

WCRI Medical Price Index for Workers' Compensation

12th Edition

Rui Yang
Olesya Fomenko



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WCRI MEDICAL PRICE INDEX FOR WORKERS' COMPENSATION, 12TH EDITION (MPI-WC)

Rui Yang

Olesya Fomenko

WC-20-24

May 2020

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Of course, any errors or omissions that remain are the responsibility of the authors.

Rui Yang
Olesya Fomenko

Cambridge, Massachusetts
May 2020

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INTRODUCTION AND HOW TO USE THIS REPORT

This is the 12th edition of the Workers Compensation Research Institute (WCRI) annual series that benchmarks the actual prices paid for medical professional services delivered to workers with injuries across states. Increasing medical costs have been a focus of public policymakers and system stakeholders in public policy debates in many states. This study focuses on medical professional prices, a key component of medical costs. To help policymakers and stakeholders conduct meaningful comparisons of prices paid across states, and to monitor the price trends in relation to changes in fee schedules, this annual study creates an index for the actual prices paid for professional services based on a marketbasket of the most commonly used services for treating workers with injuries. Other WCRI studies examine the quantity and mix of medical care;¹ facility payments to ambulatory surgery centers (ASCs);² hospital outpatient payments related to surgeries;³ hospital payments for outpatient services unrelated to surgeries and for inpatient services;¹ the prevalence of and payments for physician-dispensed drugs;⁴ use of opioids;⁵ and the differences in prices paid for professional services and hospital outpatient services between workers' compensation and group health.⁶ Together with this annual study, WCRI research helps policymakers and stakeholders understand the overall costs associated with medical care for treating workers with injuries.

This report is an update to the 11th edition of this annual study.⁷ The 36 states included in this study represent 88 percent of the workers' compensation benefits paid in the United States.⁸ In this 12th edition, we focus on the [interstate index comparisons](#) for 2018 and 2019, and expand the [growth rate analysis](#) to a 12-year span from 2008 to 2019. The key lessons in this edition are consistent with what was previously reported.

This report also monitors substantial changes in the overall and service-type level prices following major fee schedule changes during the study period, including the recent policy changes in Virginia and Arizona. Effective January 2018, Virginia introduced a workers' compensation fee schedule; overall prices paid for professional services in the state decreased 13 percent from 2017 to 2018, and then remained stable in 2019 (see the [discussion of substantial changes in overall prices following major fee schedule changes](#)). In October 2017, Arizona transitioned to a fee schedule that uses Medicare's resource-based relative value scale (RBRVS) as its basis, and this policy change led to large price increases for some types of services and decreases for others in

¹ See *CompScope™ Medical Benchmarks, 20th Edition* (Belton et al., 2019).

² See *Comparing Payments to Ambulatory Surgery Centers and Hospital Outpatient Departments, 2nd Edition* (Savych, 2016), *Payments to Ambulatory Surgery Centers, 2nd Edition* (Savych, 2016), and *WCRI FlashReport: Comparing Payments to Ambulatory Surgery Centers and Hospital Outpatient Departments* (Savych and Yang, 2018).

³ See *Hospital Outpatient Payment Index: Interstate Variations and Policy Analysis, 9th Edition* (Fomenko and Yang, 2020).

⁴ See *A Multistate Perspective on Physician Dispensing, 2011–2014* (Wang, Thumula, and Liu, 2017) and *Physician Dispensing of Higher-Priced New Drug Strengths and Formulation* (Wang, Thumula, and Liu, 2016).

⁵ See *Interstate Variations in Dispensing of Opioids, 5th edition* (Thumula, Wang, and Liu, 2019) and *Longer-Term Dispensing of Opioids, 4th Edition* (Wang, 2017).

⁶ See *Comparing Workers' Compensation and Group Health Hospital Outpatient Payments* (Fomenko, 2013) and *A New Benchmark for Workers' Compensation Fee Schedules: Prices Paid by Commercial Insurers?* (Fomenko and Victor, 2013).

⁷ *WCRI Medical Price Index for Workers' Compensation, 11th Edition (MPI-WC)* (Yang and Fomenko, 2019).

⁸ The states included in this study are Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Wisconsin. However, Alabama, Delaware, Nevada, New Hampshire, and New Mexico were excluded from the trend analysis because of insufficient sample sizes in earlier years.

2018. The overall prices paid for professional services in Arizona grew moderately in 2018, and remained stable in 2019 (see the [discussion of substantial changes in prices at the service-type level](#)). We also retain the discussion of substantial price changes following major fee schedule changes in study states with [such changes from 2008 through 2016](#) for the readers' convenience.

OBJECTIVES OF THE STUDY

This study focuses on the interstate comparisons of levels and trends in prices paid for medical professional services. The objectives of this study are twofold. The first is to help policymakers and stakeholders conduct meaningful comparisons of prices across states and track the price changes in their states. Specifically, the study informs readers on the following topics: how prices paid for medical professional services provided to workers injured in their state compare with other states, how prices in their state are changing, and whether price growth in their state is part of a national phenomenon or unique to their state. The tables and figures in this report meet this objective. The second objective is to discuss the price comparison results and price trends in relation to the principal policy tool for regulating prices—fee schedules.⁹ The discussion also takes into consideration differences in network participation, another important mechanism that can affect prices paid. The two discussion sections ([pages 13–26](#)) accomplish this objective. The conceptual framework underlying this discussion is as follows.

Workers' compensation prices are regulated by statutory regulations (i.e., fee schedules) in most states. In states with specified workers' compensation fee schedule rates, workers' compensation prices are either paid at the statutory fee schedule rate or a negotiated rate where the fee schedule is often used as a benchmark.¹⁰ In states with no specified fee schedule rates, workers' compensation prices for out-of-network services are often paid at what the provider charges or some notion of usual and customary charges in the area, while in-network providers are paid at a negotiated rate. Therefore, fee schedule regulations (i.e., the policy choice) and network contracts are the main factors shaping workers' compensation prices and hence the main focus of the discussion of price results in this study.

Medical costs can be seen as a function of price and utilization. While fee schedules and network contracts can affect prices, other policy initiatives can affect utilization of medical services. For example, changes in treatment guidelines, utilization review, and provider choice policies can have direct and indirect effects on utilization and treatment patterns. Some fee schedule initiatives that change the price differentials between different types of services can also affect the mix of services provided and billed. Furthermore, some policy changes in the structure of income benefits may affect the duration of disability benefits and the duration of medical care, which may have an indirect effect on utilization patterns and the mix of services. All these factors can affect medical costs at the aggregate level, and often these different types of policy initiatives can be implemented simultaneously. To isolate the price effect from the utilization effect of the policy initiatives, we used a marketbasket approach to control for the mix of services across states and years in this study. In other words, when reporting prices, we do not allow utilization to vary. Therefore, the price comparison results and

⁹ A fee schedule sets payment rates for medical services provided in workers' compensation, usually with a list of procedure codes and the associated payment amounts. A fee schedule has many design elements (for further explanation, see the discussion in a later section, "Discussion of Substantial Price Changes," on [page 16](#)). In this study we use the term *fee schedule changes* to mean changes in any of the design elements as well as any changes in the coding list or billing rules. We use the term *fee regulation type* to identify a state with or without a fee schedule.

¹⁰ The negotiated rates are often discounted prices below the fee schedule rates; sometimes they can be above the fee schedule rates (if the regulation allows), especially when the workers' compensation fee schedule rates in a state are substantially lower than the prices paid by other large payors (such as group health and Medicare).

price trends reported in this study mainly measure the effects of fee schedule and network differences on prices. Other WCRI studies examine the effects of policy initiatives on utilization of medical services.¹¹

SCOPE OF THE STUDY

WCRI developed the Medical Price Index for Workers' Compensation (MPI-WC) for common professional services to aid policymakers and stakeholders in identifying states where medical prices are unusually high or low or are rising more or less rapidly. This study focuses on prices paid for professional services that are billed by physicians, physical therapists/occupational therapists, and chiropractors.¹² Therefore, the medical price indices exclude services billed by hospitals or ambulatory surgery centers and services billed for durable medical equipment as well as pharmaceuticals.¹³ Professional services typically make up 44 percent of total workers' compensation medical expenditures in workers' compensation in a given state (Belton et al., 2019).

The medical price indices compare prices paid across study states and show the trends within each state. The indices measure prices actually paid and take into account any network or other discounts. Indices are reported for each state on a statewide basis and for major groups of medical services, including evaluation and management, physical medicine, major surgery, pain management injections, major radiology, minor radiology, neurological and neuromuscular testing, and emergency care. Together, these eight groups typically comprise 84 percent of total medical payments for professional services across states (Belton et al., 2019).¹⁴

This 12th edition covers 36 states that represent 88 percent of the workers' compensation benefits paid in the United States. These 36 study states are Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Wisconsin. The study states are geographically diverse and represent nearly all industries and a variety of regulation choices for professional service payment under workers' compensation. Other states are not included because the data do not consistently have sufficient cell sizes for those states for all service groups analyzed in this study. For each study state, the indices track medical prices from calendar year 2008 through 2019.¹⁵ Also, this study provides snapshots of interstate comparisons on medical price indices for the two most recent study years, 2018 and 2019.

¹¹ These studies include (but are not limited to) the annual CompScope™ and CompScope™ Medical Benchmarks study series (e.g., Belton et al., 2019, and Dolinschi et al., 2020), *Impact of Treatment Guidelines in Texas* (Borba and Yee, 2012), *The Impact of Provider Choice on Workers' Compensation Costs and Outcomes* (Victor, Barth, and Neumark, 2005), *The Effects of Provider Choice Policies on Workers' Compensation Costs* (Neumark and Savych, 2017), and *Why Surgery Rates Vary* (Yee, Pizer, and Fomenko, 2015).

¹² Medical professional services include both professional and technical components of diagnostic tests for applicable services among the eight service types covered in this study.

¹³ Medical professional services provided in a hospital setting but billed by physicians, physical therapists/occupational therapists, and chiropractors are included in this study. Medical professional services billed by hospitals are excluded.

¹⁴ For a brief description of these service groups, refer to [Table TA.1](#).

¹⁵ 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Five study states (Alabama, Delaware, Nevada, New Hampshire, and New Mexico) were excluded from the trend analysis because of insufficient sample sizes in earlier years. The "Statistical Appendix" [Table SA.2](#) shows price changes in these five states for a shorter period from 2013 to 2019, when sufficient data were available.

OUTLINE OF KEY LESSONS

This outline summarizes the key lessons from interstate index comparisons and growth rate comparisons across states. A more extensive discussion can be found in the section “Discussion of Key Lessons,” beginning on [page 13](#).

LESSONS FROM INTERSTATE INDEX COMPARISONS

- Prices paid for a similar set of professional services varied significantly across states, ranging from 28 percent below the 36-state median in Florida to 165 percent above the 36-state median in Wisconsin in 2019 (see [Figure 2](#)). The price index in 2018 shows similar results (see [Figure 1](#)).
- States with no fee schedules for professional services had higher prices paid compared with states with fee schedules—42 to 174 percent higher than the median of the study states with fee schedules in 2019 (see [Figure 2](#) and [Table 2](#)). Similar results were observed in 2018 (see [Figure 1](#) and [Table 1](#)).

LESSONS FROM GROWTH RATE COMPARISONS ACROSS STATES

- Growth in prices paid for professional services exhibited tremendous variation across states, spanning between negative 12 percent in Illinois¹⁶ and positive 48 percent in Wisconsin over the time period from 2008 to 2019 (see [Figure 3](#)).¹⁷
- Most states with no fee schedules experienced faster growth in prices paid for professional services compared with states with fee schedules—the median growth rate among the non-fee schedule states was 34 percent from 2008 to 2019, compared with the median growth rate of 7 percent among the fee schedule states (see [Figure 4](#) and [Table 5](#)).^{18,19}

OUTLINE OF SUBSTANTIAL PRICE CHANGES

This outline summarizes the substantial changes in prices paid for professional medical services in the study states. A more extensive discussion can be found in the section “Discussion of Substantial Price Changes,” beginning on [page 16](#).

- Seven study states (Arizona, Illinois, Kentucky, Massachusetts, North Carolina, Texas, and Virginia) had substantial changes (i.e., an increase or a decrease of 10 percent or more) in overall prices paid following major fee schedule changes during the study period (see [page 17](#)).²⁰

¹⁶ The price trend in Illinois is discussed in a later section, “Discussion of Substantial Price Changes,” beginning on [page 16](#).

¹⁷ Five study states (Alabama, Delaware, Nevada, New Hampshire, and New Mexico) were excluded from the trend analysis because of insufficient sample sizes in earlier years. The “Statistical Appendix” [Table SA.2](#) shows price changes in these five states for a shorter period from 2013 to 2019, when sufficient data were available.

¹⁸ Two non-fee schedule states, Iowa and New Jersey, had slower growth in prices paid than the other study states without fee schedules. The results in these two states are discussed in the section “Lessons from Growth Rate Comparisons across States,” beginning on [page 14](#).

¹⁹ To compare the price growth between states with fee schedules and states without fee schedules, we restricted our attention to the 22 study states with no major fee schedule changes from 2008 to 2019 because including states with major fee schedule changes in this analysis would likely distort the results. The price trends in the states with major fee schedule changes are discussed in a later section, “Discussion of Substantial Price Changes,” beginning on [page 16](#).

²⁰ Note that New York implemented increases in medical fee schedule rates effective April 1, 2019; previously, the fee schedule in the state had remained relatively unchanged since 1996. The half-year price data through June 2019 in this edition reflect only two months of experience under the new fee schedule. The next edition will examine the price trends with 14 months of experience after this policy change.

- Many study states had substantial price changes at the service-type level that did not manifest in material changes in the overall prices. Among these states, Arizona, California, and Colorado had major changes in the basis of their fee schedules that resulted in substantial changes in prices paid for different types of services (see [page 22](#)). All other states' substantial price changes in each service type from 2008 to 2019 are summarized in [Table 19](#).

HOW TO USE THIS BENCHMARKING REPORT

The MPI-WC study offers a rich and detailed set of benchmarks, which are organized in an easily accessible format.

- The short narrative [scope of the study](#) explains what is covered in this report, including the types of providers and services, the study states and time span, and the focus of the report.
- The section "[Discussion of Key Lessons](#)" provides a detailed discussion of comparisons of prices paid for professional services across states and over time.
- The section "[Discussion of Substantial Price Changes](#)" provides a detailed discussion of substantial changes in prices paid for professional medical services following major fee schedule changes.
- For those who want to see the medical price index at a glance, [Tables A.1](#) and [A.2](#) show the index values overall as well as for each service group across the 36 study states in 2018 and 2019.
- For those who want to view the graphic presentations of interstate comparisons, there are bar charts for the overall medical price index as well as a price index for each type of service in [Figures A.1–A.18](#).
- For those seeking to understand the overall price growth across study states, [Figure B.1](#) shows the trends in the overall price index across 31 study states for which we could do a trend analysis from 2008 to 2019.
- For those who want to focus on the price growth in a specific state, [Figures B.2–B.32](#) highlight the price trends in each of the 31 study states for which we could do a trend analysis from 2008 to 2019. In the state-specific notes to these figures, readers can also find summaries of major fee schedule changes. For the five additional states introduced in the latest two editions, we show price changes in the "Statistical Appendix" [Table SA.2](#) for a shorter period from 2013 to 2019, when sufficient data were available in these states.
- For those who want to compare the price growth by service group in different states, [Tables B.1–B.8](#) summarize the trends of prices paid for each of the eight types of services across study states. [Table 19](#) provides a summary of substantial price changes in each service type across study states.
- For those who want to drill down on the price trend in a specific state, the charts and tables in [Figures C.1–C.31](#) provide the changes in prices paid by service group in each of the 31 study states for which we could do a trend analysis from 2008 to 2019, along with state-specific summaries of major fee schedule changes in the notes to these graphs. We also provide longer-term price trends from 2002 to 2019 for the 25 states covered in the earlier editions of this study series in the "Statistical Appendix" [Table SA.1](#).
- All tables and graphs may be accessed via links in the "[List of Figures and Tables](#)" and the "[Quick Reference Guide to Figures and Tables](#)."
- The data and methods are fully described in the "[Technical Appendix](#)." This report also contains a short summary of the "Technical Appendix" entitled "[Data and Methods](#)."

Note: Each page of this report contains a "Back to Previous View" button that allows the reader to click on a link to another section and then return to the original page.

WCRI MPI-WC: STATE-LEVEL MEASURE OF WORKERS' COMPENSATION PRICE INFLATION

The method for developing this Medical Price Index for Workers' Compensation is similar to that of the Consumer Price Index for medical care services (CPI-M) and Producer Price Index for Health Care Services (PPI), published by the U.S. Department of Labor's Bureau of Labor Statistics (BLS).²¹ All of these price indices measure changes in price while holding utilization constant over the period studied.

However, the WCRI MPI-WC is an in-depth, independent measure that provides a more relevant benchmark of medical inflation in workers' compensation. Compared with the general inflation measures, the WCRI MPI-WC has the following advantages:

- The WCRI MPI-WC focuses only on those medical professional services that are most commonly provided to workers with injuries—largely related to the diagnosis and treatment of trauma and orthopedic conditions. The BLS CPI-M and PPI include the prices of all medical professional services provided to the U.S. population. Many types of services have little or no relevance for tracking medical prices for the care provided to workers with injuries.
- The WCRI MPI-WC is a state-level price index, including all metropolitan areas and rural areas. This study shows that prices paid and price growth in workers' compensation exhibit tremendous variation across states, which is likely related to differences in state workers' compensation fee regulations—the principal policy tool for regulating prices—and network participation. The BLS CPI-M and PPI do not report at the state level; they are only available for the national level and the regional level based on selected metropolitan areas.
- Since workers' compensation prices paid in the fee schedule states are shaped by the fee schedule regulations and, in the states without fee schedules, arise out of the negotiations between workers' compensation insurers and providers, there is no reason to expect workers' compensation prices to be similar to prices paid by other types of payors in the local markets. In particular, previous WCRI studies showed that workers' compensation typically paid higher prices than group health.²² Hence, the WCRI MPI-WC better captures the inflation rates in medical professional services specific to workers' compensation as compared with more general measures of medical price inflation.

²¹ [Table D.1](#) shows the trends of the Consumer Price Index for medical professional services (CPI-M) and Producer Price Index for Physician Care (PPI) to provide a context of general medical inflation during the analysis period.

²² *A New Benchmark for Workers' Compensation Fee Schedules: Prices Paid by Commercial Insurers?* (Fomenko and Victor, 2013) and *Comparing Workers' Compensation and Group Health Hospital Outpatient Payments* (Fomenko, 2013).

DISCUSSION OF KEY LESSONS

This section provides a detailed discussion of comparisons of prices paid for professional medical services across states and over time. An [outline](#) summarizing the main points of this discussion can be found in the earlier section “Introduction and How to Use This Report.” The following two major topics are addressed here:

- Lessons from interstate index comparisons
- Lessons from growth rate comparisons across states

The discussion of these topics focuses on the experience of states with different fee regulation types (i.e., states with fee schedules versus states without fee schedules) and the comparative results observed across states and over time.¹ The conceptual framework underlying the focus of the discussion is explained in the earlier section “Introduction and How to Use This Report.” Note that in the second topic, we focus on states without major fee schedule changes only, since including states with major fee schedule changes would distort the results characterizing the relationship between the fee regulation type and price growth rates.²

This report is an update to the 11th edition of this annual study with an additional year of data in 2019. In this 12th edition, the [interstate index comparisons](#) focus on 2018 and 2019, and the [growth rate analysis](#) is expanded to a 12-year span from 2008 to 2019. The key lessons in this 12th edition are consistent with what was previously reported.

LESSONS FROM INTERSTATE INDEX COMPARISONS

- **Prices paid for a similar set of professional services for treating workers with injuries varied significantly across states** (see [Figure 2](#) and [Table 2](#)). In 2019,³ the overall level of prices paid ranged from 28 percent below the 36-state median in Florida to 165 percent above the 36-state median in Wisconsin. In other words, the overall level of prices paid in the highest-price study state, Wisconsin, was more than three times the level in Florida, the lowest-price study state. The price index in 2018 based on full-year data shows similar results (see [Figure 1](#) and [Table 1](#)).⁴

¹ Earlier editions of this WCRI Medical Price Index study examined the significance of the observed patterns using a linear regression model of an association between the levels of prices paid for professional services and the fee regulation type, adjusted for network participation rates. The findings from this statistical method were supportive of the descriptive analysis of variation in medical prices across states and over time in relation to fee schedules. For more details, refer to *WCRI Medical Price Index for Workers' Compensation, Ninth Edition (MPI-WC)* (Yang and Fomenko, 2017).

² Nine study states with major fee schedule changes are discussed separately in the next section, “Discussion of Substantial Price Changes.” These states are Arizona, California, Colorado, Illinois, Kentucky, Massachusetts, North Carolina, Texas, and Virginia.

³ Results in 2019 are based on half-year price data from January through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019 (see the “Technical Appendix”).

⁴ Note that the interstate variation in prices paid for medical professional services in workers' compensation had little correlation with the geographic differences in the costs of maintaining a physician's office, which can be measured by the Medicare physician fee schedule geographic practice cost indices (GPCIs). [Table D.2](#) shows the GPCIs for practice expense (PE), physician work (Work), and malpractice insurance (MP) as of April 2019. An earlier WCRI study, *A New Benchmark for Workers' Compensation Fee Schedules: Prices Paid by Commercial Insurers?* (Fomenko and Victor, 2013), also found that workers' compensation prices were not well-related to the interstate differences in provider expenses. Analysis in the study shows that fee schedule regulations and network contracts are the main factors shaping workers' compensation prices.

- **States with no fee schedules for professional services had higher prices paid than states with fee schedules** (see [Figure 2](#) and [Table 2](#)). Six study states had no fee schedules as of 2019: Indiana, Iowa, Missouri, New Hampshire, New Jersey, and Wisconsin.⁵ In 2019, the overall levels of prices paid in these six states were 42 to 174 percent higher than the median of the study states with fee schedules. Among the six study states without fee schedules, the prices paid in Wisconsin were the highest—more than twice the median of the study states with fee schedules and 67 percent higher than the median of the study states without fee schedules. Moreover, the median non-fee schedule study state had an overall level of prices paid for common professional services that was 64 percent higher than that in the typical (i.e., median) fee schedule study state for similar services.⁶ The results for 2018 were similar to those for 2019.⁷
- **States with fee schedules for professional services (except for Illinois, Nevada, and Oregon) had relatively lower prices paid compared with states without fee schedules** (see [Figure 2](#)). Thirty of the 36 study states had workers' compensation fee schedules for professional services in 2019.⁸ Except for Illinois, Nevada, and Oregon, the overall level of prices paid in these states in 2019 ranged from 25 percent below to 23 percent above the median of the fee schedule study states. These numbers were lower than the price levels in the non-fee schedule study states. Illinois, Nevada, and Oregon had higher prices than the other fee schedule states, mainly due to higher fee schedule rates. The overall level of prices paid in these three states was 34 to 38 percent higher than the median of the fee schedule study states in 2019, and close to the price level in Iowa, the non-fee schedule state with the lowest prices. Note that these three states had higher fee schedule rates compared with most other study states with fee schedules (see [Table 3a](#)). The results for 2018 were similar (see [Figure 1](#) and [Table 1](#)).

LESSONS FROM GROWTH RATE COMPARISONS ACROSS STATES

- **Growth in prices paid for common professional services exhibited tremendous variation across states.** In the 31 study states for which we could do a trend analysis from 2008 to 2019, growth rates in the overall prices paid varied from negative 12 percent in Illinois to positive 48 percent in Wisconsin (see [Figure 3](#)).⁹
- **Most states with no fee schedules experienced faster growth in prices paid compared with states with fee schedules** (see [Figure 4](#) and [Table 5](#)). Here we focus on the 22 study states with no major fee schedule

⁵ Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. The impact of this policy change is discussed in the "[Discussion of Substantial Price Changes](#)" section.

