesthesiologist, allowed amounts decreased by 10.75% (\$74.36), 3.16% (\$23.29), and 7.41% (\$58.92) relative to the pre-law period in California, Florida, and New York, respectively (See **eMethods 1** for calculation).

**Figure 1** and **Figure 2** plot estimates of adjusted price differences between treatment and control states relative to the quarter a state's law was passed (coefficient estimates and 95% CIs are reported in **eTables 2-4**). Compared to control states, OON prices in California prices started to decline in the first quarter after the law was passed and continued to decline in subsequent

quarters (Figure 1; eTable 2). However, Figure 2 shows that in-network prices sharply declined 3 quarters before the law was passed (-\$7.41 (95% CI [-10.90, -3.91], P<.001); eTable 2) and continued to decline following the law's effective date. In Florida, there is also evidence of a small, though not statistically significant, anticipatory decline in the quarter before the law was passed for both OON prices (-\$2.60 (95% CI [-17.87, 12.67], P=0.74); eTable 3) and in-network prices (-\$0.97 (95% CI [-4.51, 2.56], P=0.59); eTable 3). The early price declines in California coincide with the re-introduction of the bill in the senate after a previous version had failed to pass, and in Florida, with the quarter the surprise billing legislation was first introduced to the House of Representatives. If providers and insurers believed this legislation would pass, this could motivate pre-emptive contract negotiations. Since anticipatory effects would invalidate the difference-in-differences assumption of no pre-existing trends, eTable 5 and eFigures 2 and 3, present results for California and Florida using the quarter the law was introduced to a state's legislature.<sup>13</sup> Observed price declines are not statistically different compared to the main results and provide evidence of limited differential trends in unit prices between treatment and control states before the state introduced surprise billing legislation.

In New York, our limited pre-legislation period prevents evaluation of pre-existing price trends. However, relative to the quarter before the law was passed, prices paid to OON anesthesiologists increased in the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> quarters after the law was passed, and only began to decline in the 11<sup>th</sup> quarter after the law was passed (-\$31.07 (95% CI [-53.53, -8.62], P<.01); **eTable 4**). Price declines for in-network prices also followed a similar pattern (**Figure 2; eTable4**): significant declines are not observed until the 7<sup>th</sup> quarter after the law passed (-\$9.01 (95% CI [-12.73, -5.29], P<.001; **eTable 4**).

#### Sensitivity Analysis

Results shown in Table 2 were robust to the sensitivity tests described (**eTables 5-6**). We also found spillover effects of the laws onto self-funded plans (**eTable 7**): price declines were qualitatively similar for both self-funded and fully-insured plans after the effective date of the law, though as expected, OON price declines were larger for fully-insured plans.

### Discussion

California, Florida and New York, saw reductions in prices paid to anesthesiologists in hospital outpatient departments and ASCs after passing comprehensive surprise billing legislation. Innetwork prices decreased in the three states compared to control states, providing evidence the laws may influence payer-provider negotiating dynamics. The three states also had declines in prices paid to OON anesthesiologists at in-network facilities, though the timing and magnitude of price declines varied, which likely reflects each state's provider payment rules for OON services.<sup>9,10</sup>

California established a payment standard tied to Medicare or an insurer's average in-network rate. After the law went into effect, OON prices declined by 13.64% and in-network prices by 10.75% prices. However, even before the law, mean OON prices were consistently below innetwork prices (**Table 2**, \$93.20 compared to \$99.31). Consequently, providers have heavily criticized California's benchmark for being too low and giving insurers too much negotiating leverage, which according to survey by the California Medical Association (CMA), has led to contracting difficulties including the sudden termination of long-standing contracts.<sup>14</sup> California also had a lengthy process to passing surprise billing legislation: initial efforts narrowly failed to pass in late 2015 before a new bill was re-introduced in 2016.<sup>15,16</sup> Consistent with **Figure 2**, insurers may have anticipated this payment standard would pass, and thus re-negotiated contracts with lower in-network payment rates before the law was passed. The experience of California providers led to significant lobbying by the CMA for the federal No Surprises Act to adopt an IDR process similar to New York, rather than a payment standard.<sup>17</sup>

Florida also established a payment standard based on the lesser of several options, including the usual and customary provider charges for similar services. Compared to California and New York, Florida saw the largest decline in OON prices (17.41%) and the smallest decline in innetwork prices (3.16%). However, as seen in **Table 2**, OON prices were twice as large as innetwork prices before the law was passed (**Table 2**, \$204.87 compared to \$100.74). A potential reason for the relatively small in-network decline is that the OON unit price still remained markedly higher than in-network prices after the law, so anesthesiologists continued to have an incentive to remain out of network.