⁶ In this report, we use the terms *median* and *typical* interchangeably.

⁷ Earlier editions of this WCRI Medical Price Index study found statistical evidence supporting the observations of the higher prices paid for professional services in non-fee schedule states than in fee schedule states. The same statistical method also showed that higher network participation rates were associated with lower price levels. Both results were statistically significant. For more details, refer to the discussion of Table 3 and the "Technical Appendix" in *WCRI Medical Price Index for Workers' Compensation, Ninth Edition (MPI-WC)* (Yang and Fomenko, 2017).

⁸ These states are Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, Nevada, New Mexico, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, and Virginia (workers' compensation fee schedule effective January 1, 2018).

⁹ Five study states (Alabama, Delaware, Nevada, New Hampshire, and New Mexico) were excluded from the trend analysis because of insufficient sample sizes in earlier years. The "Statistical Appendix" [Table SA.2](#) shows price changes in these five states for a shorter period from 2013 to 2019, when sufficient data were available.

changes from 2008 to 2019, and 5 of them are states without fee schedules.¹⁰ In three out of the five non-fee schedule study states—Indiana, Missouri, and Wisconsin—the overall increase in prices paid from 2008 to 2019 was 34 percent, 44 percent, and 48 percent, respectively. In contrast, price changes among the fee schedule states ranged from negative 2 percent (in South Carolina) to 25 percent (in Maryland), with the typical growth rate at 7 percent over the 12-year study span. In terms of the average annual growth rate, the increase in prices paid among these three non-fee schedule states was 3–4 percent per year from 2008 to 2019, while the annual growth rate in prices paid among the fee schedule states ranged from minimal to 2 percent per year.¹¹

Two non-fee schedule states, Iowa and New Jersey, experienced slower growth in prices paid than the other study states without fee schedules. From 2008 to 2019, the cumulative growth in prices paid was 20 percent in Iowa and 19 percent New Jersey (see [Figure 4](#)). In Iowa, the overall prices paid grew 11 percent from 2008 to 2011, similar to the experience in other non-fee schedule states during this period (see [Figure B.1](#)). However, prices paid in Iowa remained fairly stable from 2011 to 2015. During the same period, we observed that the share of payments made to in-network providers for common professional services in Iowa continued to increase—from 2011 to 2015, this measure increased 8 percentage points (or 11 percent) in the state, from 73 percent in 2011 to 81 percent in 2015 (see [Table 6](#)). The payment data in Iowa indicated the cost-saving nature of networks, as the prices paid to in-network providers were lower than to out-of-network providers for similar professional services. The slower growth in prices paid in New Jersey over the study period was mainly due to a 13 percent decrease in 2013, which was an atypical change among the non-fee schedule states in that year (see [Figure B.1](#)). At the same time, the share of payments made to in-network providers for common professional services in New Jersey increased nearly 9 percentage points (or 11 percent) over one year, from 79 percent in 2012 to 88 percent in 2013 (see [Table 6](#)). Moreover, according to the payment data, in New Jersey, the prices paid to in-network providers were lower than to out-of-network providers for similar professional services, indicating the cost-saving nature of networks in the state. Note that the trends in prices paid in New Jersey before and after 2013 were fairly similar to the experience among the other non-fee schedule states during the same periods—the overall prices paid in New Jersey increased 15 percent from 2008 to 2012; after the decrease in 2013, this measure grew 18 percent from 2013 to 2019.

¹⁰ As we mentioned earlier, since some study states had major changes in their professional fee schedules, the inclusion of those states would likely distort the results characterizing the relationship between the fee regulation type and price growth rates; therefore, we restricted our attention to the 22 study states with no major fee schedule changes from 2008 to June 2019 in this bullet point. The trends of prices paid in states with major changes in their professional fee schedules are discussed in the next section, “Discussion of Substantial Price Changes.”

¹¹ Earlier editions of this WCRI Medical Price Index study found statistical support for the observations of the faster growth in professional prices in the non-fee schedule states compared with the fee schedule states. The same statistical method also showed a strong inverse association between growth in network participation rates and changes in professional prices. Both results were statistically significant. For more details, refer to the discussion of Table 6 in *WCRI Medical Price Index for Workers' Compensation, Ninth Edition (MPI-WC)* (Yang and Fomenko, 2017).

DISCUSSION OF SUBSTANTIAL PRICE CHANGES

This section provides a detailed discussion of substantial changes in prices paid for professional medical services. An [outline](#) summarizing the main points of this discussion can be found in the earlier section “Introduction and How to Use This Report.” The following two major topics are addressed here:

- A discussion of substantial changes in overall prices following major fee schedule changes
- A discussion of substantial changes in prices at the service-type level (without material changes in overall prices) following major changes in the fee schedule basis

This report offers an abundant body of metrics that track price changes at the overall level as well as in each of eight service types in the study states over a long period of time. To provide a more targeted discussion here, we consider a price increase or a price decrease of 10 percent or more to be a *substantial* price change and focus on these changes only.

In the first topic, we discuss the results in seven study states that experienced substantial price changes at the overall level following major changes in fee schedules during the study period. We describe all the substantial changes in overall prices observed in the data following the major changes in fee schedules—the principal policy tool for regulating prices—and note the changes in network participation, another important mechanism that can affect prices paid. The conceptual framework underlying the focus of the discussion is explained in the earlier section “Introduction and How to Use This Report.”

Many study states had substantial price changes at the service-type level without materially impacting the overall price levels for professional services. In the second topic, we focus the detailed discussion on three study states that had major changes to the basis of their fee schedules (i.e., the most fundamental design element of a fee schedule) that resulted in a substantial shift in relative prices paid for different types of services. We also provide a brief summary of all the substantial price changes in each service type across all study states during the study period.

A fee schedule sets payment rates for medical services provided in workers' compensation, usually with a list of procedure codes and the associated payment amounts. As another WCRI study¹ explained, a workers' compensation fee schedule has many design elements, including the basis of the fee schedule (RBRVS-based or not), conversion factor (single or multiple conversion factors), regional variation (single statewide or multiple regional fee schedules), and level of the fee schedule (how high or low to set the maximum payment rates).² In this study we use the term *fee schedule changes* to mean changes in any of the design elements as well as any changes in the coding list or billing rules (for example, the coding change discussed in the second topic).

¹ *Designing Workers' Compensation Medical Fee Schedules, 2019* (Fomenko and Liu, 2019).

² See [Table 7](#) for the characteristics of workers' compensation fee schedules for professional medical services as of 2019, according to the WCRI study *Designing Workers' Compensation Medical Fee Schedules, 2019* (Fomenko and Liu, 2019).

DISCUSSION OF SUBSTANTIAL CHANGES IN OVERALL PRICES FOLLOWING MAJOR FEE SCHEDULE CHANGES

Seven study states—Arizona, Illinois, Kentucky, Massachusetts, North Carolina, Texas, and Virginia—had substantial changes in overall prices paid following major fee schedule changes during the study period.³

In this section, we describe the fee schedule changes and the changes in prices paid in each of these states, organized in reverse chronological order, starting with the policy change in January 2018 in Virginia.

- Virginia introduced a workers' compensation fee schedule effective January 2018, using historical actual average expenses or charges in the community.** The fee schedule rates were designed with the objective of revenue neutrality and were established to reflect actual average historical costs/charges for services provided to treat workers' compensation injuries in each of six regions.⁴ Following the adoption of the fee schedule, the overall prices paid for professional services in Virginia decreased 13 percent from 2017 to 2018 (see [Figure B.31](#)). For comparison, the typical growth rate of overall prices among the fee schedule states remained stable in that year, and the median growth rate among non-fee schedule states was 2 percent in 2018 (see [Figure B.1](#)). Note that the overall prices paid for professional services in Virginia remained stable in 2019 (see [Figure B.31](#)). In addition, Virginia moved down in the interstate ranking of overall prices paid for professional services after this price decrease—overall prices in Virginia changed from being among the highest of the study states in 2017 to being closer to the middle group of states in 2018 (see [Table 9](#) and [Figure 1](#)). Note that the network participation rate in Virginia decreased 2 percentage points, from 78 percent in 2017 to 76 percent in 2018, while many other study states experienced stability or increases in network penetration in that year (see [Table 6](#)).

The average price paid for all types of professional services in Virginia decreased in 2018, with the magnitudes of decreases ranging from 5 percent for neurological/neuromuscular testing to 23 percent for minor radiology (see [Figure C.30](#)). The interstate comparison results for Virginia also changed for all of these services after the price decreases (see [Table 9](#)). For evaluation and management (i.e., office visits), physical medicine, and neurological/neuromuscular testing services, prices paid in Virginia changed from being higher than typical in 2017 to being typical or fairly typical of the study states in 2018. For the other types of services (major surgery, major and minor radiology, pain management injections, and emergency services), Virginia remained in the group of states with higher prices in 2018, but the price differential between Virginia and the 36-state median decreased significantly after the introduction of the fee schedule. For example, prices for major surgery in Virginia were 43 percent higher than the 36-state median in 2017; after the fee schedule adoption, surgery prices in Virginia became 24 percent above the 36-state median in 2018.

³ Note that New York implemented increases in medical fee schedule rates effective April 1, 2019; previously the fee schedule in the state had remained relatively unchanged since 1996. The half-year price data through June 2019 in this edition reflect only two months of experience under the new fee schedule. The next edition will examine the price trends with 14 months of experience after this policy change.

⁴ Virginia gathered and viewed Virginia-specific workers' compensation data, and used only valid and statistically reliable data (approximately 74 percent of the total Virginia workers' compensation market in 2014 and 2015) in the direct development of the medical fee schedule. According to the WCRI study *Designing Workers' Compensation Medical Fee Schedules, 2019* (Fomenko and Liu, 2019), the introduced fee schedule rates in Virginia resulted in some of the highest state-level workers' compensation fee schedule rates in the nation. The same study also found that Virginia was one of the two states with the largest spread in the fee schedule rates between the regions; the other state was Illinois.

- North Carolina implemented new fee schedule rates for professional services effective July 2015.**⁵ The new fee schedule rates incorporate the 2015 Medicare rates with the revised service-type specific multipliers, ranging between 140 and 195 percent of Medicare. Before this change, the fee schedule rates for most types of professional services in North Carolina were set at 158 percent of the 1995 Medicare values. The overall prices paid for professional services in North Carolina increased 17 percent from 2014 to 2016 following this fee schedule change (see [Figure B.21](#)). For comparison, the median growth rate of overall prices among the fee schedule states remained stable during this period (see [Figure B.1](#)). Note that the network participation rate in North Carolina was fairly stable between 2014 and 2016, while many other fee schedule states experienced increases in network participation (see [Table 6](#)). As to the interstate ranking results, the overall prices paid in North Carolina moved from being among the lowest of the study states in 2014 to being fairly typical of the study states in 2016 (see [Figure 5](#)).⁶

At the service-type level, prices paid increased for some services and decreased for others after the new fee schedule rates were implemented. On one hand, the average price paid for evaluation and management (i.e., office visits), physical medicine, and emergency visits in North Carolina increased substantially, with growth ranging from 30 to 46 percent from 2014 to 2016 (see [Figure C.20](#)). Note that the median growth rate of prices paid among fee schedule states for these types of services was within 2 percent during this period (see [Tables B.1, B.2, and B.8](#)). North Carolina moved up in the interstate ranking of prices paid for these types of services after the price increases (see [Table 10](#)). In addition, for minor radiology services, the average price paid in North Carolina had a small increase of 4 percent from 2014 to 2016 (see [Figure C.20](#)). On the other hand, the average price paid for several other types of services decreased—7 to 10 percent decreases from 2014 to 2016 for major surgery, pain management injections, and neurological/neuromuscular testing services, and a 38 percent decrease for major radiology. In contrast, during this period, the typical trends of prices paid among fee schedule states showed little change for major surgery and neurological/neuromuscular testing, a small increase of 2 percent for pain management injections, and a small decrease of 3 percent for major radiology (see [Tables B.3, B.4, B.5, and B.7](#)). North Carolina moved down in the interstate ranking of prices paid for major radiology after the substantial price decrease (see [Table 10](#)). For major surgery, pain management injections, and neurological/neuromuscular testing services, the interstate ranking for North Carolina did not change much between 2014 and 2016. Note that prices paid for all types of services in North Carolina changed little in 2017, and the overall prices paid for professional services remained stable in the most recent study year in this report (see [Figure C.20](#) and [Figure B.21](#)).

⁵ House Bill 92, passed in the 2013 legislative session, required that physician reimbursement be based on “applicable Medicare payment methodologies” and charged the North Carolina Industrial Commission with developing and updating the reimbursement methodology. Proposed fee schedule rule changes were published in November 2014 and approved in February 2015; the new professional fee schedule rates went into effect July 1, 2015. Under the new fee schedule, reimbursement rates vary by service with multipliers set at 140–195 percent of the 2015 Medicare levels across different types of services. Before this change, the fee schedule rates for most types of professional services in North Carolina had remained at 158 percent of the 1995 Medicare values, since 1996. In 2013, the fee schedule rates for office visits in North Carolina increased significantly as the multiplier for this type of service increased from 158 to 205 percent of Medicare. Note that, as of 2016, North Carolina publishes fee schedule rates effective January 1 in each year.

⁶ This comparison for North Carolina in 2014 is based on the 31 states published in the ninth edition of this annual study; the comparison in 2016 is based on the same set of states for consistency. For the other states discussed in this section, excluding Virginia, the interstate ranking changes are also based on these 31 study states.

- Kentucky discontinued the use of relative values from Medicare’s RBRVS for its professional fee schedule in June 2014.**⁷ Instead, it transitioned to state-specific relative values based on historic data from FAIR Health commercial database values. Following this policy change, the overall prices paid for professional services in Kentucky increased 19 percent from 2013 to 2015 (see [Figure B.13](#)). For comparison, the median growth rate of overall prices among the fee schedule states changed little during this period (see [Figure B.1](#)). Kentucky moved up in the interstate ranking of overall prices paid for professional services after this price increase (see [Table 11](#)). Note that the network participation rate in Kentucky increased from 82 percent in 2013 to 85 percent in 2015, and this increase was similar to the experience in many study states with fee schedules during this period (see [Table 6](#)).

The average price paid for many types of services in Kentucky increased from 2013 to 2015, with the magnitudes of increases ranging from 4 percent for major surgery to 33 percent for physical medicine services (see [Figure C.12](#)). In particular, prices paid increased substantially for evaluation and management (i.e., office visits), emergency services, and physical medicine from 2013 to 2015—a 21 percent increase for office visits, 31 percent increase for emergency services, and 33 percent increase for physical medicine. The interstate ranking for Kentucky changed significantly for these services. For physical medicine, Kentucky changed from 10 percent lower than the median of the study states in 2013 to 15 percent higher than the median state in 2015 (see [Table 11](#)). For office visits and emergency services, Kentucky moved from well below the median state in 2013 to around the median state in 2015. On the other hand, prices paid for radiology services remained stable in Kentucky (see [Figure C.12](#)). In addition, prices paid for neurological/neuromuscular testing services in Kentucky decreased 23 percent from 2013 to 2015. This price decrease was mainly related to the fundamental change in the coding for nerve conduction studies that was implemented by the Centers for Medicare & Medicaid Services (CMS).⁸

- Arizona implemented increases in fee schedule rates for evaluation and management, physical medicine, and certain surgeries in October 2013.**⁹ The overall prices paid for professional services in Arizona increased 10 percent from 2013 to 2014 following this fee schedule change (see [Figure B.3](#)). For comparison, the median growth rate of overall prices among the fee schedule states changed little in 2014 (see [Figure B.1](#)). Note that the network participation rate in Arizona increased from 80 percent in 2013 to 85 percent in 2014, and this increase was similar to the experience in many study states in that year

⁷ According to the WCRI study *Designing Workers’ Compensation Medical Fee Schedules, 2016* (Fomenko and Liu, 2016), the overall fee schedule rate in Kentucky in 2016 was 29 percent higher compared with that in 2011. Before the 2014 policy change, the professional fee schedule in Kentucky was based on Medicare’s RBRVS, with multiple conversion factors for different types of services, and was updated periodically.

⁸ For more discussion on this coding change, see the following subsection titled “Discussion of Substantial Changes in Prices at Service-Type Level.”

⁹ Arizona publishes its fee schedule annually with effective dates of October 1 through September 30 of the following year. The Industrial Commission of Arizona reviews the fee schedule rates annually with a focus each year on one of four specific groups of codes and rotates through these specific groups of codes every four years. To calculate the fee schedule rates for the codes under review, the Commission surveys the workers’ compensation fee schedules from the states of Colorado, Nevada, New Mexico, North Carolina, Oregon, Utah, and Washington and uses the following methodology: (a) current Arizona values between the 75th and 100th percentile of the states surveyed will not be adjusted; (b) current Arizona values over the 100th percentile of the states surveyed will be reduced to the 100th percentile; and (c) current Arizona values below the 75th percentile will be increased to the 75th percentile subject to the following: Increases shall be capped at 25 percent, unless and except as necessary to bring a current value up to the 50th percentile. For the fee schedule effective October 2013, the groups of codes that were reviewed and adjusted were evaluation and management, physical medicine, surgery codes from 25000 to 39599, and anesthesiology relative values. Note that the fee schedule rates for many common surgeries remained unchanged or had only small increases. Effective October 1, 2017, Arizona transitioned to an RBRVS-based fee schedule. The impact of this fee schedule transition is examined in the following subsection, “[Discussion of Substantial Changes in Prices at Service-Type Level](#).”

(see [Table 6](#)). As for the interstate ranking results, the overall prices paid in Arizona changed from being typical of the study states in 2013 to 10 percent higher than the median state in 2014 (see [Table 12](#)).

At the service-type level, the average price paid for evaluation and management (i.e., office visits) and physical medicine services in Arizona increased 18 percent and 15 percent, respectively, in 2014 (see [Figure C.2](#)). Note that the median growth rate of prices paid among fee schedule states for both types of services was about 1 percent in that year (see [Tables B.1](#) and [B.2](#)). Arizona moved up in the interstate ranking of prices paid for office visits and physical medicine after the price increase for these services (see [Table 12](#)). For major surgery, Arizona had a slight increase of 2 percent in the average price in 2014 (see [Figure C.2](#)), and the interstate ranking of Arizona remained in the group of states with higher prices for major surgery in 2014 (see [Table 12](#)).

- **In September 2011, the Illinois workers' compensation fee schedule rates for all types of medical services underwent an across-the-board decrease of 30 percent.**¹⁰ Following this policy change, the overall prices paid for professional services in Illinois decreased 27 percent from 2010 to 2012 (see [Figure B.10](#)). In contrast, the median growth rate of overall prices among the fee schedule states had a small increase of 2 percent during this period (see [Figure B.1](#)). After this price decrease, the overall prices paid in Illinois still ranked among the highest of the study states (see [Table 13](#)). Note that during this period, the network participation rate in Illinois increased 6 percentage points, from 50 percent in 2010 to 56 percent in 2012, while most other study states experienced smaller changes on this measure (see [Table 6](#)). Another WCRI study pointed out that part of this increase in network participation in Illinois may be related to stronger incentives of providers to participate in networks in order to increase the volume of workers' compensation patients they treat.¹¹ Note that even after the fee schedule decrease, the prices paid for workers' compensation patients in Illinois for most types of services (with the exception of evaluation and management) were still much higher than those for other patients (such as group health and Medicare patients), as an earlier WCRI study found.¹²

The average price paid for all types of services in Illinois decreased from 2010 to 2012, with the magnitudes of decreases ranging from 18 percent for emergency services to 31 percent for neurological/neuromuscular testing services (see [Figure C.9](#)). After this fee schedule reduction, the interstate ranking for Illinois changed significantly for prices paid for evaluation and management (i.e., office visits), from 14 percent higher than the median of the study states in 2010 to 20 percent below the median state in 2012 (see [Table 13](#)). Effective July 2014, Illinois increased the fee schedule rates for certain evaluation and management procedures to a level more comparable to Medicare rates, and we observed the prices paid for evaluation and management services in Illinois increase 10 percent from 2013 to 2015 (see [Figure C.9](#)). After this price increase for office visits, the interstate ranking for Illinois

¹⁰ Illinois introduced workers' compensation medical fee schedules for the first time in 2006. The maximum allowable payments for medical procedures, treatments, or services were set at 90 percent of the 80th percentile of charges and fees in 2002–2004 within each of the 29 geozip areas of the state. A WCRI study found that the fee schedule rates for professional services showed large variations across the 29 geozip areas, and the variations were particularly significant for specialty care (Fomenko and Liu, 2012). For example, for major surgeries, the fee schedule rates ranged from a low of 277 percent above Medicare to a high of 498 percent above Medicare, a difference of 221 percentage points. In contrast, the fee schedule rates for office visits ranged from a low of 11 percent to a high of 50 percent over Medicare. Starting in January 2012, Illinois discontinued its use of the 29 geozip areas for physicians and other nonhospital providers in favor of four county-based regions, and the intrastate differences in fee schedule rates among regions in Illinois decreased noticeably. Over time, the fee schedule rates have been adjusted on an annual basis to reflect changes in the U.S. Consumer Price Index for All Urban Consumers (CPI-U).

¹¹ *CompScope™ Medical Benchmarks for Illinois, 15th Edition* (Radeva, 2014).

¹² *The Effect of Reducing the Illinois Fee Schedule* (Yang and Fomenko, 2014).

became 16 percent below the median state in 2015, still in the group of states with lower prices paid for evaluation and management services. Similar results were observed in 2018 (see [Figure A.3](#)).

For prices for other service groups, Illinois moved down in the interstate ranking slightly after the 2011 fee schedule decrease but remained in the higher group of states. For example, for major surgery, the average price paid in Illinois was the highest of the study states in 2010, 163 percent above the median state. After the price decrease following the 2011 fee schedule change, the average price paid for major surgery in Illinois became 82 percent above the median state in 2012, still among the highest of the study states. For the changes in Illinois' ranking for other service groups, please refer to [Table 13](#).

- In 2011, the fee schedule rates in Texas increased for most professional services.**¹³ Following this fee schedule increase, the overall prices paid for professional services in Texas increased 16 percent from 2010 to 2011 (see [Figure B.30](#)). By contrast, the median growth rate of overall prices among the fee schedule states was less than 1 percent in that year (see [Figure B.1](#)). As to the interstate ranking results, the overall price in Texas changed from being slightly below the median state in 2010 to being near the median of the study states in 2011 (see [Table 14](#)). Note that the network participation rate in Texas had a significant decrease from 74 percent in 2010 to 23 percent in 2011, following the elimination of voluntary (informal) networks in the state effective January 1, 2011. Another WCRI study pointed out that in addition to the fee schedule increases, the elimination of voluntary networks was likely a factor in the observed price increase in Texas because discount fee contracts between health care providers and payors were no longer available except through certified networks.¹⁴

Double-digit increases in prices were observed across almost all types of services except for major and minor radiology (see [Figure C.29](#)). For example, Texas had a 17 percent increase in evaluation and management (i.e., office visit) prices in 2011, compared with a more moderate 5 percent increase in the median growth rate among the fee schedule states (see [Table B.1](#)). The major surgery prices in Texas increased 21 percent in 2011, while the fee schedule state median growth rate changed little in that year (see [Table B.3](#)). The magnitudes of price increases among the other service groups with double-digit growth from 2010 to 2011 ranged from 10 percent for emergency services to 20 percent for neurological/neuromuscular testing. The interstate comparison results varied for different types of services in Texas. [Table 14](#) summarizes the changes in Texas' interstate ranking by service group. For instance, in 2010, the office visit price in Texas was slightly above the median of the study states (6 percent higher than the median state). After the price increase, this measure in Texas moved up into the higher group of states (19 percent above the median state) in 2011. For major surgery, however, Texas ranked in the lower group of states before and after the fee schedule increase.