Instead of a payment standard, New York implemented an IDR process. Recent research suggests this process may lead to higher prices by using 80% of billed charges as a benchmark in the arbitration decision.<sup>2,4</sup> We find that OON prices decreased by 5.09% after the effective date, but that this aggregated difference obscured changes in OON prices over time: OON prices initially increased, but then declined nearly 3 years later. Prices may have initially increased because of the 80% benchmark and very few cases undergoing IDR, but then adjusted downwards as insurers and providers gained more experience with the process.<sup>18</sup> The eventual

reduction in OON prices also coincided with a 7.41% decline in in-network prices, consistent with recent research on surprise bills in emergency departments.<sup>6</sup>

### Limitations

This study had several limitations. First, while HCCI includes claims from three of the largest U.S. insurers, it does not include all commercial claims, so our results may not generalize to other insurers. Second, because the data set includes only claims for 2014-2017, we observe short pre-law and post-law periods. In New York, there is only one quarter before the law was passed, and so we are unable to assess the extent of pre-existing trends compared to control states. In California, there are only two quarters post-law, though declines in prices are observed in the transition period between when the law was passed and the law's effective date. Third, we exclude HMO claims and so are not measuring changes to all provider prices following surprise billing legislation. Lastly, our results may not generalize to other specialties and service settings.

#### Conclusions

In California, Florida, and New York, prices paid to anesthesiologists in hospital outpatient departments and ASCs decreased after the introduction of surprise billing legislation, providing early insights into how prices may change in states that have recently passed legislation and under the federal No Surprises Act.

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### Tables

State	Date Passed <sup>a</sup>	Date Effective <sup>b</sup>	Provider Payment Type	Provider Payment Details <sup>c</sup>
California	9/23/2016	7/1/2017	Payment Standard	The insurer must reimburse the greater of: (1) 125% of Medicare or (2) average contracted rate for that health plan and for that region. Disputes are resolved through a voluntary dispute resolution process.
Florida	4/14/2016	7/1/2016	Payment Standard	The insurer must reimburse the lesser of: (1) the provider's billed charges; (2) the usual and customary provider charges for similar services in the community where services were provided; or (3) the charge mutually agreed to by the insurer and provider within 60 days of claim submittal. Disputes are resolved either through the courts or through a voluntary dispute resolution process.
New York	3/31/2014	3/31/2015	Independent Dispute Resolution Process	Insurers and OON providers must first negotiate reasonable rates. If they are unable to agree on a payment amount, disputes are settled by a final-bid arbitration process in which the arbiter decides in favor of the insurer or the provider. While the state requires arbiters to consider several factors, the rule of thumb is the 80th percentile of the provider's billed charges.

Table 1. Surprise Diffing Timefine and Summary of Flovider Favment Rule	Table 1.	Surprise	Billing Ti	neline and	Summarv	of Provider	Pavment Rule
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<sup>a</sup> Date passed is the date the state's governor signed the bill into law. Since California and New York signed laws in the last week of a quarter, in our analyses we define the subsequent quarter as the first quarter providers in the state were exposed to a surprise billing law (CA - 2016Q4, FL - 2016Q2 and NY - 2014Q2).

<sup>b</sup> Date effective is the date the surprise billing legislation went into effect in the state. Since New York's effective date is in the last week of a quarter, in our analyses we define the subsequent quarter as the first quarter the surprise billing law was in effect in New York (CA - 2017Q3, FL - 2016Q3 and NY - 2015Q2).

<sup>c</sup> These payment rules only apply to non-emergency services provided by OON providers at in-network facilities to PPO enrollees in fully-insured plans. States established different rules for emergency services and HMO enrollees.