- Massachusetts increased the fee schedule rates for most professional services effective April 2009. Notably, the fee schedule rates for many major surgeries were increased by factors of 2 or 3 to be more**

¹³ The workers' compensation fee schedule for professional services in Texas is RBRVS-based. Texas publishes state conversion factors for service groups annually based on changes in the Medicare Economic Index; since 2009, these published conversion factors have been effective January 1 through December 31 of the stated year. The fee schedule regulation in Texas requires that the fee schedule rates reflect the most current reimbursement methodologies, models, and values or weights used by the federal Centers for Medicare & Medicaid Services. Previously in March 2008, Texas increased fee schedule rates for professional services, especially for surgeries. In August 2003, Texas implemented a significant decrease in fee schedule rates for surgery and radiology, and a substantial increase in rates for evaluation and management services.

¹⁴ *CompScope™ Medical Benchmarks for Texas, 15th Edition* (Telles, 2014).

in line with the median prices paid, due to negotiations between payors and providers.¹⁵ The overall prices paid for professional services in Massachusetts increased 15 percent from 2008 to 2010 following this fee schedule change (see [Figure B.15](#)). For comparison, the median growth rate of overall prices among the fee schedule states increased 4 percent during this period (see [Figure B.1](#)). Note that the network participation rate in Massachusetts decreased 6 percentage points, from 37 percent in 2008 to 31 percent in 2010, while most other study states had smaller changes during this period.¹⁶ The interstate ranking of overall prices paid for professional services in Massachusetts changed from being among the lowest of the study states in 2008 (15 percent below the median state) to being similar to the median state in 2010 (see [Table 15](#)).

Price increases in Massachusetts were observed in all types of services except for neurological/neuromuscular testing services (see [Figure C.14](#)). The average price paid for major surgery experienced a particularly large increase of 27 percent from 2008 to 2010.¹⁷ By contrast, the median growth rate in major surgery prices among the fee schedule states was 3 percent over the two years (see [Table B.3](#)). As to the interstate ranking results, the average price paid for major surgery in Massachusetts was 16 percent higher than the median state in 2008. After the large price increase following the fee schedule change, this measure in Massachusetts became 44 percent above the median study state in 2010, among the highest of the study states. The magnitudes of price increases for the other service groups ranged from 7 percent for minor radiology to 12 percent for physical medicine and emergency services. [Table 15](#) summarizes the changes in Massachusetts' interstate rankings for these service groups.

DISCUSSION OF SUBSTANTIAL CHANGES IN PRICES AT SERVICE-TYPE LEVEL

During the study period, we observed substantial price changes at the service-type level in many study states that were not accompanied by material changes in the overall prices. Among these states, Arizona, California, and Colorado are the three states that had major changes in the basis of their fee schedules; we discuss the results in these three states in detail, leading with the more recent policy changes in October 2017 in Arizona. Then, we provide a brief summary of all the substantial price changes during the study period in each service type across all study states.

¹⁵ Prior to the 2009 change, the Massachusetts fee schedule for professional services had not been updated since September 2004. A WCRI study showed that major surgeries were often paid above the fee schedule rates (Eccleston, 2006). This study found that for many of these surgeries, it was not uncommon for the median prices paid to be two or three times the fee schedule amount. Typically, 50–60 percent of these surgical procedures were paid above the fee schedule rate. System participants indicated that payors in the state were willing to negotiate with surgeons because workers had better outcomes and return to work was faster (Radeva, 2014b). The 2009 change increased the fee schedule rates for surgeries substantially to be in line with the median prices paid; the fee schedule rates for some surgeries increased to 2–3 times the previous rates.

¹⁶ The substantial price increase for major surgeries in Massachusetts was unlikely to be affected by the decrease in network participation rate, as the negotiated prices for these services were substantially higher than the fee schedule rates (Radeva, 2014b). For other services, since the network participation rate in Massachusetts was among the lowest of the study states, only a small portion of the services was affected by the potential discounted prices through networks; thus, the potential effect of this decrease in network participation rate on the price increases was likely to be limited.

¹⁷ Part of this increase in the average price paid for major surgery reflects the fee schedule increase for the surgeries that had been paid at or below fee schedule levels before the 2009 fee schedule change. According to another WCRI study, for many common surgeries in Massachusetts, typically 50–60 percent of these surgical procedures were paid above the fee schedule rates, and the rest of them were paid at or below the fee schedule rates before the 2009 change (Eccleston, 2006). System participants indicated that continued negotiation between the medical providers and payors during the period of the 2009 fee schedule change was likely to be another factor underlying the increase in the average price paid for major surgery (Radeva, 2015).

- Arizona transitioned to a Medicare RBRVS-based fee schedule for professional services effective October 2017.** Before this change, the fee schedule rates in Arizona were established annually between the 75th and 100th percentile of the surveyed values from the states of Colorado, Nevada, New Mexico, North Carolina, Oregon, Utah, and Washington. This fee schedule transition in Arizona changed the prices paid for different types of services significantly in 2018, while the average overall price had a moderate growth of 3 percent in that year.

Following this fee schedule change, the prices paid for primary care services (for example, office visits) increased, while prices paid for specialty care (for example, surgeries) decreased in Arizona (see [Figure C.2](#)). In particular, prices paid for evaluation and management (i.e., office visits) increased 11 percent, while prices paid for major surgery decreased 11 percent in 2018. In contrast, the median growth rate of prices paid for both types of services among the fee schedule states was less than 1 percent in that year (see [Tables B.1](#) and [B.3](#)). Another service type in Arizona that experienced a price increase in 2018 was physical medicine, and the increase was 7 percent (see [Figure C.2](#)). In comparison, this measure in many fee schedule states remained fairly stable in that year (see [Table B.2](#)). Prices paid decreased in 2018 for major radiology (4 percent decrease), pain management injections (15 percent decrease), and emergency services (13 percent decrease) in Arizona (see [Figure C.2](#)). Note that among the fee schedule states, the typical price trend for emergency services was stable, and the median change rates of prices for major radiology and pain management injections were nearly negative 1 percent in 2018 (see [Tables B.4](#), [B.5](#), and [B.8](#)). Prices paid for minor radiology and neurological/neuromuscular testing remained stable in Arizona in 2018 (see [Figure C.2](#)).

After this fee schedule transition, the interstate comparison results also varied for different types of services in Arizona (see [Table 16](#)). For office visits and physical medicine, prices paid in Arizona moved up in the interstate ranking after the price increases in 2018. For major and minor radiology, and neurological/neuromuscular testing, prices paid in Arizona remained typical or fairly typical of the study states in 2018 after the fee schedule change. Prices paid for pain management injections in Arizona changed from being typical of the study states in 2017 to being slightly lower than typical in 2018. Prices paid for major surgery and emergency services in Arizona changed from being slightly higher than typical in 2017 to typical of the study states in 2018.

Without substantial change in the overall prices paid for professional services, Arizona's interstate ranking on this measure remained similar after the fee schedule transition—the average overall price in Arizona was 15 percent higher than the 36-state median in 2017, and it was 18 percent above the 36-state median in 2018 (see [Table 16](#)). The network participation rate in Arizona increased from 84 percent in 2017 to 87 percent in 2018 (see [Table 6](#)). Note that the overall prices paid for professional services in Arizona remained stable in 2019 (see [Figure B.3](#)).

- Effective January 2016, Colorado revised its fee schedule for professional services and incorporated the use of relative values from Medicare's RBRVS.** Previously, Colorado based its fee schedule on the Relative Values for Physicians published by OPTUM360¹⁸. Prices paid for different types of services in Colorado were affected differently by this fee schedule change, while the average overall price did not change materially during the same period.

For many types of services, the average price increased in 2016, with the magnitudes of increases ranging from 5–6 percent for office visits and physical medicine to 50 percent for

¹⁸ The RBRVS-based workers' compensation medical fee schedule for professional services in Colorado (effective January 1, 2016) reflected the National Physician Fee Schedule Relative Value Scale file published by Medicare in January 2015.

neurological/neuromuscular testing services (see [Figure C.4](#)). In particular, the price increases in 2016 were substantial for pain management injections (21 percent increase), minor radiology (47 percent increase), and neurological/neuromuscular testing (50 percent increase). In contrast, the median rates of change in prices paid for these five types of services among the fee schedule states were all within 1 percent in 2016 (see [Tables B.1, B.2, B.4, B.6, and B.7](#)). Meanwhile, prices paid decreased in 2016 for major radiology (13 percent decrease), major surgery (26 percent decrease), and emergency services (42 percent decrease) in Colorado (see [Figure C.4](#)). Note that the typical price trends for these services among the fee schedule states changed little in 2016 (see [Tables B.3, B.5, and B.8](#)).

Following this fee schedule change, the interstate comparison results for Colorado also varied for different types of services.¹⁹ For minor radiology, pain management injections, and neurological/neuromuscular testing services, Colorado moved up in the interstate ranking after the large price increases in 2016 (see [Table 17](#)). For major surgery, major radiology, and emergency services, Colorado moved down in the interstate ranking after the price decreases in 2016. For evaluation and management services (i.e., office visits) and physical medicine, the interstate comparison grouping for Colorado did not change much between 2015 and 2016—Colorado ranked among the lower group of states for the prices paid for physical medicine and in the middle group for prices paid for office visits, before and after the fee schedule change.

The overall prices paid for professional services in Colorado remained fairly stable in 2016 (see [Figure B.5](#)), and Colorado remained in the middle group of the study states on overall prices paid after the fee schedule change (see [Table 17](#)). The network participation rate in Colorado increased moderately from 89 percent in 2015 to 91 percent in 2016 (see [Table 6](#)). Note that the overall prices paid for professional services in Colorado remained stable in 2017, and increased 6 percent in 2018 following the fee schedule update in that year (see [Figure B.5](#) and [Figure C.4](#)).

- **California began a four-year transition to an RBRVS-based fee schedule for professional services starting in January 2014.**²⁰ Before this policy change, California used the Official Medical Fee Schedule (OMFS) to regulate the payment of professional services, and the fee schedule rates in the OMFS had remained unchanged since 2007. This major change in the basis of the fee schedule in California shifted the relative prices paid for different types of services substantially, while the overall price only experienced moderate increases of 3 percent per year from 2013 to 2017.

Following this fee schedule change, the prices paid for primary care services (for example, office visits) increased, while prices paid for specialty care (for example, surgeries) decreased in California (see [Figure C.3](#)). In particular, from 2013 to 2014, prices paid for evaluation and management (i.e., office visits) and physical medicine services increased 30 and 27 percent, respectively. In contrast, the median growth rate of prices paid for both types of services among the fee schedule states was about 1 percent in that year (see [Tables B.1 and B.2](#)). In 2015, 2016, and 2017, the prices paid for office visits and physical medicine in California continued to increase, but with more moderate magnitudes as compared with

¹⁹ The interstate comparisons for Colorado in 2015 are based on the 31 states published in the ninth edition of this annual study; the comparisons in 2016 are based on the same set of states for consistency. For the other states discussed in this section, excluding Arizona, the interstate ranking changes are also based on these 31 study states.

²⁰ This fee schedule change is a part of the comprehensive workers' compensation reform legislation in California, Senate Bill (SB) 863. This legislation requires the adoption of Medicare's RBRVS schedule for professional services to be phased in over four years, beginning in 2014, and to remain in effect until the Division of Workers' Compensation adopts an RBRVS schedule that allows no more than 120 percent of the aggregate fees allowed by Medicare. During the four-year transition period, the conversion factors for primary care services increased and the conversion factors for specialty services (such as surgery and radiology) decreased.

those in 2014—18 percent for office visits and 13 percent for physical medicine from 2014 to 2017 (see [Figure C.3](#)). On the other hand, prices paid for major surgery, major radiology, pain management injections, and emergency services in California had decreases in 2014, ranging from 4 to 21 percent. For comparison, the fee schedule state median growth rate of prices paid for all these types of services ranged from positive 1 percent to negative 2 percent in that year (see [Tables B.3, B.4, B.5, and B.8](#)). In the following three years during the transition period, the prices paid for most of these service types continued to decrease, but with more moderate magnitudes than in 2014 (see [Figure C.3](#)). In addition, prices paid for minor radiology services in California increased 14 percent in 2014 after the beginning of the fee schedule transition. From 2014 to 2017, minor radiology prices decreased 18 percent in the state, mainly reflecting the decreases in Medicare's RBRVS fee schedule rates for many minor radiology procedures. The prices paid for neurological/neuromuscular testing services in California decreased 43 percent in 2014, mainly related to the fundamental change in the coding for nerve conduction studies that was implemented by CMS.²¹

After this fee schedule transition, the interstate comparison results varied for different types of services in California. For example, for office visits, California moved up in the interstate ranking after the increases in office visit prices (see [Table 18](#)). For major surgery, in contrast, California moved down in the interstate ranking following the price decreases. [Table 18](#) also summarizes the changes in California's interstate ranking for other types of services.

The overall prices paid for professional services in California increased 14 percent from 2013 to 2017 (see [Figure B.4](#)). However, after this increase, California remained among the lowest of the study states on overall prices paid in 2017 (see [Table 18](#)). Note that the network participation rate in California increased from 85 percent in 2013 to 93 percent in 2017 (see [Table 6](#)).

Besides Arizona, California, and Colorado, many other study states experienced substantial price changes at the service-type level. [Table 19](#) summarizes all the annual substantial price changes of 10 percent or more in each service type across all study states. In states with fee schedules, these changes are often related to changes in the fee schedule rates. In states with no fee schedules, some price changes are likely influenced by changes in network participation. In addition, some of the price changes shown in [Table 19](#) reflect the changes in the Medicare fee schedule implemented by CMS. For example, we observed substantial decreases in prices paid for neurological/neuromuscular testing services in most study states starting in 2013. This general trend is related to a fundamental change implemented by CMS in the coding system (i.e., the coding list and billing rules) for nerve conduction studies, the most commonly billed procedures in the neurological/neuromuscular testing service group. During this 2013 change, the previous procedure codes for nerve conduction studies were deleted. The new coding list no longer differentiates between the types of nerve conduction studies; instead, an individual CPT code captures the number of nerve conduction studies. The new billing rules require that each type of nerve conduction study be counted only once when multiple sites on the same nerve are stimulated or recorded, and the numbers of these separate tests should be added to determine which code to use.²² Note that this change was made in an effort to address the duplication of time (and therefore payments) when billing for multiple units under the retired codes.²³ We observed double-digit decreases in prices paid for major radiology

²¹ For more details on this coding change, see the description later in this subsection.

²² For more details on this coding change and the computation method, please refer to the "Technical Appendix."

²³ This change was part of the "Misguided Code Initiative" by CMS. Under this initiative, the American Medical Association (AMA) and the Relative Value Scale Update Committee (RUC) were given the task of bundling the codes that

services in many study states after 2013. This trend in some states reflected the decreases in Medicare fee schedule rates for some common major radiology procedures, with the rate decreases being more substantial for the technical component of the procedures (i.e., using the radiology machine/devices). Since 2014, CMS has implemented several changes in the Medicare fee schedule rates for certain common pain management injection procedures. For example, the Medicare fee schedule rates for lumbar and cervical epidural injections (CPT codes 62310 and 62311) experienced double-digit decreases in 2014 and substantial increases in 2015. We observed large changes in prices paid for pain management injections in many study states following these fee schedule changes.

CMS identified as being performed together more than 75 percent of the time. The new codes for nerve conduction studies were added in the 2013 CPT code list published by the AMA, and the previous codes were retired.

Figure 1 Interstate Comparison of Prices Paid for Professional Services, WCRI MPI-WC in 36 States, 2018

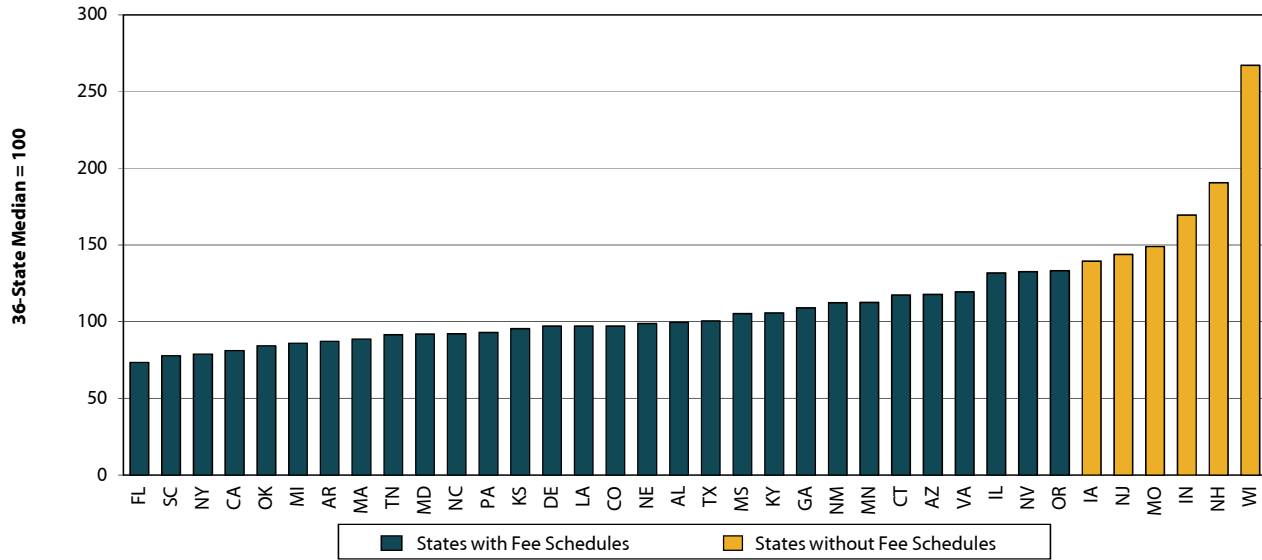
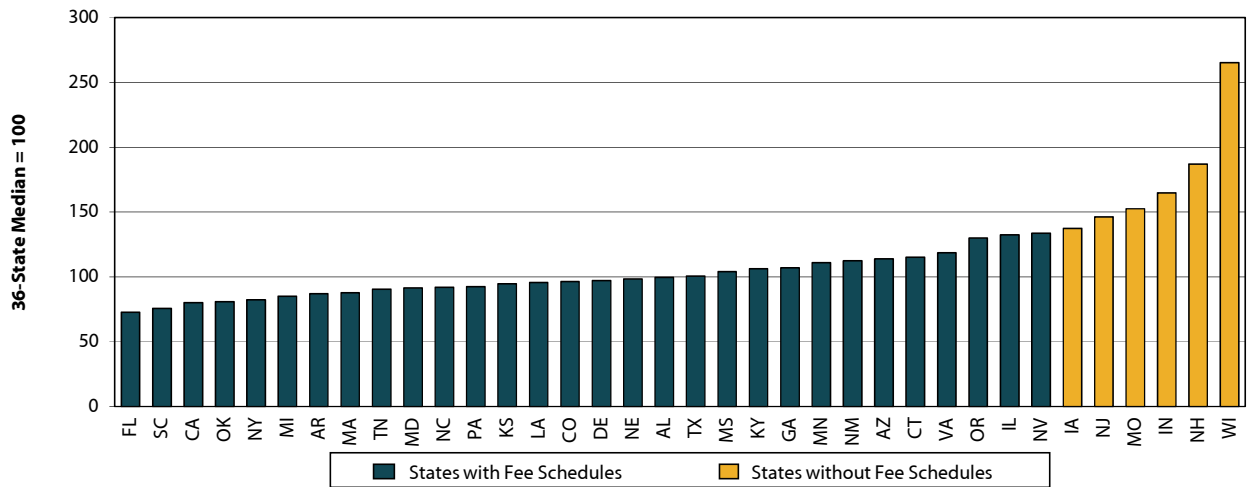


Figure 2 Interstate Comparison of Prices Paid for Professional Services, WCRI MPI-WC in 36 States, 2019^p



Special notation: ^p We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019, based on results for earlier years from the prior editions of this study (see [Figure TA.1](#)).

Notes:

This study focuses on prices paid for professional services that are billed by physicians, physical therapists/occupational therapists, and chiropractors. Services billed by hospitals or ambulatory surgery centers and services billed for durable medical equipment as well as pharmaceuticals are excluded.

AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

IA, IN, MO, NH, NJ, WI: These states had no workers' compensation fee schedule in 2018 or 2019.

AZ, CT, MN, TN: These states had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

Table 1 Summary of Fee Regulation Types and Medical Price Index for Professional Services across 36 Study States, 2018

Fee Regulation Type	State	Medical Price Index	36-State Ranking (1 = highest)
Fee schedule states	FL	73	36
	SC	78	35
	NY	79	34
	CA	81	33
	OK	84	32
	MI	86	31
	AR	87	30
	MA	89	29
	TN	92	28
	MD	92	27
	NC	92	26
	PA	93	25
	KS	95	24
	DE	97	23
	LA	97	22
	CO	97	21
	NE	99	20
	AL	100	19
	TX	100	18
	MS	105	17
	KY	106	16
	GA	109	15
	NM	112	14
	MN	113	13
	CT	117	12
	AZ	118	11
VA	120	10	
IL	132	9	
NV	133	8	
OR	133	7	
Non-fee schedule states	IA	139	6
	NJ	144	5
	MO	149	4
	IN	170	3
	NH	191	2
	WI	267	1

Notes: AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

Table 2 Summary of Fee Regulation Types and Medical Price Index for Professional Services across 36 Study States, 2019^p

Fee Regulation Type	State	Medical Price Index	36-State Ranking (1 = highest)
Fee schedule states	FL	72	36
	SC	76	35
	CA	80	34
	OK	81	33
	NY	82	32
	MI	85	31
	AR	87	30
	MA	88	29
	TN	90	28
	MD	91	27
	NC	92	26
	PA	92	25
	KS	95	24
	LA	96	23
	CO	96	22
	DE	97	21
	NE	98	20
	AL	99	19
	TX	101	18
	MS	104	17
	KY	106	16
	GA	107	15
	MN	111	14
	NM	112	13
	AZ	114	12
	CT	115	11
	VA	119	10
OR	130	9	
IL	132	8	
NV	134	7	
Non-fee schedule states	IA	137	6
	NJ	146	5
	MO	153	4
	IN	165	3
	NH	187	2
WI	265	1	

Special notation: ^p We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019, based on results for earlier years from the prior editions of this study (see [Figure TA.1](#)).

Notes: AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

Table 3a Workers' Compensation Premium over Medicare, February 2019

State	Overall	Emergency Services	Evaluation and Management	Major Radiology		Minor Radiology		Neurological/ Neuromuscular Testing	Physical Medicine	Pain Management Injections	Major Surgery
				Professional Component	Technical Component	Professional Component	Technical Component				
Alabama	80	29	1	312	249	323	151	0	62	32	250
Alaska	179	122	122	444	432	444	444	122	122	358	358
Arizona	101	84	82	132	256	132	137	83	84	132	150
Arkansas	51	29	33	105	123	105	124	35	32	114	121
California^a	27	27	27	27	27	27	27	27	27	27	27
Colorado	50	51	50	157	103	99	87	97	22	95	98
Connecticut	71	55	54	101	108	110	96	90	25	161	247
Delaware^a	41	80	-4	25	172	57	58	69	23	145	153
District of Columl	13	13	13	13	11	13	13	13	13	13	13
Florida^a	19	9	8	10	143	10	3	7	11	37	41
Georgia	83	50	52	149	168	149	146	71	52	68	224
Hawaii	30	95	37	72	23	54	16	22	22	19	33
Idaho	108	104	108	157	173	157	174	110	44	174	302
Illinois^a	98	145	8	251	513	277	179	124	45	212	303
Kansas	60	61	62	62	77	63	59	72	36	116	129
Kentucky	98	128	62	102	435	142	127	79	74	143	154
Louisiana^b	50	60	4	83	285	109	91	12	43	40	105
Maine	73	72	72	71	74	71	75	73	71	73	80
Maryland	33	28	28	28	29	28	29	28	28	49	68
Massachusetts	1	-9	-17	-4	185	-8	18	-36	-31	11	109
Michigan	34	34	33	33	39	33	28	34	34	32	34
Minnesota	78	94	92	94	102	95	82	90	59	93	94
Mississippi	79	36	37	88	109	88	131	77	65	197	217
Montana	73	69	71	72	82	72	66	74	75	71	66
Nebraska	72	84	45	150	152	155	150	57	39	109	204
Nevada	159	158	40	492	936	358	224	62	86	152	414
New Mexico	87	91	56	399	243	176	85	75	66	110	139
New York^a	16	71	-24	109	226	181	70	-10	-12	-4	107
North Carolina	54	69	40	95	95	95	95	53	43	62	95
North Dakota	108	112	108	109	99	109	106	106	107	108	115
Ohio	51	41	40	41	46	41	34	41	42	62	118
Oklahoma	41	43	40	103	305	74	46	-1	3	51	90
Oregon	95	98	95	110	258	110	98	87	67	160	135
Pennsylvania^a	58	44	10	142	416	137	90	16	39	39	119
Rhode Island ^d	96	27	29	192	179	177	123	34	n/c	204	215
South Carolina	38	39	38	39	44	39	44	39	39	37	35
South Dakota	42	88	1	163	357	103	44	7	14	7	126
Tennessee^c	47	89	51	89	89	89	89	51	23	89	89
Texas^a	69	64	64	64	61	64	64	64	64	64	106
Utah	56	44	58	63	80	63	65	51	44	86	82
Vermont ^b	41	39	-1	164	n/a	146	n/a	7	33	109	91
Virginia^a	104	336	59	185	386	234	223	160	60	210	195
Washington	78	79	78	79	85	78	70	79	78	76	79
West Virginia	35	35	35	35	32	34	34	35	35	35	35
Wyoming	49	89	3	197	425	130	64	13	9	22	157

Note: Positive numbers in this table, from Fomenko and Liu (2019), reflect a percentage above the Medicare fee schedule levels for a state and negative numbers in this table reflect a percentage below the Medicare fee schedule levels for a state. The 30 fee schedule states that are included in this MPI-WC report are in bold typeface.

^a California, Delaware, Florida, Illinois, New York, Pennsylvania, Texas, and Virginia have distinct fee schedules for different parts of the state. For each, a single statewide rate was created by averaging the different sub-state fee schedules using the percentage of employed persons in each sub-state region as weights. Medicare establishes distinct sub-state fee schedules in 14 states. For each, a single statewide rate was created using the same procedure.

^b In Louisiana and Vermont, 87 and 86 percent of payments for pain management injections, respectively, were paid for services without established workers' compensation fee schedule rates, allowing *by report* reimbursement. Hence, these services were excluded from the computation of the workers' compensation premiums over Medicare for these two states. Refer to Table 9 and Table 10 in Fomenko and Liu (2019) for the full list of *by report* codes that were excluded for Louisiana and Vermont, respectively.

^c The workers' compensation premium over Medicare in Tennessee was computed using the general surgery multiplier of 200 percent for all surgical codes in the marketbasket. Tennessee mandates additional reimbursement for orthopedic and neurosurgeons, which is reflected in a larger multiplier of 275 percent. Refer to the technical appendix in Fomenko and Liu (2019) for the sensitivity of the Tennessee findings to the choice of multiplier for surgery.

^d Rhode Island has different billing codes for physical medicine and does not establish rates for the majority of the codes. An overall rate is not established for Rhode Island as physical medicine is the largest component of the marketbasket and excluding it significantly biases the results. For more details, see the technical appendix in Fomenko and Liu (2019).

Key: n/c: not comparable; RVU: relative value unit.

Source: Fomenko and Liu. 2019. *Designing Workers' Compensation Medical Fee Schedules, 2019*.

Table 3b Workers' Compensation Premium over Medicare, March 2016

State	Overall	Emergency Services	Evaluation and Management	Major Radiology	Minor Radiology	Neurological/Neuromuscular Testing	Physical Medicine	Pain Management Injections	Major Surgery
Alabama	71	28	0	302	310	2	59	43	256
Alaska	189	123	123	618	618	123	124	473	473
Arizona	79	122	54	148	115	63	62	95	186
Arkansas	49	31	35	107	107	37	34	117	121
California	21	19	19	33	33	18	19	35	35
Colorado	38	35	34	157	163	86	16	87	88
Connecticut	73	57	56	101	118	92	26	164	261
Delaware^a	47	123	6	35	59	102	32	107	181
District of Columbia	13	13	13	13	13	13	14	14	14
Florida^a	-2	2	-10	5	1	-30	-8	50	37
Georgia	76	50	51	145	152	69	50	68	220
Hawaii	23	50	21	31	57	23	21	19	30
Idaho	108	106	110	159	160	111	46	178	310
Illinois^a	74	134	3	232	256	118	39	177	296
Kansas	58	56	60	64	67	69	37	95	127
Kentucky	64	60	49	40	55	43	63	81	112
Louisiana^b	42	62	5	90	111	13	44	44	110
Maine	75	73	74	72	72	74	73	77	81
Maryland	29	23	24	23	23	24	24	35	63
Massachusetts	-2	-4	-13	-1	-5	-34	-30	17	133
Michigan	34	33	34	35	39	32	34	18	36
Minnesota	67	84	89	83	84	83	43	92	89
Mississippi	83	32	20	89	93	173	86	192	209
Montana	71	69	70	69	74	72	72	70	68
Nebraska	62	78	40	142	145	51	36	104	190
Nevada	112	139	29	441	320	50	77	122	385
New Mexico	73	95	44	407	161	61	57	85	143
New York^a	8	73	-23	109	176	-7	-11	2	115
North Carolina	52	69	40	95	95	53	44	62	95
North Dakota	91	93	91	91	91	89	90	90	96
Ohio	53	42	42	41	49	42	42	46	120
Oklahoma	35	45	45	106	74	4	6	58	103
Oregon	88	97	94	108	114	81	67	158	133
Pennsylvania^a	37	37	5	128	124	13	31	43	117
Rhode Island ^c	n/c	21	24	89	93	30	n/c	199	200
South Carolina	40	40	40	39	42	40	41	42	39
South Dakota	27	86	0	158	100	-5	12	2	131
Tennessee	46	90	52	90	90	52	25	90	90
Texas^a	65	59	59	59	59	60	60	60	100
Utah	50	40	44	64	68	47	45	80	76
Vermont ^b	38	41	1	165	148	11	37	111	103
Washington	67	67	67	67	69	68	68	49	67
West Virginia	35	35	35	35	35	35	36	35	35
Wyoming	34	88	4	195	129	16	10	22	160

Notes: Positive numbers in this table, from Fomenko and Liu (2016), reflect a percentage above the Medicare fee schedule levels for a state, and negative numbers in this table reflect a percentage below the Medicare fee schedule levels for a state. The 29 fee schedule states that are included in this MPI-WC report are in bold typeface.

^a Delaware, Florida, Illinois, New York, Pennsylvania, and Texas have distinct fee schedules for different parts of the state. For each of these states, a single statewide rate was created by averaging the different sub-state fee schedules using the percentage of employed persons in each sub-state region as weights. Medicare establishes distinct sub-state fee schedules in 14 states. For each, a single statewide rate was created using the same procedure.

^b In Louisiana and Vermont, 86 and 82 percent of payments for pain management injections, respectively, were paid for services without established workers' compensation fee schedule rates, allowing *by report* reimbursement. Hence, these services were excluded from the computation of the workers' compensation premiums over Medicare for these two states.

^c Rhode Island has different billing codes for physical medicine and does not establish rates for the majority of the codes. An overall rate is not established for Rhode Island as physical medicine is the largest component of the marketbasket and excluding it significantly biases the results. For more details, see the technical appendix in Fomenko and Liu (2016).

Key: n/c: not comparable.

Source: Fomenko and Liu. 2016. *Designing Workers' Compensation Medical Fee Schedules, 2016*.

Table 4 Percentage Change in Aggregate Workers' Compensation Fee Schedule Rates from March 2016 to February 2019

State	Overall	Emergency Services	Evaluation and Management	Major Radiology, Professional Component	Minor Radiology, Professional Component	Neurological/Neuromuscular Testing	Physical Medicine	Pain Management Injections	Major Surgery
Alabama	1	5	4	1	0	6	4	-6	-2
Alaska	-7	4	2	-25	-26	8	1	-18	-19
Arizona	7	-14	20	-8	4	19	13	19	-13
Arkansas	0	4	2	-2	-3	8	0	1	2
California^a	6	12	10	-5	-7	17	9	-4	-6
Colorado	8	17	15	-1	-26	15	7	6	6
Connecticut	-2	4	1	-1	-7	7	0	0	-3
Delaware^b	-8	-16	-8	-9	-4	-8	-6	20	-10
District of Columbia	0	4	3	-1	-3	9	1	0	0
Florida^b	17	13	23	3	6	64	22	-8	4
Georgia	2	6	4	1	-3	10	3	3	3
Hawaii	7	36	16	29	-5	7	2	1	3
Idaho	0	4	2	-2	-3	8	1	1	-1
Illinois^b	4	9	7	4	3	11	6	13	1
Kansas	2	8	5	-2	-5	11	2	13	2
Kentucky	13	50	12	44	52	37	9	38	21
Louisiana^c	-1	3	1	-5	-4	8	1	-3	-2
Maine	0	4	2	-2	-3	8	1	0	1
Maryland	5	9	7	3	1	12	5	12	5
Massachusetts	-2	4	1	-1	-3	6	1	-1	-5
Michigan	1	6	2	-1	-6	10	2	15	1
Minnesota	5	11	4	5	3	12	7	-8	4
Mississippi	-3	6	17	-3	-6	-30	-10	3	1
Montana	4	7	5	2	-2	11	4	4	3
Nebraska	4	8	6	2	1	13	4	4	6
Nevada	5	12	10	7	5	14	4	13	4
New Mexico	6	4	12	-2	3	18	8	16	0
New York^b	-2	3	1	-1	-1	5	1	-4	-4
North Carolina	1	4	3	-1	-3	8	1	2	0
North Dakota	10	15	12	8	6	19	11	11	10
Ohio	0	4	2	-1	-8	7	1	13	0
Oklahoma	-1	4	1	-1	-2	5	1	-1	-4
Oregon	2	6	4	1	-4	12	2	3	3
Pennsylvania^b	6	10	8	5	3	12	7	-1	2
Rhode Island ^d	n/c	12	8	55	41	n/c	0	4	8
South Carolina	-1	3	1	-2	-5	7	0	-2	-4
South Dakota	2	6	4	1	-1	22	3	7	-1
Tennessee	0	4	2	-1	-3	8	1	1	0
Texas^b	4	8	6	2	1	12	5	5	4
Utah	4	8	13	-1	-5	9	1	5	5
Vermont ^e	-2	3	1	-1	-1	3	0	-1	-6
Virginia ^e	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Washington	9	15	11	8	4	16	8	22	12
West Virginia	2	6	4	0	-2	10	2	3	2
Wyoming	-2	3	1	-2	-4	5	0	1	-4

Notes: Positive numbers in this table, from Fomenko and Liu (2019), reflect a percentage above the aggregate workers' compensation fee schedule levels in 2019 as compared with 2016 for each state and service group, while negative numbers in this table reflect a percentage below the state workers' compensation fee schedule levels in 2019 versus 2016. The 29 fee schedule states that are included in this MPI-WC report are in bold typeface.

^a California has distinct fee schedules for 32 parts of the state as of February 2019, but only one fee schedule as of March 2016. For California as of February 2019, a single statewide rate was created by averaging the different sub-state fee schedules using the percentage of employed persons in each sub-state region as weights.

^b Delaware, Florida, Illinois, New York, Pennsylvania, and Texas have distinct fee schedules for different parts of the state for both March 2016 and February 2019. For each, a single statewide rate was created by averaging the different sub-state fee schedules using the percentage of employed persons in each sub-state region as weights.

^c In Louisiana and Vermont, 87 and 86 percent of payments for pain management injections, respectively, were paid for services without established workers' compensation fee schedule rates, allowing *by report* reimbursement. Hence, these services were excluded from computation of the workers' compensation premiums over Medicare for these two states.

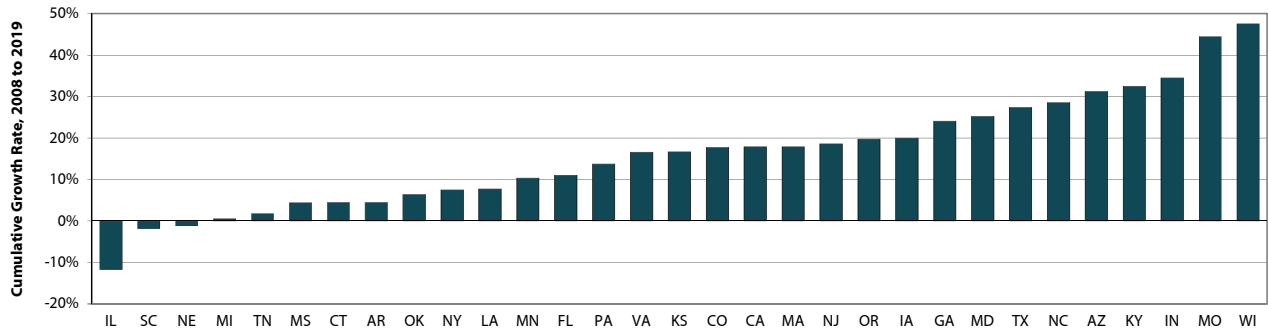
^d Rhode Island has different billing codes for physical medicine and does not establish rates for the majority of the codes. An overall rate is not established for Rhode Island as physical medicine is the largest component of the marketbasket and excluding it significantly biases the results. For more details, see the technical appendix in the source study.

^e Virginia did not have a workers' compensation fee schedule until January 1, 2018. Therefore, the comparison of fee schedule rates between March 2016 and February 2019 is not available.

Key: n/a: not available; n/c: not comparable.

Source: Fomenko and Liu. 2019. *Designing Workers' Compensation Medical Fee Schedules, 2019*.

Figure 3 Comparison of Cumulative Growth Rate in Prices Paid for Professional Services across 31 Study States, 2008 to 2019^p



	IL	SC	NE	MI	TN	MS	CT	AR	OK	NY	LA	MN	FL	PA	VA	KS	CO	CA	MA	NJ	OR	IA	GA	MD	TX	NC	AZ	KY	IN	MO	WI
Growth rate in prices paid for professional services	-12	-2	-1	1	2	4	4	4	6	7	8	10	11	14	17	17	18	18	18	19	20	20	24	25	27	29	31	32	34	44	48

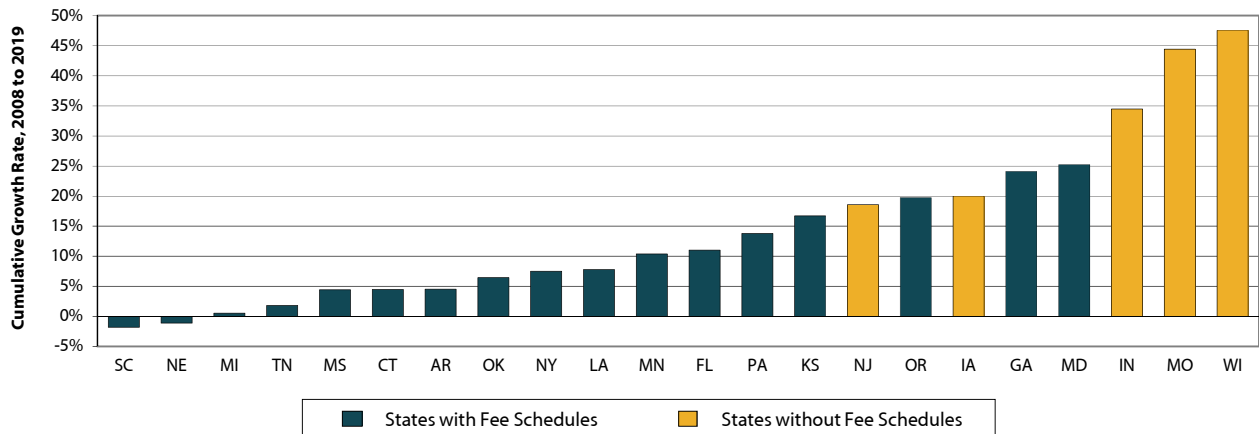
Special notation: ^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

AL, DE, NV, NH, and NM are excluded from the trend analysis because of insufficient sample sizes in earlier years.

AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

Figure 4 Comparison of Cumulative Growth Rate in Prices Paid for Professional Services across 22 Study States, 2008 to 2019^p



	SC	NE	MI	TN	MS	CT	AR	OK	NY	LA	MN	FL	PA	KS	NJ	OR	IA	GA	MD	IN	MO	WI
Growth rate in prices paid for professional services	-2	-1	1	2	4	4	4	6	7	8	10	11	14	17	19	20	20	24	25	34	44	48

Special notation: ^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

This comparison reflects the cumulative growth rate in prices paid across 22 study states with no substantial changes in their professional fee schedules from 2008 through 2019. The nine states with substantial fee schedule changes are AZ, CA, CO, IL, KY, MA, NC, TX, and VA. Please see the discussion in the section "[Discussion of Substantial Price Changes](#)" for each of these states. AL, DE, NH, NM, and NV are excluded from the trend analysis because of insufficient sample sizes in earlier years.

MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

Table 5 Summary of Cumulative Growth Rate in Prices Paid and Network Use for Professional Services across 22 Study States, by Fee Regulation Type, 2008 to 2019^p

Fee Regulation Type	State	Cumulative Growth Rate	Growth in Network Participation Rate (% of payments)	Growth in Network Participation Rate (% point change)
Fee schedule states	SC	-2%	2%	2
	NE	-1%	46%	25
	MI	1%	5%	4
	TN	2%	7%	6
	MS	4%	68%	27
	CT	4%	0%	0
	AR	4%	16%	12
	OK	6%	7%	6
	NY	7%	30%	10
	LA	8%	-7%	-4
	MN	10%	27%	13
	FL	11%	5%	4
	PA	14%	29%	17
	KS	17%	18%	13
	OR	20%	n/a	n/a
	GA	24%	2%	2
	MD	25%	-7%	-5
Non-fee schedule states	NJ	19%	22%	16
	IA	20%	19%	13
	IN	34%	25%	18
	MO	44%	15%	12
	WI	48%	15%	10

Special notation: ^p We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

This comparison reflects the cumulative growth rate in prices paid across 22 study states with no substantial changes in their professional fee schedules from 2008 through 2019. The nine states with substantial fee schedule changes are AZ, CA, CO, IL, KY, MA, NC, TX, and VA. Please see the discussion in the section "[Discussion of Substantial Price Changes](#)" for each of these states. AL, DE, NH, NM, and NV are excluded from the trend analysis because of insufficient sample sizes in earlier years.

MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

The network participation rate is measured as the percentage of payments for professional services rendered within networks; identification of network care is based on information provided by the data sources.

Key: n/a: not applicable.

Table 6 Comparison of Network Participation Rates across States, 2008 to 2019^P

State	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Alabama	n/a	n/a	n/a	n/a	n/a	85%	86%	85%	87%	87%	88%	87%
Arizona	81%	84%	86%	85%	78%	80%	85%	83%	84%	84%	87%	88%
Arkansas	78%	75%	76%	75%	78%	81%	81%	85%	85%	87%	88%	90%
California	81%	80%	81%	81%	81%	85%	89%	90%	92%	93%	94%	94%
Colorado	80%	85%	85%	84%	80%	81%	87%	89%	91%	88%	90%	92%
Connecticut	85%	85%	84%	85%	84%	84%	89%	90%	94%	95%	93%	84%
Delaware	n/a	n/a	n/a	n/a	n/a	24%	27%	32%	30%	34%	34%	37%
Florida	83%	82%	84%	83%	82%	84%	85%	88%	89%	90%	90%	87%
Georgia	87%	90%	90%	87%	86%	88%	89%	90%	89%	89%	90%	89%
Illinois	46%	49%	50%	52%	56%	62%	70%	71%	74%	76%	76%	76%
Indiana	70%	70%	69%	73%	73%	77%	78%	81%	84%	85%	86%	88%
Iowa	69%	69%	70%	73%	74%	75%	78%	81%	83%	84%	81%	83%
Kansas	74%	79%	74%	80%	82%	81%	81%	80%	84%	80%	85%	88%
Kentucky	67%	77%	82%	82%	81%	82%	83%	85%	89%	88%	86%	89%
Louisiana	50%	47%	44%	42%	36%	42%	51%	52%	52%	48%	47%	47%
Maryland	65%	61%	59%	60%	63%	62%	59%	60%	62%	63%	62%	60%
Massachusetts	37%	32%	31%	35%	41%	39%	41%	43%	48%	47%	43%	43%
Michigan	71%	70%	67%	68%	70%	70%	68%	73%	75%	73%	76%	74%
Minnesota	46%	44%	43%	43%	46%	53%	63%	54%	55%	55%	61%	59%
Mississippi	40%	40%	38%	47%	46%	48%	55%	61%	66%	64%	64%	67%
Missouri	80%	81%	78%	82%	81%	86%	87%	87%	87%	88%	89%	92%
Nebraska	55%	62%	69%	67%	68%	71%	76%	76%	82%	82%	78%	80%
Nevada	n/a	n/a	n/a	n/a	n/a	95%	96%	97%	97%	95%	96%	95%
New Hampshire	n/a	n/a	n/a	n/a	n/a	73%	73%	79%	69%	64%	68%	68%
New Jersey	73%	72%	76%	78%	79%	88%	89%	92%	92%	92%	90%	88%
New Mexico	n/a	n/a	n/a	n/a	n/a	75%	75%	73%	72%	77%	76%	77%
New York	35%	35%	36%	41%	41%	40%	41%	41%	43%	43%	46%	45%
North Carolina	76%	75%	75%	75%	71%	74%	78%	80%	79%	80%	80%	82%
Oklahoma	88%	92%	92%	91%	91%	91%	93%	94%	94%	94%	94%	94%
Oregon	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Pennsylvania	59%	63%	62%	62%	60%	60%	66%	70%	74%	75%	75%	76%
South Carolina	84%	86%	84%	82%	82%	83%	83%	85%	85%	83%	85%	85%
Tennessee	83%	86%	81%	82%	83%	82%	82%	84%	87%	88%	87%	89%
Texas	69%	71%	74%	23%	28%	31%	36%	37%	37%	35%	35%	33%
Virginia	58%	62%	62%	61%	65%	69%	70%	71%	77%	78%	76%	71%
Wisconsin	68%	70%	73%	75%	73%	74%	74%	75%	79%	79%	78%	78%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

The network participation rate is measured as the percentage of payments for professional services rendered within networks; identification of network care is based on information provided by the data sources.

AZ, CO, MD, MO, NY, OK: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, and OK are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

OR: The state is excluded from this table because missing data from a larger data source that is significant in the state may potentially lead to underestimation in this measure.

AL, DE, NH, NM, NV: These states are excluded from earlier years in this table because of insufficient sample sizes.

Key: n/a: not applicable.