	Treated State <sup>a</sup>			Control States <sup>a</sup>			Adjusted Difference-in-Differences Estimates <sup>b</sup>				
Outcome	Before Date Passed	Transition Period	Effective Period	Before Date Passed	Transition Period	Effective Period	Transition Period Difference (95% CI)	P- Value	Effective Period Difference (95% CI)	P- Value	Relative Change <sup>c</sup>
California Unit Price (\$), OON Provider, In-Network Facility (N=295 978)	93.20	96.87	90.87	138.64	147.09	153.51	-3.35 [-10.84,4.14]	0.38	-12.71 [-25.70,0.27]	0.05	-13.64%
Unit Price (\$), In-Network Provider (N=2,020,558)	99.31	106.47	105.28	104.21	114.25	117.44	-7.55 [-9.03,-6.07]	<0.001	-10.68 [-12.70,-8.66]	<0.001	-10.75%
Florida Unit Price (\$), OON Provider, In-Network Facility	204.87	176.82	148.70	138.30	141.15	148.02	-6.10 [-13.71,1.51]	0.12	-35.67 [-46.27,- 25.07]	<0.001	-17.41%
(N=308,997) Unit Price (\$), In-Network Provider (N=2,032,947)	100.74	106.71	105.07	101.90	114.03	115.31	-1.39 [-3.76,0.99]	0.25	-3.18 [-5.17,-1.19]	<0.01	-3.16%
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Unit Price (\$), OON Provider, In-Network Facility (N=276 330)	155.50	158.73	165.26	138.98	134.41	144.92	0.64 [-6.28,7.57]	0.86	-7.91 [-17.48,1.65]	0.10	-5.09%
Unit Price (\$), In-Network Provider (N=2,057,968)	108.66	107.46	112.36	97.28	99.06	111.99	1.19 [-1.83,4.22]	0.44	-8.05 [-11.46,-4.64]	< 0.001	-7.41%

Table 2. Changes in Unit Prices Before and After States Introduced Comprehensive Surprise Billing Legislation

<sup>a</sup> The unadjusted mean unit price before a law was passed, between when the law was passed and before the effective date (transition period), and after the law went into effect (effective period) are shown for treatment and control states. These time periods are as follows: Date law passed – CA (2016Q4), FL (2016Q2) and NY (2014Q2); Date law effective- CA (2017Q3), FL (2016Q3) and NY (2015Q2). Control states are comprised of 45 states (including Washington, DC) that did not pass comprehensive surprise legislation between 2014-2017 (excluding MD, IL, and CT, see eMethods for details). The mean unit price in control states corresponds to the three periods (before the law passed, the transition period and the effective period) of each treated state.

<sup>b</sup> The difference-in-difference analyses were conducted using linear regression with physician and quarter fixed effects and an indicator for the state's transition period and effective period. Regressions were run separately for each treated stated (CA, FL, and NY) compared to control states. The unit price is based on allowed amounts that are geographically adjusted and inflation adjusted into 2017 dollars. All regressions included robust standard errors clustered at the physician level.

<sup>c</sup> Relative change represents the change in the unit price between the effective period and the period before the law was passed.

### **Illustrations (Figures)**





Caption: These plots show adjusted differences in the OON unit price between each treated state and control groups relative to the date the law was passed. The error bars represent 95% confidence intervals for the point estimates in a given quarter and are calculated using standard errors clustered by physician. The y-axis is rescaled by the difference in the mean unit price between treatment and control states in the first quarter of 2014 (the reference period) for each state. In the first quarter of 2014, mean OON unit prices were \$51.69 lower in California than in control states, \$110.54 higher in Florida than in control states, and \$16.52 higher in New York than in control states. The vertical lines dividing each panel distinguish between when the law was passed, and when the law went into effect in each state. These time periods are as follows: Date law passed – CA (2016Q4), FL (2016Q2) and NY (2014Q2); Date law effective- CA (2017Q3), FL (2016Q3) and NY (2015Q2).





Caption: These plots show adjusted differences in the in-network unit price between each treated state and control groups relative to the date the law was passed. The error bars represent 95% confidence intervals for the point estimates in a given quarter and are calculated using standard errors clustered by physician. The y-axis is rescaled by the difference in the mean unit price between treatment and control states in the first quarter of 2014 (the reference period) for each state. In the first quarter of 2014, mean in-network unit prices were \$2.92 lower in California than in control states, \$3.70 higher in Florida than in control states, and \$11.39 higher in New York than in control states. The vertical lines dividing each panel distinguish between when the law was passed, and when the law went into effect in each state. These time periods are as follows: Date law passed – CA (2016Q4), FL (2016Q2) and NY (2014Q2); Date law effective- CA (2017Q3), FL (2016Q3) and NY (2015Q2).

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