Table 7 Characteristics of Workers' Compensation Fee Schedules for Nonfacility Providers, February 2019

State	Relative Value Scale Used	Conversion Factors (single or multiple) ^a	Most Recent Update of Fee Schedules	Relative Value Scale Edition	CPT Edition
Alabama	n/a	n/a	May 4, 2018	n/a	n/a
Alaska	RBRVS	Multiple	January 1, 2019	2019 RBRVS	2019
Arizona	RBRVS	Multiple	October 1, 2018	2018 RBRVS	2018
Arkansas	RBRVS	Multiple	January 1, 2019	2019 RBRVS	2019
California	RBRVS	Single	January 1, 2019	2019 RBRVS	2019
Colorado	RBRVS	Multiple	January 1, 2019	2018 RBRVS	2018
Connecticut	RBRVS	Multiple	July 15, 2018	2018 RBRVS	2018
Delaware	RBRVS	Multiple	January 31, 2019	2019 RBRVS	2019
District of Columbia	RBRVS	Single	January 1, 2019	2019 RBRVS	2019
Florida^b	RBRVS	Multiple	July 1, 2017	2016 RBRVS	2016
Georgia	RBRVS	Multiple	April 1, 2018	2018 RBRVS	2018
Hawaii	RBRVS/HI RVU	Multiple	January 1, 2019	2019 RBRVS/2018 HI RVU	2019
Idaho	RBRVS	Multiple	January 1, 2019	2019 RBRVS	2019
Illinois^c	n/a	n/a	January 1, 2019	n/a	2019
Kansas^c	RBRVS	Multiple	January 1, 2017	2016 RBRVS	2016
Kentucky^d	KY RVU	Single	July 1, 2018	2018 KY RVU	2018
Louisiana	n/a	n/a	June 20, 2016	n/a	2012
Maine	RBRVS	Single	January 1, 2019	2019 RBRVS	2019
Maryland	RBRVS	Multiple	January 1, 2019	2019 RBRVS	2019
Massachusetts	n/a	n/a	April 1, 2009	n/a	2008 and any update
Michigan	RBRVS	Single	January 8, 2019	2018 RBRVS	2018
Minnesota	RBRVS	Multiple	October 1, 2018	2016 RBRVS	2018
Mississippi^c	RBRVS	Multiple	January 1, 2018	2018 RBRVS	2013–2018
Montana	RBRVS	Single	July 1, 2018	2018 RBRVS	2018
Nebraska	RBRVS	Multiple	January 1, 2019	2019 RBRVS	2019
Nevada	RVP	Multiple	February 1, 2019	2019 RVP	2019
New Mexico	n/a	n/a	January 1, 2019	n/a	2018
New York	NY RVU	Multiple	June 1, 2012	2012 NY RVU	2012
North Carolina	RBRVS	Multiple	January 1, 2019	2019 RBRVS	2019
North Dakota	RBRVS	Single	January 1, 2019	2019 RBRVS	2019
Ohio	RBRVS	Multiple	January 1, 2019	2019 RBRVS	2019
Oklahoma	RBRVS	Multiple	January 1, 2012	2011 RBRVS	2011
Oregon	RBRVS	Multiple	January 1, 2019	2019 RBRVS	2018 and 2019
Pennsylvania^e	RBRVS	n/a	January 1, 2019	1994 & 2018 RBRVS	2019
Rhode Island	n/a	n/a	October 1, 2018	n/a	2018
South Carolina^c	RBRVS	Single	April 1, 2018	2018 RBRVS	2018
South Dakota ^f	RVP	Multiple	January 1, 2019	2018 RVP	2018
Tennessee	RBRVS	Multiple	January 1, 2019	2019 RBRVS	2019
Texas	RBRVS	Multiple	January 1, 2019	2019 RBRVS	2019
Utah ^c	RBRVS	Multiple	January 1, 2019	2018 RBRVS	2018
Vermont	n/a	n/a	January 1, 2008	n/a	2006 and any update
Virginia	n/a	n/a	January 1, 2018	n/a	2017
Washington	RBRVS	Single	January 1, 2019	2019 RBRVS	2019
West Virginia	RBRVS	Single	January 1, 2019	2019 RBRVS	2019
Wyoming	RVP	Multiple	May 23, 2018	2018 RVP	2018

Notes: This table is from Fomenko and Liu (2019). The 29 fee schedule states that are included in this MPI-WC report are in bold typeface. The fee schedule database used in Fomenko and Liu (2019) was acquired from OptumInsight™

^a The column for single or multiple conversion factors does not refer to anesthesia, laboratory, or pathology services.

^b The Florida Workers' Compensation Health Care Provider Reimbursement Manual, 2016 Edition, became effective on July 1, 2017. This 2016 edition incorporates the 2016 Medicare conversion factor and RVUs.

^c Kansas, Mississippi, South Carolina, and Utah adopted the Essential RBRVS to establish their workers' compensation fee schedules. The Essential RBRVS provides relative values for all the codes valued by the Centers for Medicare & Medicaid Services, as well relative values for many gap codes without assigned values by Medicare.

^d Kentucky relative values are based on historic data from FAIR Health commercial database values.

^e In Pennsylvania, prior to January 1, 1995, the medical fees were capped at 113 percent of Medicare. Medical fee updates on and after January 1, 1995, are calculated based on the percentage changes in the statewide average weekly wage annually. These updates are effective on January 1 of each year, and they are cumulative. For any new CPT codes representing an entirely new service, the fee schedule rate is established based upon the Medicare fee with the 113 percent adjustment.

^f South Dakota allows all current codes, even if they are not listed in the RVP version referenced or if no conversion factor is provided for the given code.

Key: CPT: Current Procedural Terminology; n/a: not applicable; RBRVS: resource-based relative value scale (Medicare); RVP: Relative values for physicians; RVU: relative value unit.

Source: Fomenko and Liu. 2019. *Designing Workers' Compensation Medical Fee Schedules, 2019*.

Table 8 Characteristics of Workers' Compensation Fee Schedules for Professional Medical Services, March 2016

State	Relative Value Scale Used	Conversion Factors (single or multiple) ^a	Most Recent Update of Fee Schedules	Relative Value Scale Edition	CPT Edition
Alabama	n/a	n/a	January 1, 2016	n/a	n/a
Alaska	RBRVS	Multiple	March 11, 2016	2016 RBRVS	2016
Arizona	n/a	n/a	October 1, 2015	n/a	2014
Arkansas	RBRVS	Multiple	January 1, 2016	2016 RBRVS	2016
California	RBRVS	Multiple	January 1, 2016	2016 RBRVS	2016
Colorado	RBRVS	Multiple	January 1, 2016	2015 RBRVS	2015
Connecticut	RBRVS	Multiple	July 15, 2015	2015 RBRVS	2015
Delaware	RBRVS	Multiple	January 31, 2016	2016 RBRVS	2016
District of Columbia	RBRVS	Single	January 1, 2016	2016 RBRVS	2016
Florida	RBRVS	Multiple	February 18, 2016	2008 RBRVS ^b	2015
Georgia	RBRVS	Multiple	April 1, 2015	2015 RBRVS	2015
Hawaii	RBRVS/HI RVU	Multiple	January 1, 2016	2016 RBRVS/2014 HI RVU	2016
Idaho	RBRVS	Multiple	January 1, 2016	2016 RBRVS	2016
Illinois	n/a	n/a	January 1, 2016	n/a	2016
Kansas^c	RBRVS	Multiple	October 1, 2015	2014 RBRVS	2014
Kentucky^d	KY RVU	Single	June 6, 2014	2013 KY RVU	2013
Louisiana	n/a	n/a	July 20, 2013	n/a	2012
Maine	RBRVS	Single	January 1, 2016	2016 RBRVS	2016
Maryland	RBRVS	Multiple	January 1, 2016	2016 RBRVS	2016
Massachusetts	n/a	n/a	January 1, 2016	n/a	2008 and any update
Michigan	RBRVS	Single	December 26, 2014	2014 RBRVS	2014
Minnesota	RBRVS	Multiple	October 1, 2015	2013 RBRVS	2013
Mississippi^c	RBRVS	Multiple	March 3, 2016	2015 RBRVS	2013, 2014, 2015
Montana	RBRVS	Single	July 1, 2015	2015 RBRVS	2015
Nebraska	RBRVS	Multiple	January 1, 2016	2016 RBRVS	2016
Nevada	RVP	Multiple	February 1, 2016	2016 RVP	2016
New Mexico	n/a	n/a	January 1, 2016	n/a	2015
New York	NY RVU	Multiple	August 1, 2015	2015 NY RVU	2012
North Carolina	RBRVS	Multiple	January 1, 2016	2016 RBRVS	2016
North Dakota	RBRVS	Single	January 1, 2016	2016 RBRVS	2016
Ohio	RBRVS	Multiple	January 1, 2016	2016 RBRVS	2016
Oklahoma	RBRVS	Multiple	January 1, 2012	2011 RBRVS	2011 and 2015
Oregon	RBRVS	Multiple	January 1, 2016	2016 RBRVS	2016
Pennsylvania^e	RBRVS	n/a	January 1, 2016	1994 RBRVS	2016
Rhode Island	n/a	n/a	May 1, 2014	n/a	2014
South Carolina^c	RBRVS	Single	September 1, 2015	2015 RBRVS	2015
South Dakota	RVP	Multiple	June 26, 2013	2013 RVP	2013
Tennessee	RBRVS	Multiple	January 1, 2016	2016 RBRVS	2016
Texas	RBRVS	Multiple	January 1, 2016	2016 RBRVS	2016
Utah ^c	RBRVS	Multiple	December 1, 2015	2015 RBRVS	2015
Vermont	n/a	n/a	January 1, 2016	n/a	2006 and any update
Washington	RBRVS	Single	January 1, 2016	2016 RBRVS	2016
West Virginia	RBRVS	Single	January 1, 2016	2016 RBRVS	2016
Wyoming	RVP	Multiple	January 1, 2016	2016 RVP	2016

Notes: This table is from Fomenko and Liu (2016). The 29 fee schedule states that are included in this MPI-WC report are in bold typeface. The fee schedule database used in Fomenko and Liu (2016) was acquired from OptumInsight™.

^a The column for single or multiple conversion factors does not refer to anesthesia, laboratory, or pathology services.

^b The Florida Workers' Compensation Health Care Provider Reimbursement Manual, 2015 Edition, became effective on July 1, 2016. This 2015 edition incorporates the 2014 Medicare conversion factor and RVUs.

^c Kansas, Mississippi, South Carolina, and Utah adopted Optum360's the Essential RBRVS to establish their workers' compensation fee schedules. The Essential RBRVS provides relative values for all the codes valued by CMS (RBRVS), as well relative values for many gap codes—codes without assigned values by Medicare.

^d Kentucky relative values are based on historic data from FAIR Health commercial database values.

^e In Pennsylvania, prior to January 1, 1995, the medical fees were capped at 113 percent of Medicare. Medical fee updates on and after January 1, 1995, are calculated based on the percentage changes in the statewide average weekly wage annually. These updates are effective on January 1 of each year, and they are cumulative. For any new CPT codes representing an entirely new service, the fee schedule rate is established based upon the Medicare fee with the 113 percent adjustment.

Key: CMS: Centers for Medicare & Medicaid Services; CPT: Current Procedural Terminology; n/a: not applicable; RBRVS: resource-based relative value scale (Medicare); RVP: Relative Values for Physicians; RVU: relative value unit.

Source: Fomenko and Liu. 2016. *Designing Workers' Compensation Medical Fee Schedules, 2016*.

Table 9 Interstate Ranking for Virginia on Medical Price Index for Professional Services in 2017 and 2018

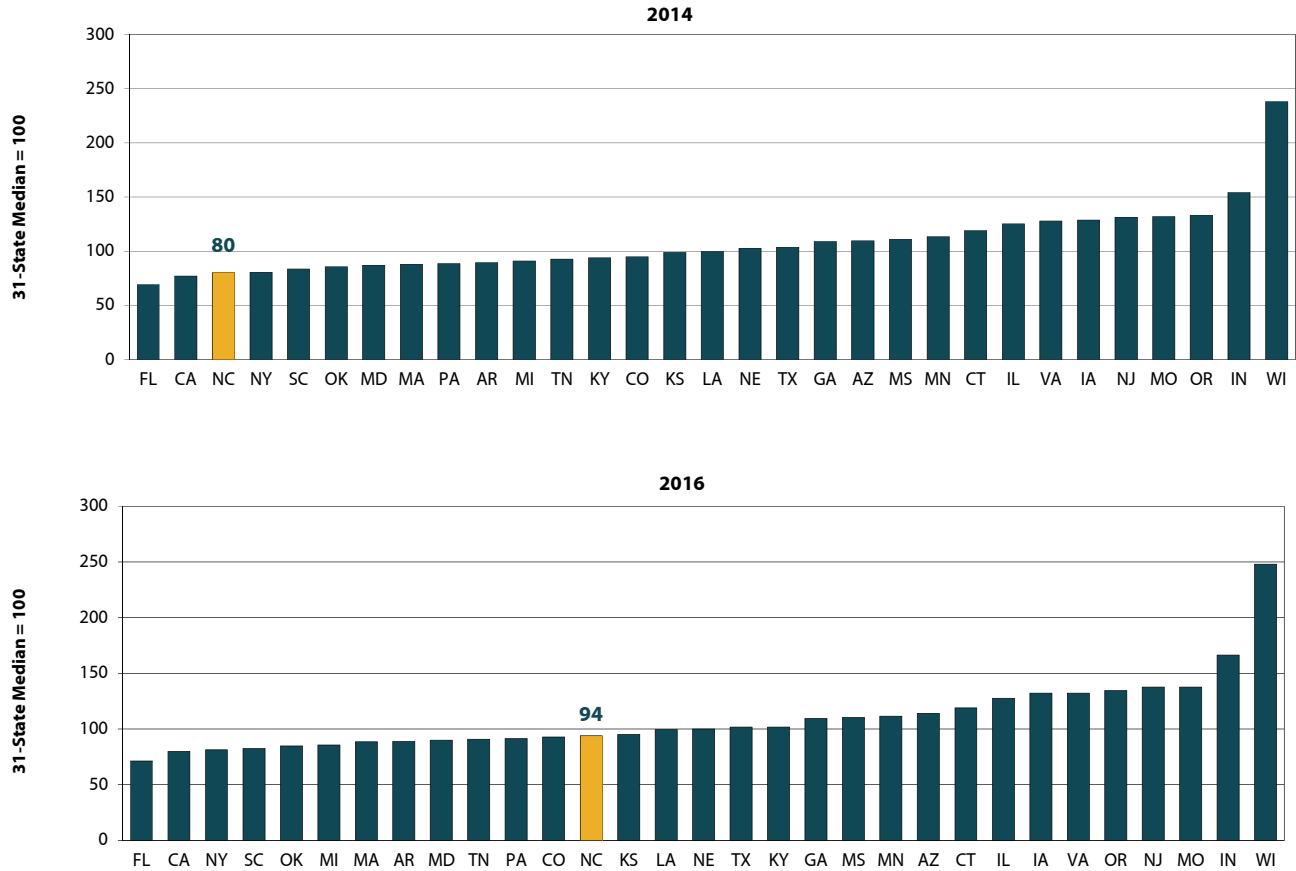
Professional Service Group	Year	Medical Price Index	% Difference Compared with 36-State Median	36-State Ranking (1 = highest)	30-Fee-Schedule-State Ranking (1 = highest)
Overall	2017	137	37%	6	n/a
	2018	120	20%	10	4
Evaluation and management	2017	130	30%	5	n/a
	2018	115	15%	11	6
Physical medicine	2017	124	24%	7	n/a
	2018	108	8%	14	8
Major surgery	2017	143	43%	10	n/a
	2018	124	24%	12	7
Pain management injections	2017	156	56%	7	n/a
	2018	129	29%	12	6
Major radiology	2017	136	36%	10	n/a
	2018	124	24%	11	6
Minor radiology	2017	163	63%	6	n/a
	2018	125	25%	10	4
Neurological/neuromuscular testing	2017	118	18%	10	n/a
	2018	108	8%	11	5
Emergency	2017	238	138%	4	n/a
	2018	206	106%	5	1

Notes:

This ranking comparison for Virginia in 2017 and 2018 is based on 36 study states. Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. The interstate ranking among fee schedule states in this table is based on 30 states with fee schedules in 2018, including Virginia. In 2017, Virginia was a state with no fee schedule and therefore was not ranked among fee schedule states.

Key: n/a: not applicable.

Figure 5 Changes in Interstate Ranking for North Carolina on Medical Price Index for Overall Professional Services, 2014 and 2016



Notes:

North Carolina implemented new fee schedule rates for professional services effective July 2015. The new fee schedule rates incorporate the 2015 Medicare rates with the revised service-type specific multipliers, ranging between 140 and 195 percent of Medicare. Before this change, the fee schedule rates for most types of professional services in North Carolina remained at 158 percent of the 1995 Medicare values since 1996.

This comparison for North Carolina in 2014 is based on the 31 states published in the ninth edition of this annual study; the comparison in 2016 is based on the same set of states for consistency.

AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

IA, IN, MO, NJ, VA, WI: These states did not have a workers' compensation fee schedule in 2014 or 2016.

Table 10 Interstate Ranking for North Carolina on Medical Price Index for Professional Services in 2014 and 2016

Professional Service Group	Year	Medical Price Index	% Difference Compared with 31-State Median	31-State Ranking (1 = highest)	25-Fee-Schedule-State Ranking (1 = highest)
Overall	2014	80	-20%	29	23
	2016	68	-32%	19	13
Evaluation and management	2014	79	-21%	28	22
	2016	101	1%	15	10
Physical medicine	2014	71	-29%	28	22
	2016	100	0%	16	10
Major surgery	2014	86	-14%	22	16
	2016	78	-22%	24	18
Pain management injections	2014	94	-6%	20	14
	2016	78	-22%	20	14
Major radiology	2014	122	22%	9	4
	2016	80	-20%	23	17
Minor radiology	2014	87	-13%	21	15
	2016	87	-13%	20	14
Neurological/neuromuscular testing	2014	84	-16%	22	16
	2016	79	-21%	22	16
Emergency	2014	78	-22%	28	22
	2016	100	0%	15	9

Notes:

This ranking comparison for North Carolina in 2014 is based on the 31 states published in the ninth edition of this annual study; the comparison in 2016 is based on the same set of states for consistency. These states comprise the 25 states that use fee schedules to regulate the payment for professional services and the 6 states with no fee schedules for the years shown.

North Carolina implemented new fee schedule rates for professional services effective in July 2015. The new fee schedule rates incorporate the 2015 Medicare rates with the revised service-type specific multipliers, ranging between 140 and 195 percent of Medicare. Before this change, the fee schedule rates for most types of professional services in North Carolina remained at 158 percent of the 1995 Medicare values since 1996.

Table 11 Interstate Ranking for Kentucky on Medical Price Index for Professional Services in 2013 and 2015

Professional Service Group	Year	Medical Price Index	% Difference Compared with 31-State Median	31-State Ranking (1 = highest)	25-Fee-Schedule-State Ranking (1 = highest)
Overall	2013	87	-13%	25	19
	2015	102	2%	15	9
Evaluation and management	2013	83	-17%	24	18
	2015	99	-1%	17	12
Physical medicine	2013	90	-10%	24	18
	2015	115	15%	8	3
Major surgery	2013	83	-17%	23	17
	2015	88	-12%	21	15
Pain management injections	2013	93	-7%	19	13
	2015	104	4%	15	9
Major radiology	2013	92	-8%	19	14
	2015	103	3%	13	8
Minor radiology	2013	77	-23%	26	20
	2015	78	-22%	24	18
Neurological/neuromuscular testing	2013	84	-16%	24	18
	2015	73	-27%	27	21
Emergency	2013	76	-24%	29	23
	2015	99	-1%	18	12

Notes:

This ranking comparison for Kentucky in 2013 and 2015 is based on the 31 states published in the ninth edition of this annual study. These states comprise 25 states that use fee schedules to regulate the payment for professional services and 6 states with no fee schedules for the years shown.

Effective June 6, 2014, Kentucky discontinued the use of relative values from Medicare's resource-based relative value scale (RBRVS) for its professional fee schedule and transitioned to using state-specific relative values based on historic data from FAIR Health commercial database values.

Table 12 Interstate Ranking for Arizona on Medical Price Index for Professional Services in 2013 and 2014

Professional Service Group	Year	Medical Price Index	% Difference Compared with 31-State Median	31-State Ranking (1 = highest)	25-Fee-Schedule-State Ranking (1 = highest)
Overall	2013	101	1%	15	9
	2014	110	10%	12	6
Evaluation and management	2013	85	-15%	22	16
	2014	100	0%	16	11
Physical medicine	2013	100	0%	17	11
	2014	112	12%	11	6
Major surgery	2013	123	23%	11	5
	2014	130	30%	10	5
Pain management injections	2013	92	-8%	20	14
	2014	100	0%	17	11
Major radiology	2013	87	-13%	24	19
	2014	94	-6%	21	16
Minor radiology	2013	97	-3%	17	11
	2014	99	-1%	17	11
Neurological/neuromuscular testing	2013	142	42%	3	2
	2014	128	28%	7	3
Emergency	2013	114	14%	11	5
	2014	121	21%	10	4

Notes:

This ranking comparison for Arizona in 2013 and 2014 is based on the 31 states published in the ninth edition of this annual study. These states comprise 25 states that use fee schedules to regulate the payment for professional services and 6 states with no fee schedules for the years shown.

Arizona publishes its fee schedule annually with effective dates of October 1 through September 30 of the following year. The Industrial Commission of Arizona reviews the fee schedule values annually with a focus each year on one of four specific groups of codes and rotates through these specific groups of codes every four years. To calculate the fee schedule values for the codes under review, the Commission surveys the workers' compensation fee schedules from the states of Colorado, Nevada, New Mexico, North Carolina, Oregon, Utah, and Washington and uses the following methodology: (a) current Arizona values between the 75th and 100th percentile of the states surveyed will not be adjusted; (b) current Arizona values over the 100th percentile of the states surveyed will be reduced to the 100th percentile; and (c) current Arizona values below the 75th percentile will be increased to the 75th percentile subject to the following: Increases shall be capped at 25 percent, unless and except as necessary to bring a current value up to the 50th percentile. In October 2013, Arizona reviewed and adjusted the fee schedule rates for evaluation and management, physical medicine, and surgery codes from 25000 to 39599. This update increased the fee schedule rates for evaluation and management and physical medicine services; the fee schedule rates for many common surgeries remained unchanged or had only small increases.

Table 13 Interstate Ranking for Illinois on Medical Price Index for Professional Services in 2010 and 2012

Professional Service Group	Year	Medical Price Index	% Difference Compared with 31-State Median	31-State Ranking (1 = highest)	25-Fee-Schedule-State Ranking (1 = highest)
Overall	2010	189	89%	2	1
	2012	128	28%	6	2
Evaluation and management	2010	114	14%	6	4
	2012	80	-20%	25	19
Physical medicine	2010	167	67%	3	2
	2012	118	18%	6	3
Major surgery	2010	263	163%	1	1
	2012	182	82%	4	1
Pain management injections	2010	222	122%	3	1
	2012	163	63%	5	1
Major radiology	2010	166	66%	2	1
	2012	128	28%	5	2
Minor radiology	2010	214	114%	2	1
	2012	151	51%	5	1
Neurological/ neuromuscular testing	2010	200	100%	2	1
	2012	118	18%	8	3
Emergency	2010	190	90%	4	1
	2012	145	45%	7	1

Notes:

This ranking comparison for Illinois in 2010 and 2012 is based on the 31 states published in the ninth edition of this annual study. These states comprise 25 states that use fee schedules to regulate the payment for professional services and 6 states with no fee schedules for the years shown.

Illinois passed legislation introducing a 30 percent reduction in the fee schedule rates effective in September 2011. On January 1, 2012, Illinois discontinued its use of 29 geozip areas for physicians and other providers in favor of four county-based regions.

Table 14 Interstate Ranking for Texas on Medical Price Index for Professional Services in 2010 and 2011

Professional Service Group	Year	Medical Price Index	% Difference Compared with 31-State Median	31-State Ranking (1 = highest)	25-Fee-Schedule-State Ranking (1 = highest)
Overall	2010	93	-7%	19	13
	2011	100	0%	15	9
Evaluation and management	2010	106	6%	11	6
	2011	119	19%	5	4
Physical medicine	2010	107	7%	12	7
	2011	122	22%	6	3
Major surgery	2010	67	-33%	27	21
	2011	81	-19%	24	18
Pain management injections	2010	71	-29%	27	21
	2011	83	-17%	24	18
Major radiology	2010	80	-20%	28	22
	2011	78	-22%	29	23
Minor radiology	2010	75	-25%	26	20
	2011	78	-22%	24	18
Neurological/neuromuscular testing	2010	93	-7%	21	15
	2011	101	1%	15	9
Emergency	2010	98	-2%	17	11
	2011	100	0%	17	11

Notes:

This ranking comparison for Texas in 2010 and 2011 is based on the 31 states published in the ninth edition of this annual study. These states comprise 25 states that use fee schedules to regulate the payment for professional services and 6 states with no fee schedules for the years shown.

In March 2008, Texas increased fee schedule rates for professional services, especially for surgeries, and allowed annual increases based on changes in the Medicare Economic Index. In 2011, the fee schedule rates in Texas increased for most professional services following the Medicare updates.

Table 15 Interstate Ranking for Massachusetts on Medical Price Index for Professional Services in 2008 and 2010

Professional Service Group	Year	Medical Price Index	% Difference Compared with 31-State Median	31-State Ranking (1 = highest)	25-Fee-Schedule-State Ranking (1 = highest)
Overall	2008	85	-15%	28	22
	2010	96	-4%	18	12
Evaluation and management	2008	83	-17%	26	20
	2010	83	-17%	24	18
Physical medicine	2008	69	-31%	31	25
	2010	73	-27%	30	24
Major surgery	2008	116	16%	11	5
	2010	144	44%	7	3
Pain management injections	2008	89	-11%	21	15
	2010	91	-9%	18	12
Major radiology	2008	79	-21%	29	23
	2010	86	-14%	22	17
Minor radiology	2008	65	-35%	30	24
	2010	67	-33%	28	22
Neurological/neuromuscular testing	2008	68	-32%	31	25
	2010	65	-35%	31	25
Emergency	2008	66	-34%	31	25
	2010	68	-32%	31	25

Notes:

This ranking comparison for Massachusetts in 2008 and 2010 is based on the 31 states published in the ninth edition of this annual study. These states comprise 25 states that use fee schedules to regulate the payment for professional services and 6 states with no fee schedules for the years shown.

Massachusetts increased the fee schedule rates for many professional services, effective in April 2009. The fee schedule increases for major surgeries were especially significant; the rates for some surgeries increased two to three times the previous rates to be more in line with the median prices paid. Prior to that, the fee schedule for professional services had not been updated since September 2004. A WCRI study showed that major surgeries were often paid above the fee schedule rates (Eccleston, 2006). The study found that for many of these surgeries, it was not uncommon for the median prices paid to be two or three times the fee schedule amount. Typically, 50–60 percent of these surgical procedures were paid above the fee schedule rate. System participants indicated that payors in the state were willing to negotiate with surgeons because workers had better outcomes and return to work was faster (Radeva, 2014b).

Table 16 Interstate Ranking for Arizona on Medical Price Index for Professional Services in 2017 and 2018

Professional Service Group	Year	Medical Price Index	% Difference Compared with 36-State Median	36-State Ranking (1 = highest)	30-Fee-Schedule-State Ranking (1 = highest)
Overall	2017	115	15%	12	5
	2018	118	18%	11	5
Evaluation and management	2017	113	13%	11	5
	2018	124	24%	8	3
Physical medicine	2017	114	14%	9	2
	2018	122	22%	7	2
Major surgery	2017	115	15%	14	7
	2018	102	2%	17	11
Pain management injections	2017	99	-1%	20	13
	2018	87	-13%	23	17
Major radiology	2017	102	2%	16	10
	2018	99	-1%	20	15
Minor radiology	2017	109	9%	15	8
	2018	110	10%	13	7
Neurological/neuromuscular testing	2017	98	-2%	20	13
	2018	97	-3%	20	14
Emergency	2017	119	19%	12	5
	2018	105	5%	15	9

Notes:

This ranking comparison for Arizona in 2017 and 2018 is based on 36 study states. The interstate ranking among fee schedule states in this table is based on 30 states with fee schedules in 2018, including Virginia, a state that adopted its first medical fee schedule in that year. In 2017, the interstate ranking among fee schedule states is based on 29 states with fee schedules, as Virginia was a state with no fee schedule then.

Effective October 1, 2017, Arizona transitioned to a resource-based relative value scale (RBRVS) based fee schedule for professional services. Before this change, the fee schedule rates in Arizona were established annually between the 75th and 100th percentile of the surveyed values from the states of Colorado, Nevada, New Mexico, North Carolina, Oregon, Utah, and Washington.

Table 17 Interstate Ranking for Colorado on Medical Price Index for Professional Services in 2015 and 2016

Professional Service Group	Year	Medical Price Index	% Difference Compared with 31-State Median	31-State Ranking (1 = highest)	25-Fee-Schedule-State Ranking (1 = highest)
Overall	2015	94	-6%	19	13
	2016	93	-7%	20	14
Evaluation and management	2015	100	0%	13	8
	2016	106	6%	13	8
Physical medicine	2015	86	-14%	24	18
	2016	90	-10%	25	19
Major surgery	2015	96	-4%	17	11
	2016	71	-29%	27	21
Pain management injections	2015	63	-37%	29	23
	2016	72	-28%	23	17
Major radiology	2015	117	17%	9	4
	2016	104	4%	11	6
Minor radiology	2015	81	-19%	22	16
	2016	116	16%	9	3
Neurological/neuromuscular testing	2015	71	-29%	30	24
	2016	100	0%	16	9
Emergency	2015	145	45%	8	2
	2016	82	-18%	23	17

Notes:

This ranking comparison for Colorado in 2015 is based on the 31 states published in the ninth edition of this annual study; the comparison in 2016 is based on the same set of states for consistency. These states comprise the 25 states that use fee schedules to regulate the payment for professional services and the 6 states with no fee schedules for the years shown.

Colorado usually updates its fee schedule for professional services annually in January. The most recent update covered in the study period in this report was effective January 1, 2016. In January 2016, Colorado revised its fee schedule for professional services and incorporated the use of relative values from the National Physician Fee Schedule Relative Value Scale file (RBRVS) published by Medicare in January 2015. Previously, Colorado based its fee schedule levels on relative value units (RVUs) from the Relative Values for Physicians, currently published by OPTUM360[®].

Key: RBRVS: resource-based relative value scale (Medicare).

Table 18 Interstate Ranking for California on Medical Price Index for Professional Services in 2013, 2014, 2015, 2016, and 2017

Professional Service Group	Year	Medical Price Index	% Difference Compared with 31-State Median	31-State Ranking (1 = highest)	25-Fee-Schedule-State Ranking (1 = highest)
Overall	2013	72	-28%	30	24
	2014	77	-23%	30	24
	2015	78	-22%	30	24
	2016	80	-20%	30	24
	2017	81	-19%	28	22
Evaluation and management	2013	67	-33%	30	24
	2014	88	-12%	24	18
	2015	91	-9%	22	17
	2016	97	-3%	20	15
	2017	99	-1%	17	12
Physical medicine	2013	62	-38%	31	25
	2014	77	-23%	26	20
	2015	78	-22%	27	21
	2016	81	-19%	27	21
	2017	84	-16%	25	19
Major surgery	2013	85	-15%	21	15
	2014	69	-31%	29	23
	2015	65	-35%	29	23
	2016	61	-39%	29	23
	2017	57	-43%	31	25
Pain management injections	2013	58	-42%	31	25
	2014	60	-40%	31	25
	2015	59	-41%	31	25
	2016	53	-47%	31	25
	2017	46	-54%	31	25
Major radiology	2013	82	-18%	27	21
	2014	71	-29%	29	23
	2015	68	-32%	28	22
	2016	65	-35%	29	23
	2017	63	-37%	29	23
Minor radiology	2013	75	-25%	27	21
	2014	87	-13%	22	16
	2015	77	-23%	25	19
	2016	72	-28%	25	19
	2017	72	-28%	25	19
Neurological/ neuromuscular testing	2013	121	21%	8	7
	2014	72	-28%	27	21
	2015	84	-16%	23	17
	2016	86	-14%	21	15
	2017	87	-13%	21	15
Emergency	2013	79	-21%	27	21
	2014	71	-29%	29	23
	2015	73	-27%	29	23
	2016	76	-24%	28	22
	2017	79	-21%	26	20

Notes:

This ranking comparison for California is based on the 31 states published in the ninth edition of this annual study for the years 2013 through 2015; the comparisons in 2016 and 2017 are based on the same set of states for consistency. These states comprise 25 states that use fee schedules to regulate the payment for professional services and 6 states with no fee schedules for the years shown.

Effective January 2014, California transitioned to an RBRVS-based fee schedule. This fee schedule change is a part of the workers' compensation reform legislation outlined in Senate Bill 863. This legislation requires the adoption of Medicare's RBRVS schedule for professional services to be phased in over four years, beginning in 2014, and to remain in effect until the Division of Workers' Compensation adopts an RBRVS schedule that allows no more than 120 percent of the aggregate fees allowed by Medicare. During the four-year transition period, the conversion factors for primary care services increased and the conversion factors for specialty services decreased. Before the change to an RBRVS-based fee schedule, California used the Official Medical Fee Schedule (OMFS) to regulate the payment of professional services, and the maximum reimbursement rates in the OMFS remained unchanged since 2007.

Key: RBRVS: resource-based relative value scale (Medicare).

Table 19 States with Significant Annual Changes in Prices Paid by Service Group from 2008 to 2019^P

2008 to 2009							
Evaluation & Management	Physical Medicine	Major Surgery	Pain Management Injections	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Emergency Services
	OR (10.5%)	MA (26.5%)	IA* (14.5%)			MO* (13.3%)	MO* (11.7%)
		MO* (19.9%)	WI* (14.1%)				TX (11.2%)
		IN* (13.5%)	IL (12.5%)				NJ* (10.8%)
			CO (-10.4%)				IN* (10.7%)
			OR (-12.8%)				MN (10.2%)
			MD (-13.0%)				
2009 to 2010							
Evaluation & Management	Physical Medicine	Major Surgery	Pain Management Injections	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Emergency Services
KS (14.4%)	OR (11.0%)	TN (12.2%)	CO (22.7%)	SC (-11.6%)		AR (18.6%)	OR (32.5%)
NE (11.0%)			IN* (16.2%)	AR (-26.2%)		VA* (13.8%)	NE (21.1%)
AZ (10.8%)			WI* (14.9%)			MO* (11.9%)	SC (21.1%)
OR (10.4%)			TN (10.2%)			SC (11.2%)	AZ (19.3%)
						TN (11.1%)	KS (18.8%)
						WI* (10.7%)	TN (10.1%)
						AZ (10.1%)	
2010 to 2011							
Evaluation & Management	Physical Medicine	Major Surgery	Pain Management Injections	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Emergency Services
NY (19.4%)	TX (17.1%)	TX (21.0%)	TX (15.5%)	IL (-10.1%)	MD (11.4%)	TX (20.2%)	NY (17.4%)
TX (17.3%)	MD (12.4%)	GA (11.5%)	IL (-10.7%)	SC (-15.2%)	KY (10.9%)	GA (15.9%)	NE (11.8%)
MN (14.4%)	IL (-10.1%)	MN (-20.9%)	MN (-23.0%)		NJ* (10.6%)	SC (14.0%)	
OR (10.7%)					IL (-11.7%)	TN (13.2%)	
MD (10.1%)					AZ (-12.8%)		
2011 to 2012							
Evaluation & Management	Physical Medicine	Major Surgery	Pain Management Injections	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Emergency Services
OK (37.9%)	IL (-17.4%)	OK (-11.3%)	NJ* (10.2%)	KS (-11.5%)	TX (11.5%)	KS (16.8%)	OK (13.1%)
IL (-19.1%)		IL (-21.9%)	IL (-19.3%)	IL (-14.7%)	IL (-20.5%)	MA (14.5%)	IN* (11.1%)
						CO (14.3%)	IL (-12.5%)
						MN (12.8%)	
						NC (12.0%)	
						OR (11.5%)	
						IL (-24.2%)	

continued

Table 19 States with Significant Annual Changes in Prices Paid by Service Group from 2008 to 2019^p (continued)

2012 to 2013							
Evaluation & Management	Physical Medicine	Major Surgery	Pain Management Injections	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Emergency Services
NC (22.2%)		TN (-11.1%)	TN (-12.4%)	TN (-10.8%)	NJ* (-16.1%)	MA (14.5%)	
		NJ* (-18.3%)	NJ* (-15.7%)			KS (-10.1%)	
						NE (-11.5%)	
						CT (-17.7%)	
						MS (-17.7%)	
						MD (-20.4%)	
						MO* (-28.2%)	
						WI* (-28.7%)	
						TX (-29.7%)	
						VA* (-31.2%)	
						GA (-32.5%)	
						OR (-34.3%)	
						PA (-34.8%)	
						AR (-38.0%)	
						IA* (-38.4%)	
						TN (-38.9%)	
						IN* (-40.6%)	
						NJ* (-41.8%)	
2013 to 2014							
Evaluation & Management	Physical Medicine	Major Surgery	Pain Management Injections	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Emergency Services
CA (30.5%)	CA (27.4%)	CA (-21.2%)	MO* (11.4%)	CT (-12.3%)	MS (14.9%)	MS (30.4%)	KY (16.8%)
AZ (17.7%)	KY (16.8%)		NE (-10.5%)	AR (-17.4%)	CA (13.8%)	MO* (22.4%)	MO* (16.0%)
KY (10.7%)	MS (16.5%)		MD (-11.1%)	TN (-18.3%)	TX (-10.1%)	IN* (21.4%)	VA* (12.1%)
	AZ (15.5%)		GA (-12.4%)	MS (-19.1%)		NJ* (21.2%)	IN* (10.1%)
	KS (12.3%)		NJ* (-12.9%)	NE (-19.6%)		IA* (18.7%)	CA (-11.4%)
	IN* (11.8%)		TN (-13.6%)	TX (-19.7%)		VA* (12.7%)	NJ* (-12.5%)
	NJ* (11.0%)		TX (-14.5%)	MD (-19.9%)		NE (-10.1%)	
			AR (-19.1%)	CA (-20.1%)		OR (-10.8%)	
			CO (-38.2%)	KS (-23.2%)		AZ (-13.8%)	
				MN (-24.5%)		CT (-15.6%)	
						KY (-16.4%)	
						MN (-22.8%)	
						KS (-27.7%)	
						IL (-31.3%)	
						CA (-42.6%)	
						CO (-51.7%)	

continued

Table 19 States with Significant Annual Changes in Prices Paid by Service Group from 2008 to 2019^p (continued)

2014 to 2015							
Evaluation & Management	Physical Medicine	Major Surgery	Pain Management Injections	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Emergency Services
NC (12.4%)	NC (16.4%)		TN (19.8%)	AR (-10.3%)		SC (-10.9%)	MO* (19.5%)
	KY (14.3%)		TX (13.9%)	CT (-12.1%)		NE (-17.7%)	IN* (16.8%)
			LA (11.0%)	KS (-14.2%)		MI (-25.2%)	NC (15.9%)
			IA* (-10.1%)	NC (-19.2%)		AZ (-32.5%)	KY (12.0%)
			MI (-11.6%)	NE (-19.8%)			IA* (10.4%)
			KS (-17.8%)	MI (-39.3%)			
2015 to 2016							
Evaluation & Management	Physical Medicine	Major Surgery	Pain Management Injections	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Emergency Services
NC (16.0%)	NC (25.5%)	CO (-25.7%)	CO (21.1%)	CO (-12.5%)	CO (47.0%)	CO (49.9%)	IA* (17.0%)
AZ (10.6%)			NE (18.3%)	NC (-23.0%)		IN* (11.2%)	NC (14.2%)
						FL (-17.7%)	CO (-41.8%)
						SC (-24.6%)	
2016 to 2017							
Evaluation & Management	Physical Medicine	Major Surgery	Pain Management Injections	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Emergency Services
		MO* (22.1%)	MI (39.1%)	CO (-14.4%)	KY (12.8%)	MO* (19.4%)	KY (15.3%)
			MN (29.6%)	MN (-15.7%)	CO (-19.4%)	OK (11.0%)	
			NJ* (28.0%)	MS (-23.3%)		MS (-30.1%)	
			MA (26.8%)				
			KS (20.6%)				
			IA* (13.0%)				
			MO* (12.1%)				
			IN* (11.3%)				
			KY (10.1%)				
			OR (-13.9%)				
2017 to 2018							
Evaluation & Management	Physical Medicine	Major Surgery	Pain Management Injections	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Emergency Services
AZ (10.9%)	IA* (13.5%)	CO (14.8%)	CO (18.4%)		NJ* (10.9%)	OK (-20.3%)	MS (13.5%)
VA (-10.9%)	VA (-12.8%)	AZ (-11.2%)	OK (11.0%)		VA (-23.4%)	MO* (-27.6%)	AZ (-12.5%)
		VA (-12.6%)	MI (-13.7%)				VA (-14.2%)
			AZ (-15.3%)				
			VA (-20.2%)				

continued

Table 19 States with Significant Annual Changes in Prices Paid by Service Group from 2008 to 2019^p (continued)

2018 to 2019 ^p							
Evaluation & Management	Physical Medicine	Major Surgery	Pain Management Injections	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Emergency Services
	NY (13.6%)		KS (17.2%)	OK (-11.3%)	NJ* (12.7%)	MO* (42.4%)	MS (-11.8%)
			OR (12.5%)			NY (-10.8%)	
			CO (-13.7%)				

Special notation: ^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the reimbursement for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

AL, DE, NH, NM, and NV are excluded from the trend analysis because of insufficient sample sizes in earlier years.

VA: This state adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018.

* These states did not have a workers' compensation fee schedule at the specific time point shown in this table.

DATA AND METHODS

The price index measures prices for professional services, holding the utilization of those services constant across study states and over time. It is based on a collection of the most common medical services provided to workers with injuries; this collection is called a *marketbasket*. To isolate the effect of price changes and interstate differences in prices, we held the marketbasket of services constant and used fixed weights to compute the average prices. The following sections describe the data used, the construction of the marketbasket, and the computation of the price index. The “Technical Appendix” provides further details on methods.

THE DATA

The WCRI MPI-WC is based on the detailed medical bill data in the WCRI Detailed Benchmark/Evaluation (DBE) database, which comprises approximately 37 to 76 percent of the claims across most of the 36 study states.¹ The data in most of the study states are reasonably representative of the state systems, with the caveats described in the “Limitations and Caveats” section and the “Technical Appendix.” The information to construct the marketbasket and compute the price index comes from the medical bills associated with the claims in the DBE database. The basic unit of measurement is the price—the amount paid for each medical service.

THE MARKETBASKET

To represent the utilization of medical services, we selected a set of medical services most commonly used to treat workers with injuries—a marketbasket. The marketbasket of services was held constant across states and over time. Holding utilization constant allows us to isolate the effect of price changes and interstate differences in prices from the changes and interstate differences in patterns of medical care delivered. The professional services provided to workers with injuries generally fall into eight major service groups. Each of these groups represents a price index component. We reviewed the top procedure codes ranked by frequency for each of these groups. In general, we selected the most frequent codes so that the majority of expenditures in each service group was represented by selected codes. Codes in the marketbasket captured at least 90 percent of total expenditures for emergency services, evaluation and management, major radiology, and physical medicine (see [Table TA.4](#)). For minor radiology, neurological/neuromuscular testing, and pain management injections, codes in the marketbasket represented 76 to 79 percent of total expenditures. The only exception is major surgery, where the codes in the marketbasket captured 44 percent of total expenditures. Service groups with lower representation in the marketbasket have a broader list of codes in each group, and adding additional codes added only a small percentage of payments each time. Also, the analysis of additional procedures would not be supported by the observed number of services in smaller states. We also tested the marketbasket to ensure that it was robust and represented the majority of workers’ compensation expenditures on professional services in each of the study states (see [Tables TA.5a](#) and [TA.5b](#)).

¹ In Colorado, New York, and Oregon, the data represented a lower percentage of the population of claims in each state because our sample is missing data from a larger data source that is significant in each state.

CREATING THE INDICES

We computed an average price paid for each of the individual service codes in the marketbasket for each state and for each year.² We computed the average price level of each service group as the weighted average of the individual service prices for the services in each group, relying on procedure-level frequency weights. The procedure-level weights are the relative frequency of each procedure in the marketbasket—that is, the total number of services for each procedure provided as a share of the total number of all services provided within the respective service group. The service group price levels were aggregated to a state-level price for overall professional services using the service group frequency weights. Here the service group frequency weights are the share of the number of services within each service group as a percentage of the total number of all professional services in the eight service groups, not limited to services captured by the marketbasket. Hence, the computed state-level indices reflect the relative importance of each service group as observed in the data and not distorted by differences in the proportion of services captured in the marketbasket for each service group. In particular, the marketbasket services for major surgery represented a substantially smaller fraction of all major surgery services than the marketbasket services for other service groups. If price growth for surgical services was higher than for other services in a state, the state-level price index would have underestimated the actual price growth if the frequency of the surgical services was based on services selected in the marketbasket.³

The index for the interstate comparisons uses the median state as a base, so an index of 120 simply means that the prices paid in that state were, on average, 20 percent higher than those in the median state.

The intrastate trend indices use calendar year 2008 as the base, so an index of 120 for calendar year 2019 means that the average price paid in 2019 was 20 percent higher than in 2008.

² Several data cleaning steps were necessary prior to creating the average unit price, including checking for outlier values, multiple units of services (or bundled services), and missing procedure code modifiers, and applying a visit-level approach to nerve conduction studies. The methods for cleaning the data are described in more detail in the “Technical Appendix.”

³ This approach implicitly relies on an assumption that the price trends of services captured in the marketbasket for each service group are representative of all services observed in the data for a respective service group.

LIMITATIONS AND CAVEATS

Here, we remind readers of several caveats for interpreting the price index.

First, to provide more recent information, we report prices in 2019 based on data from January 1, 2019, through June 30, 2019. The interstate rankings based on data from the first half of 2019 should provide a reasonable approximation for a state's ranking relative to other states based on a full year of 2019 data—especially for states that adjusted their fee schedules early in 2019 (see [Figure TA.1](#)). For states that adjusted their fee schedules after June 30, the index may understate or overstate their comparable price index for 2019. Several study states had fee schedule changes or updates within 2019 but after June 30, 2019, namely Arizona, Connecticut, Minnesota, and Tennessee. States that follow the latest Medicare updates may also be affected by this issue to a certain extent. For states without fee schedules, it would not be surprising if the price index based on six months of data understates the value of the price index based on a full year of data. In states with fee schedules, if some common medical services are reimbursed as *by report*,¹ the price index based on half-year data may also understate the full-year value due to potential lagged payments with bigger amounts for these services. Given all the reasons discussed above, the price changes from 2018 to 2019 in the report (based on half-year 2019 data) may understate or overstate the trends based on a full year of 2019 data in the study states. For example, New York implemented increases in medical fee schedule rates effective April 1, 2019. The half-year price data through June 2019 in this edition reflect only two months of experience under the new fee schedule; the next edition of this report will examine the price trends with 14 months of experience after this policy change.

Second, this study is based on data from a group of large insurers, self-insurers, state funds, and third-party administrators in 36 states. The data for most study states are reasonably representative of the state systems; however, in a few states our data are not necessarily representative because they are missing data from a larger data source that is significant in the state. To the extent that prices paid may differ for the missing payors compared with those for other payors in the state, this may lead to under- or overestimations in the results. These states are Arizona, Colorado, Maryland, Missouri, New York, Oklahoma, and Oregon, as noted throughout the tables and figures in this report. However, the results for Arizona, Colorado, Maryland, New York, Oklahoma, and Oregon are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services; therefore, it is unlikely that the prices for the missing data source were materially different from other data sources included in this study from the same state.

Third, we use a single marketbasket of procedure codes across all states to hold utilization constant in order to isolate the effects of prices. In a few states, there are a limited number of unique state-specific procedure codes. Often these codes are mapped to the standard codes in the marketbasket. In a few states, such a mapping was not possible. In these cases, we omitted the state-specific codes (for a more detailed discussion, please refer to the section entitled “Selecting the Marketbasket” in the “Technical Appendix”). This omission might produce minor distortions in the interstate comparability but should not affect the individual state trends.

¹ *By report* procedures refer to medical services that do not have assigned fee schedule rates and instead are subject to a special report to determine reimbursement rates. Such *by report* services are commonly not reimbursed by Medicare.

QUICK REFERENCE GUIDE TO FIGURES AND TABLES

PART 1: INTERSTATE COMPARISONS AND TRENDS FIGURES AND TABLES

PART 2: STATE TREND FIGURES

Part 1: Interstate Comparisons and Trends Figures and Tables

Service Group	Interstate Comparisons of Price Index		Price Trends from 2008 to 2019	
	2018	2019	In All States	In Each State
Overall	Table A.1 Figure A.1	Table A.2 Figure A.2	Figure B.1	Figures B.2–B.32
Evaluation and management	Table A.1 Figure A.3	Table A.2 Figure A.4	Table B.1	Figures C.1–C.31
Physical medicine	Table A.1 Figure A.5	Table A.2 Figure A.6	Table B.2	Figures C.1–C.31
Major surgery	Table A.1 Figure A.7	Table A.2 Figure A.8	Table B.3	Figures C.1–C.31
Pain management injections	Table A.1 Figure A.9	Table A.2 Figure A.10	Table B.4	Figures C.1–C.31
Major radiology	Table A.1 Figure A.11	Table A.2 Figure A.12	Table B.5	Figures C.1–C.31
Minor radiology	Table A.1 Figure A.13	Table A.2 Figure A.14	Table B.6	Figures C.1–C.31
Neurological/neuromuscular testing	Table A.1 Figure A.15	Table A.2 Figure A.16	Table B.7	Figures C.1–C.31
Emergency	Table A.1 Figure A.17	Table A.2 Figure A.18	Table B.8	Figures C.1–C.31

continued

Part 2: State Trend Figures

State^a	Trends in Medical Prices for Professional Services	
Arizona	Overall	By Service Group
Arkansas	Overall	By Service Group
California	Overall	By Service Group
Colorado	Overall	By Service Group
Connecticut	Overall	By Service Group
Florida	Overall	By Service Group
Georgia	Overall	By Service Group
Illinois	Overall	By Service Group
Indiana	Overall	By Service Group
Iowa	Overall	By Service Group
Kansas	Overall	By Service Group
Kentucky	Overall	By Service Group
Louisiana	Overall	By Service Group
Maryland	Overall	By Service Group
Massachusetts	Overall	By Service Group
Michigan	Overall	By Service Group
Minnesota	Overall	By Service Group
Mississippi	Overall	By Service Group
Missouri	Overall	By Service Group
Nebraska	Overall	By Service Group
New Jersey	Overall	By Service Group
New York	Overall	By Service Group
North Carolina	Overall	By Service Group
Oklahoma	Overall	By Service Group
Oregon	Overall	By Service Group
Pennsylvania	Overall	By Service Group
South Carolina	Overall	By Service Group
Tennessee	Overall	By Service Group
Texas	Overall	By Service Group
Virginia	Overall	By Service Group
Wisconsin	Overall	By Service Group

^a This table includes 31 states. Alabama, Delaware, Nevada, New Hampshire, and New Mexico were excluded from the trend analysis because of insufficient sample sizes in earlier years. We provide price changes in these five states in the "Statistical Appendix" [Table SA.2](#) for a shorter period from 2013 to 2019, when sufficient data were available.

Table A.1 WCRI MPI-WC—2018 Interstate Comparisons

Professional Services	Overall	Emergency	Evaluation & Management	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Physical Medicine	Major Surgery	Pain Management Injections
AL	100	73	71	110	148	52	99	126	80
AR	87	73	92	86	90	68	88	73	100
AZ ^a	118	105	124	99	110	97	122	102	87
CA	81	78	101	63	70	91	82	53	47
CO ^a	97	87	114	96	95	102	92	77	74
CT	117	93	117	102	107	107	94	157	130
DE	97	132	76	97	81	105	99	109	100
FL	73	67	82	74	55	62	72	62	67
GA	109	88	111	99	121	89	95	125	95
IA ^b	139	194	126	170	160	130	141	118	181
IL	132	149	86	158	160	133	113	193	184
IN ^b	170	278	126	162	206	148	177	179	227
KS	95	89	111	71	77	86	93	82	105
KY	106	121	98	116	96	75	112	93	102
LA	97	99	81	113	97	111	102	87	160
MA	89	59	71	101	65	107	61	149	129
MD ^a	92	78	101	63	69	80	101	72	56
MI	86	79	97	59	66	69	98	56	64
MN	113	115	146	87	98	105	107	78	107
MO ^{a,b}	149	285	128	136	200	127	129	181	153
MS	105	85	91	80	91	101	109	115	155
NC	92	96	99	83	89	79	95	72	76
NE	99	101	100	101	109	82	89	102	100
NH ^b	191	204	169	300	251	220	167	189	232
NJ ^b	144	234	100	95	130	148	119	234	204
NM	112	115	112	144	104	86	113	93	104
NV	133	151	96	158	172	86	113	193	119
NY ^a	79	103	63	98	117	152	62	100	69
OK ^a	84	82	92	125	69	102	73	74	75
OR ^a	133	120	153	148	110	109	132	100	99
PA	93	82	81	113	102	63	96	92	60
SC	78	82	92	61	64	69	82	52	59
TN	92	104	98	79	86	79	85	93	71
TX	100	99	119	70	82	99	101	79	77
VA	120	206	115	124	125	108	108	124	129
WI ^b	267	304	206	382	360	277	221	337	395

Note: For definitions of the service groups, please see [Table TA.1](#).

^a The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

^b This state had no workers' compensation fee schedule in 2018.

Table A.2 WCRI MPI-WC—2019^P Interstate Comparisons

Professional Services	Overall	Emergency	Evaluation & Management	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Physical Medicine	Major Surgery	Pain Management Injections
AL	99	76	70	112	146	54	100	130	80
AR	87	72	90	84	89	69	89	75	95
AZ ^{a,b}	114	99	121	99	108	99	117	102	81
CA	80	78	99	63	70	94	81	55	48
CO ^a	96	88	112	98	93	109	92	79	61
CT ^b	115	89	114	98	103	112	92	161	134
DE	97	128	76	99	79	105	99	114	93
FL	72	70	79	75	55	63	72	61	67
GA	107	87	109	100	119	92	94	124	94
IA ^c	137	178	124	168	154	138	142	119	170
IL	132	148	85	163	158	135	113	205	184
IN ^c	165	271	124	165	195	158	173	175	233
KS	95	89	108	70	75	90	92	84	119
KY	106	131	101	121	101	79	111	93	105
LA	96	99	78	114	94	116	100	90	167
MA	88	58	68	103	61	114	62	155	114
MD ^a	91	72	100	62	69	79	100	74	55
MI	85	78	94	61	65	70	97	59	62
MN ^b	111	114	142	87	95	109	106	80	106
MO ^{a,c}	153	277	128	135	193	185	134	194	161
MS	104	74	88	81	87	102	108	120	154
NC	92	98	98	83	89	82	96	75	79
NE	98	103	100	101	110	86	90	105	90
NH ^c	187	196	168	305	243	228	170	177	218
NJ ^c	146	225	102	100	141	150	123	244	186
NM	112	115	111	147	100	91	114	97	113
NV	134	152	93	164	171	96	115	202	119
NY ^a	82	104	67	98	116	139	69	105	69
OK ^a	81	82	90	112	66	100	72	71	71
OR ^a	130	120	149	148	105	114	130	98	107
PA	92	81	81	114	100	66	94	96	61
SC	76	81	92	61	64	72	77	54	57
TN ^b	90	103	95	78	85	81	85	94	70
TX	101	101	117	70	82	100	102	82	76
VA	119	213	112	126	124	117	109	126	127
WI ^c	265	309	208	383	358	283	223	336	400

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019, based on results for earlier years from the prior editions of this study (see [Figure TA.1](#)).

Notes:

For definitions of the service groups, please see [Table TA.1](#).

^a The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

^b This state had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

^c This state had no workers' compensation fee schedule in 2019.

Figure A.1 Interstate Comparison of Prices Paid for Professional Services, WCRI MPI-WC in 36 States, 2018

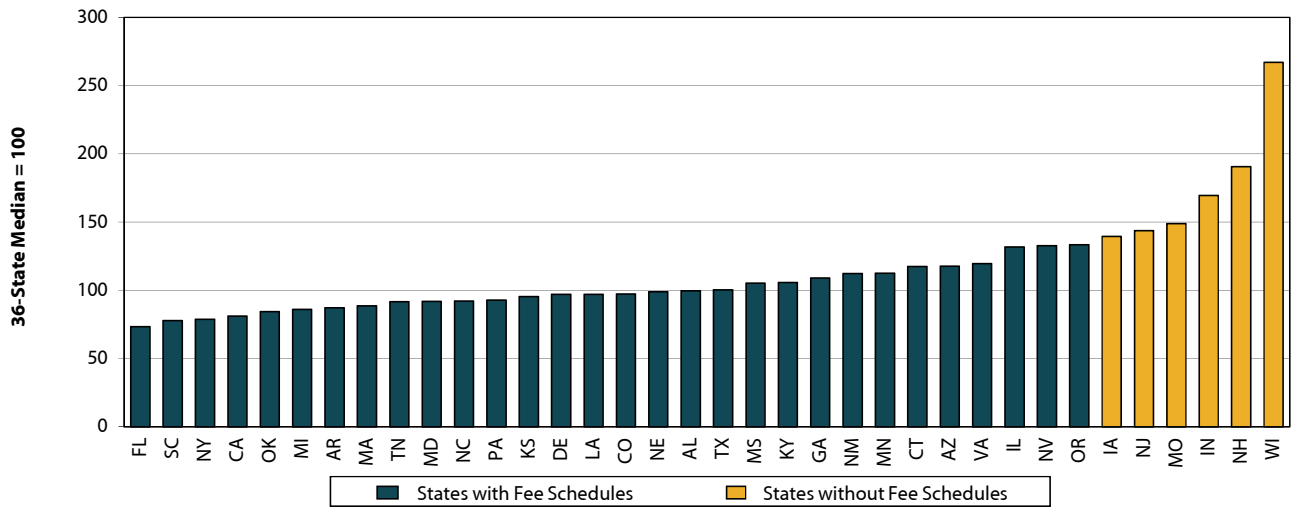
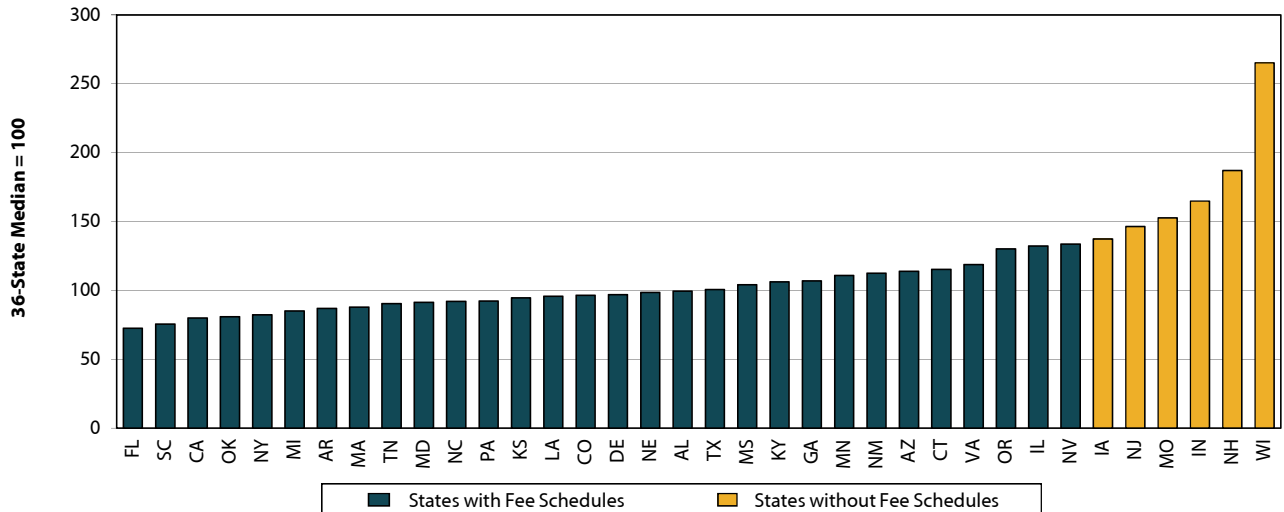


Figure A.2 Interstate Comparison of Prices Paid for Professional Services, WCRI MPI-WC in 36 States, 2019^p



Special notation: ^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019, based on results for earlier years from the prior editions of this study (see [Figure TA.1](#)).

Notes:

This study focuses on prices paid for professional services that are billed by physicians, physical therapists/occupational therapists, and chiropractors. Services billed by hospitals or ambulatory surgery centers and services billed for durable medical equipment as well as pharmaceuticals are excluded.

AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

IA, IN, MO, NH, NJ, WI: These states had no workers' compensation fee schedule in 2018 or 2019.

VA: This state adopted a fee schedule that became effective January 1, 2018.

AZ, CT, MN, TN: These states had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

Figure A.3 Interstate Comparison of Prices Paid for Professional Evaluation and Management Services, WCRI MPI-WC in 36 States, 2018

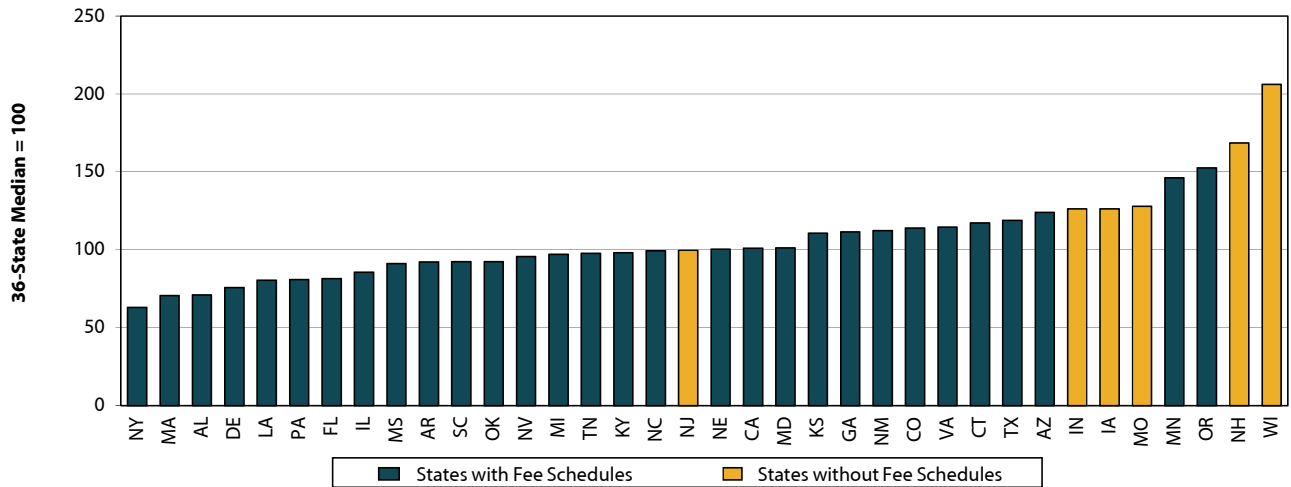
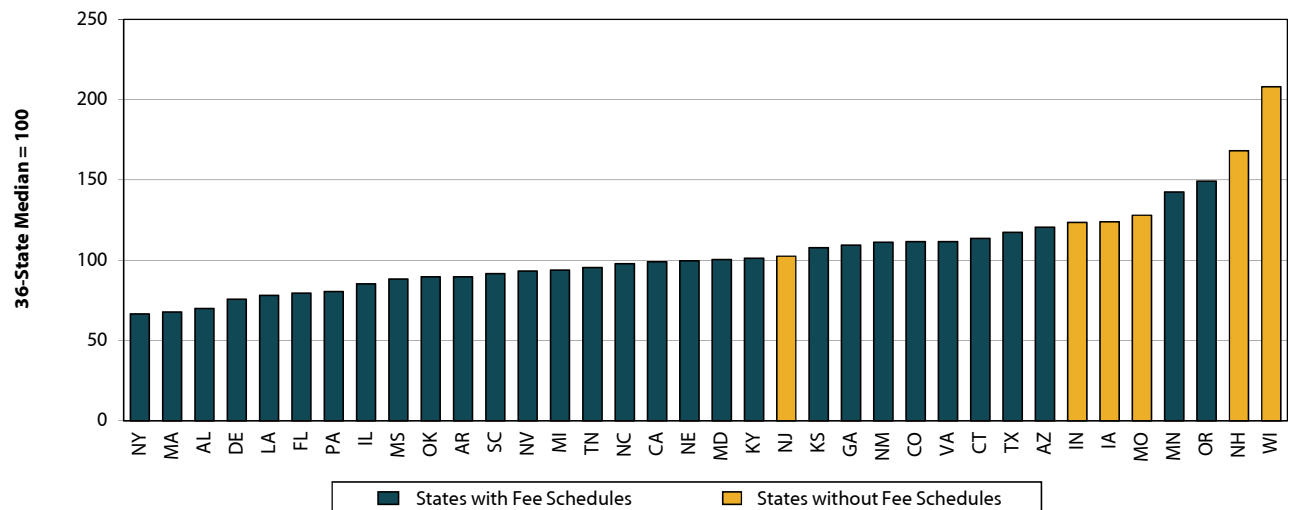


Figure A.4 Interstate Comparison of Prices Paid for Professional Evaluation and Management Services, WCRI MPI-WC in 36 States, 2019^p



Special notation: ^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019, based on results for earlier years from the prior editions of this study (see [Figure TA.1](#)).

Notes:

Evaluation and management: The services in this group are new and established patient office visits. These consist of office visits that require at least two of three parts: a problem focused history, a problem focused examination, and/or straightforward medical decision making of various complexities. See [Table TA.2](#) for a detailed description of all service codes included in this group.

AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

IA, IN, MO, NH, NJ, WI: These states had no workers' compensation fee schedule in 2018 or 2019.

VA: This state adopted a fee schedule that became effective January 1, 2018.

AZ, CT, MN, TN: These states had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

Figure A.5 Interstate Comparison of Prices Paid for Professional Physical Medicine Services, WCRI MPI-WC in 36 States, 2018

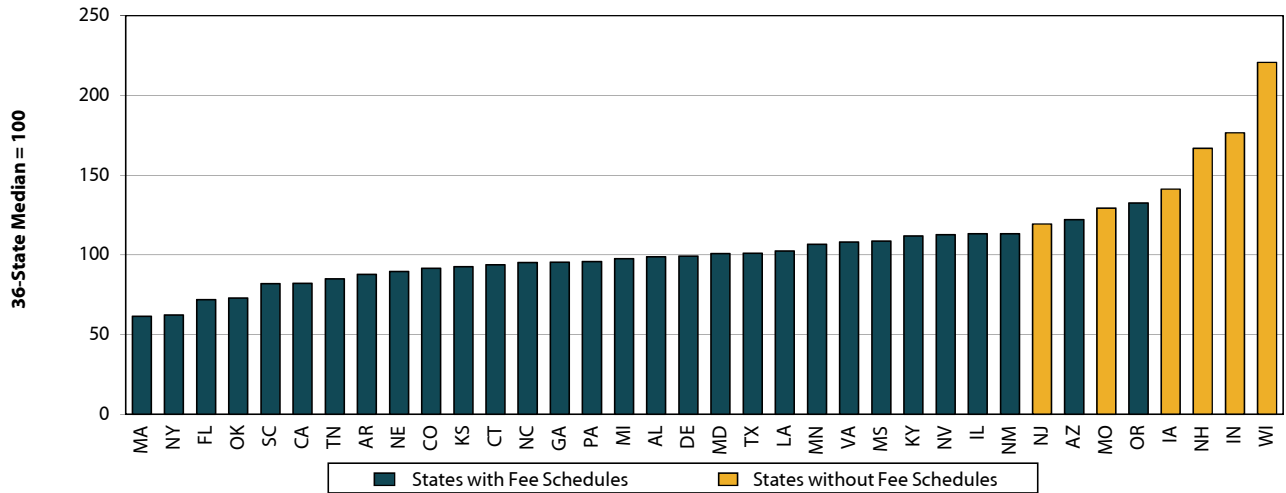
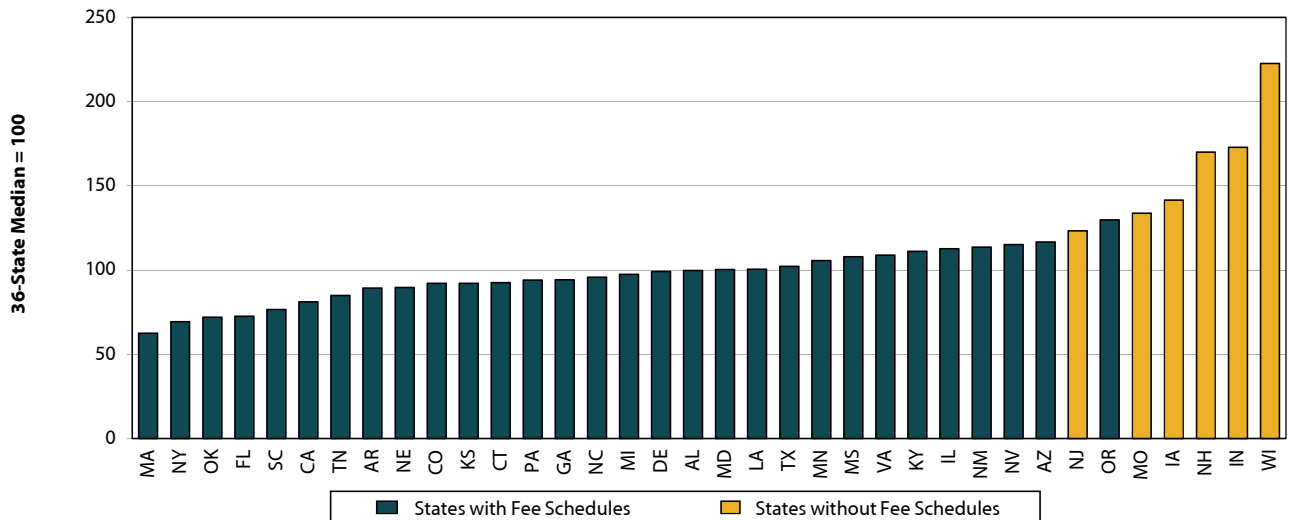


Figure A.6 Interstate Comparison of Prices Paid for Professional Physical Medicine Services, WCRI MPI-WC in 36 States, 2019^p



Special notation: ^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019, based on results for earlier years from the prior editions of this study (see [Figure TA.1](#)).

Notes:

Physical medicine: The services in this group include physical medicine procedures, modalities, therapeutic activities and manual therapy techniques involving one or more areas, electric stimulation, and work hardening/conditioning, as well as chiropractic care and manipulations. These services may be provided by physical therapists and occupational therapists as well as chiropractors. Physical medicine codes may be billed by physicians, chiropractors, or physical therapists and occupational therapists. See [Table TA.2](#) for a detailed description of all service codes included in this group.

AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

IA, IN, MO, NH, NJ, WI: These states had no workers' compensation fee schedule in 2018 or 2019.

VA: This state adopted a fee schedule that became effective January 1, 2018.

AZ, CT, MN, TN: These states had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

Figure A.7 Interstate Comparison of Prices Paid for Professional Major Surgery Services, WCRI MPI-WC in 36 States, 2018

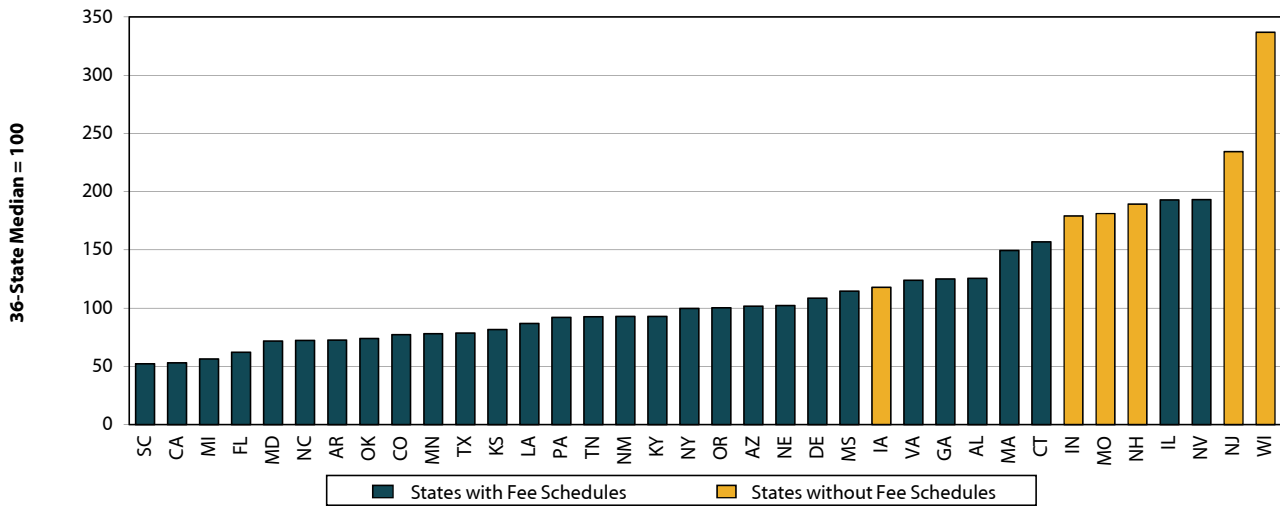
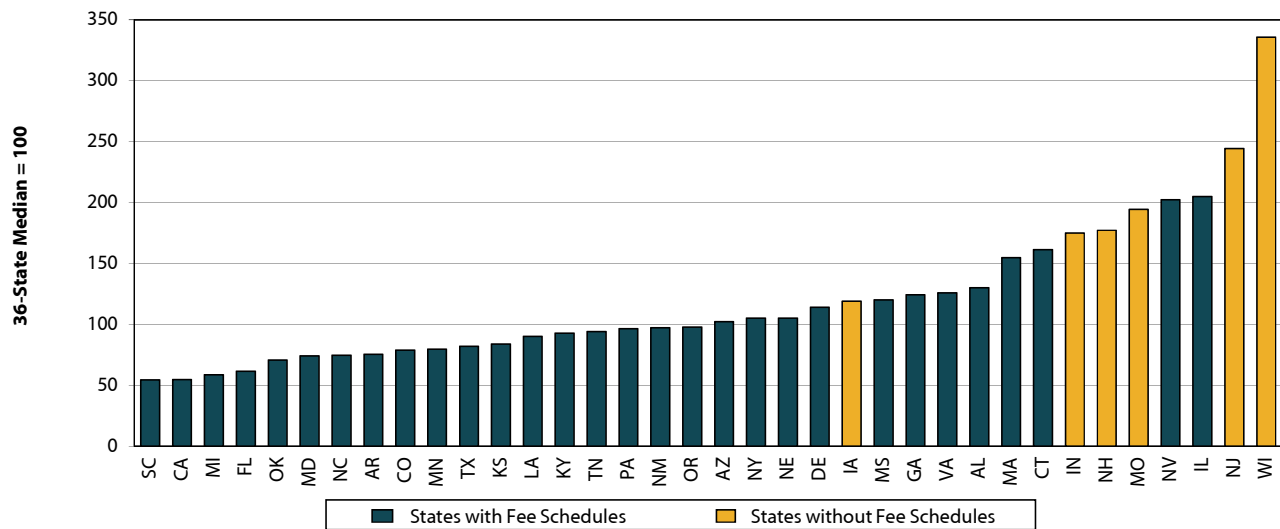


Figure A.8 Interstate Comparison of Prices Paid for Professional Major Surgery Services, WCRI MPI-WC in 36 States, 2019^p



Special notation: ^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019, based on results for earlier years from the prior editions of this study (see [Figure TA.1](#)).

Notes:

Major surgery: The majority of the services in this group include orthopedic surgeries, such as arthroscopy of the shoulder or knee and lumbar laminotomies, neuroplasty and/or transposition of the median nerve at the carpal tunnel, and hernia repair. See [Table TA.2](#) for a detailed description of all service codes included in this group.

AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

IA, IN, MO, NH, NJ, WI: These states had no workers' compensation fee schedule in 2018 or 2019.

VA: This state adopted a fee schedule that became effective January 1, 2018.

AZ, CT, MN, TN: These states had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

Figure A.9 Interstate Comparison of Prices Paid for Professional Pain Management Injection Services, WCRI MPI-WC in 36 States, 2018

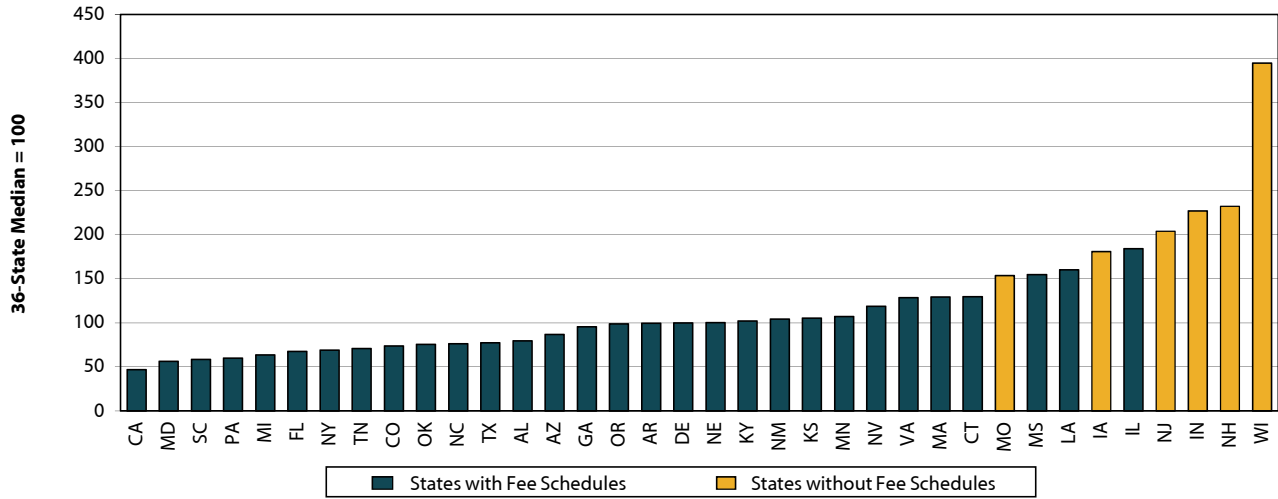
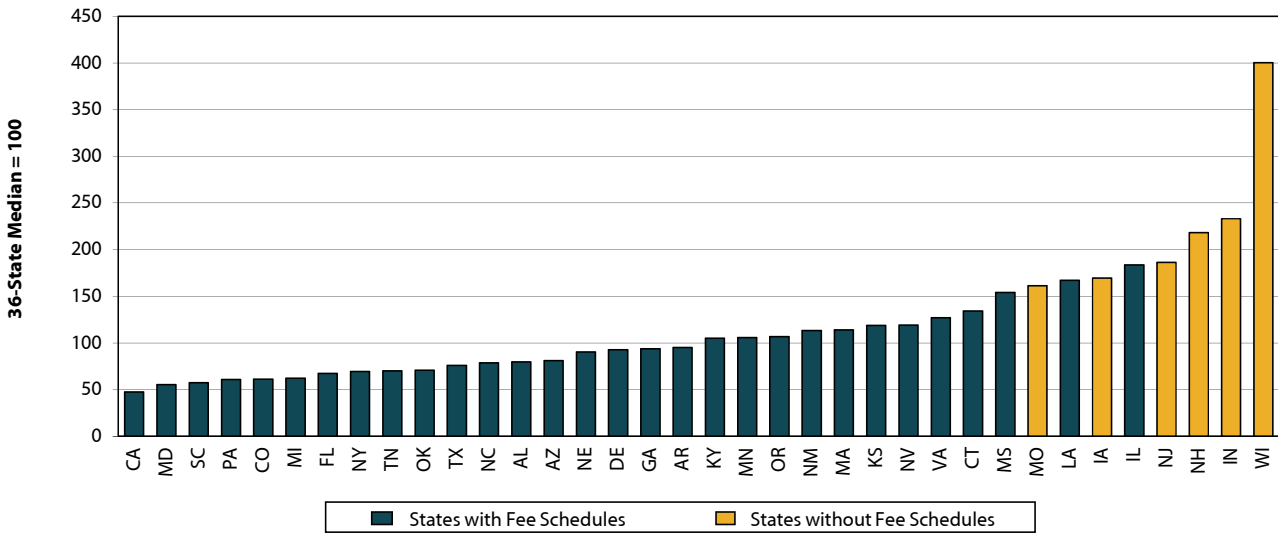


Figure A.10 Interstate Comparison of Prices Paid for Professional Pain Management Injection Services, WCRI MPI-WC in 36 States, 2019^p



Special notation:^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019, based on results for earlier years from the prior editions of this study (see [Figure TA.1](#)).

Notes:

Pain management injections: The services in this group include injection procedures that are commonly used for pain management, such as epidural or steroid injections on nerve roots and muscles for lumbar, sacral, cervical, or thoracic areas. See [Table TA.2](#) for a detailed description of all service codes included in this group.

AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

IA, IN, MO, NH, NJ, WI: These states had no workers' compensation fee schedule in 2018 or 2019.

VA: This state adopted a fee schedule that became effective January 1, 2018.

AZ, CT, MN, TN: These states had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

Figure A.11 Interstate Comparison of Prices Paid for Professional Major Radiology Services, WCRI MPI-WC in 36 States, 2018

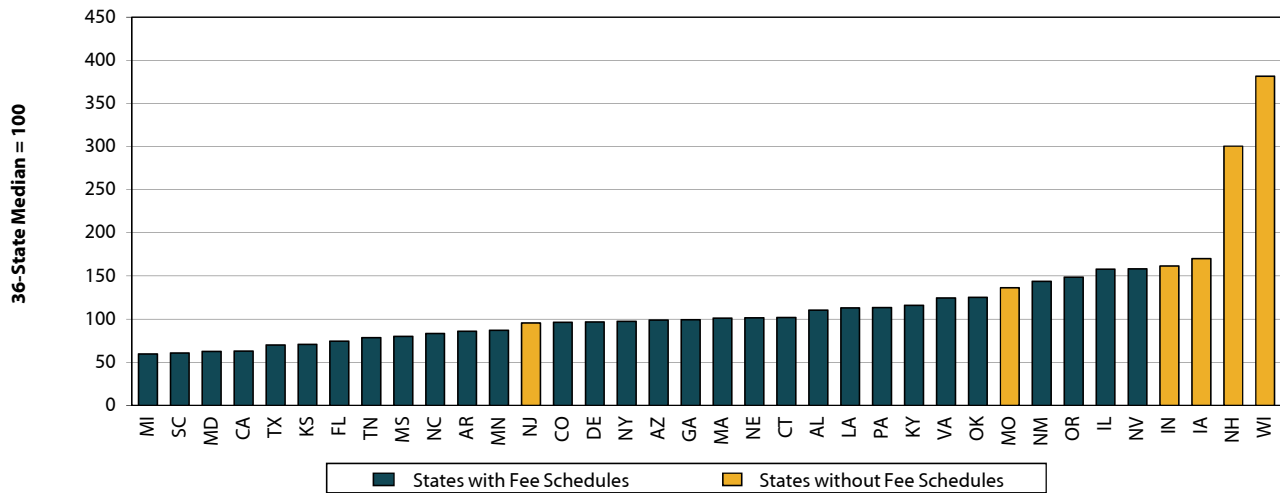
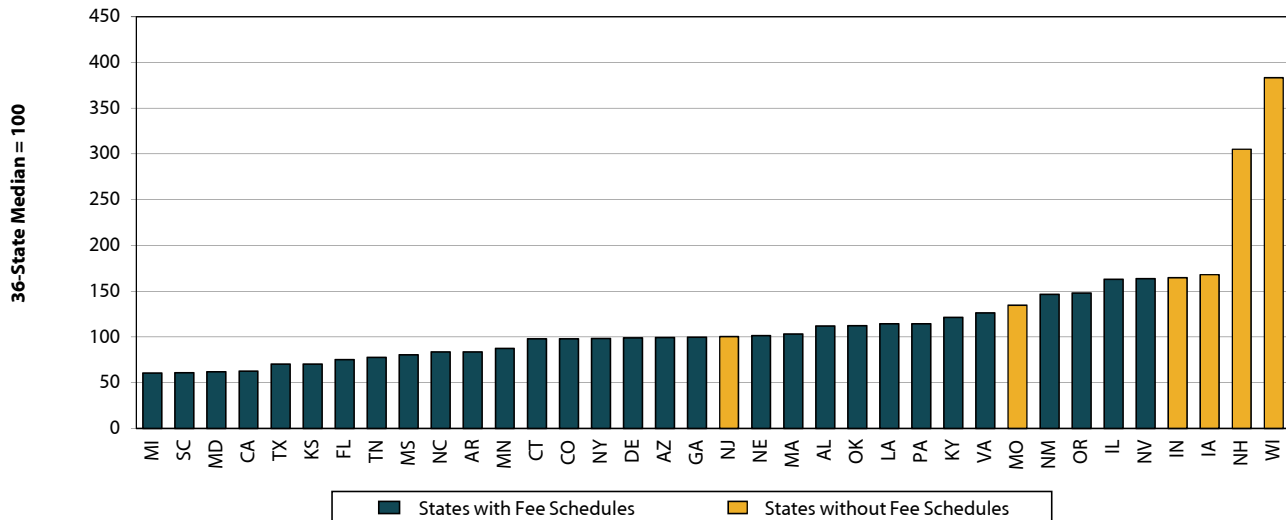


Figure A.12 Interstate Comparison of Prices Paid for Professional Major Radiology Services, WCRI MPI-WC in 36 States, 2019^p



Special notation: ^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019, based on results for earlier years from the prior editions of this study (see [Figure TA.1](#)).

Notes:

Major radiology: The services in this group mostly include magnetic resonance imaging of various areas, including, but not limited to, spinal canal and contents, cervical, lumbar, and any joint of the upper or lower extremity. See [Table TA.2](#) for a detailed description of all service codes included in this group.

AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

IA, IN, MO, NH, NJ, WI: These states had no workers' compensation fee schedule in 2018 or 2019.

VA: This state adopted a fee schedule that became effective January 1, 2018.

AZ, CT, MN, TN: These states had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

Figure A.13 Interstate Comparison of Prices Paid for Professional Minor Radiology Services, WCRI MPI-WC in 36 States, 2018

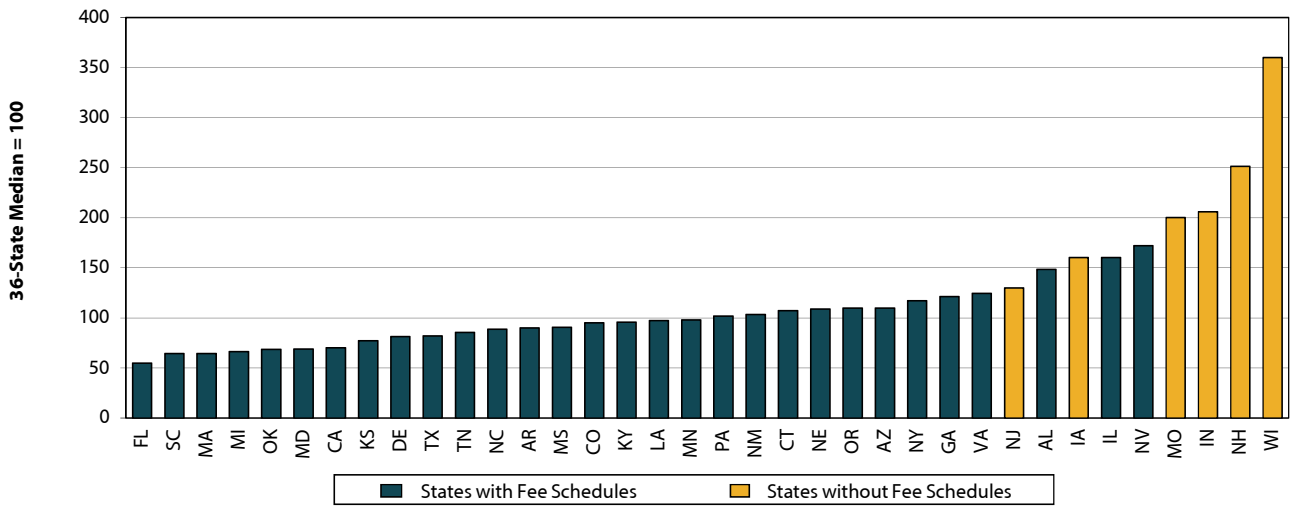
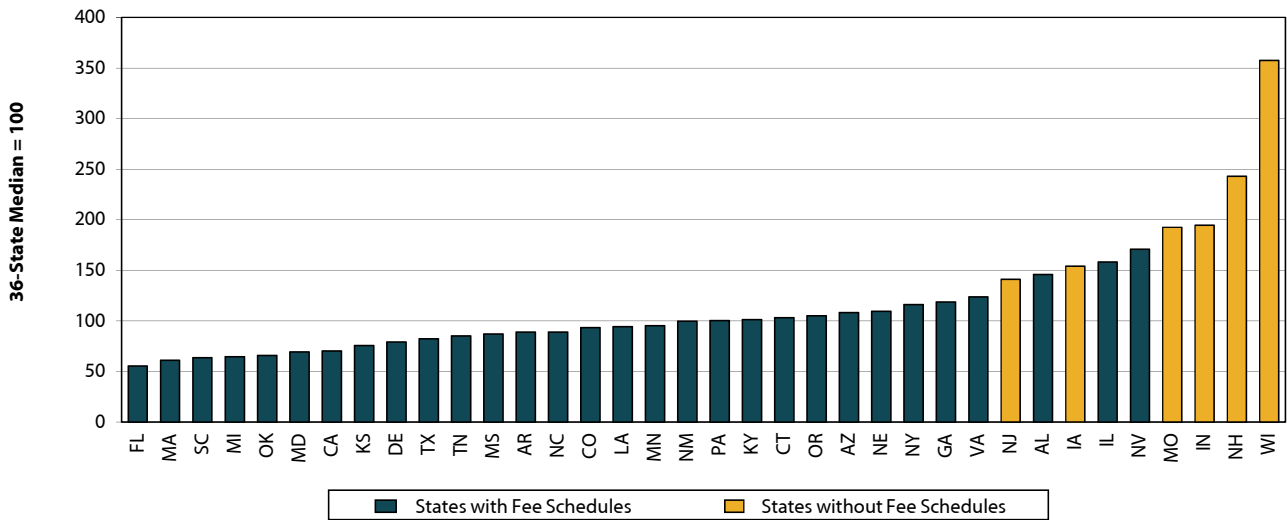


Figure A.14 Interstate Comparison of Prices Paid for Professional Minor Radiology Services, WCRI MPI-WC in 36 States, 2019^p



Special notation: ^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019, based on results for earlier years from the prior editions of this study (see [Figure TA.1](#)).

Notes:

Minor radiology: The services in this group mostly include radiologic exams (X rays or ultrasounds) involving at least two views of various areas of the body, including, but not limited to, the spine, lumbosacral, shoulder, and wrist. See [Table TA.2](#) for a detailed description of all service codes included in this group.

AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

IA, IN, MO, NH, NJ, WI: These states had no workers' compensation fee schedule in 2018 or 2019.

VA: This state adopted a fee schedule that became effective January 1, 2018.

AZ, CT, MN, TN: These states had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

Figure A.15 Interstate Comparison of Prices Paid for Professional Neurological/Neuromuscular Testing Services, WCRI MPI-WC in 36 States, 2018

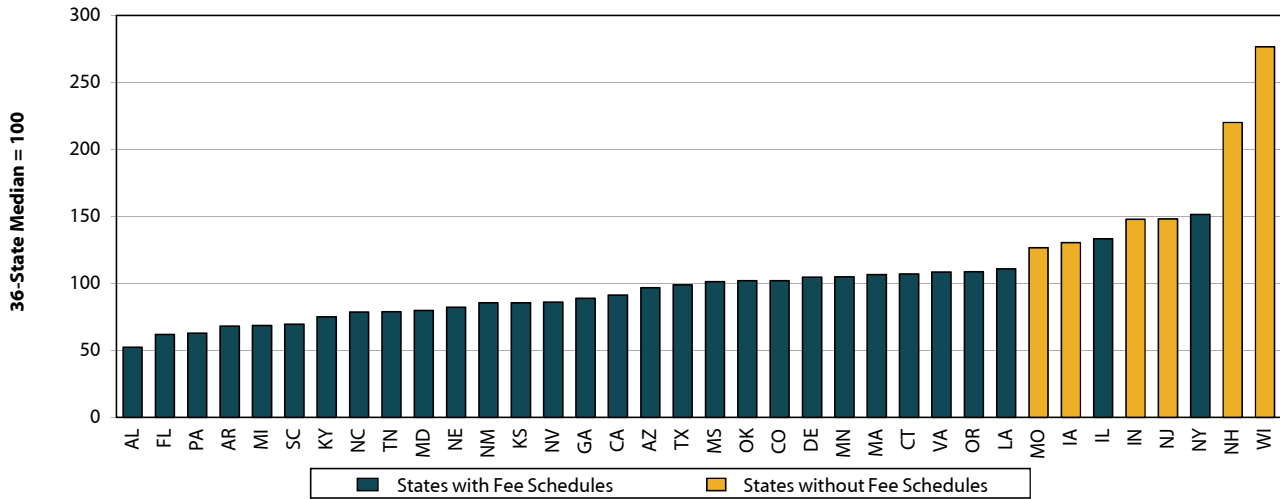
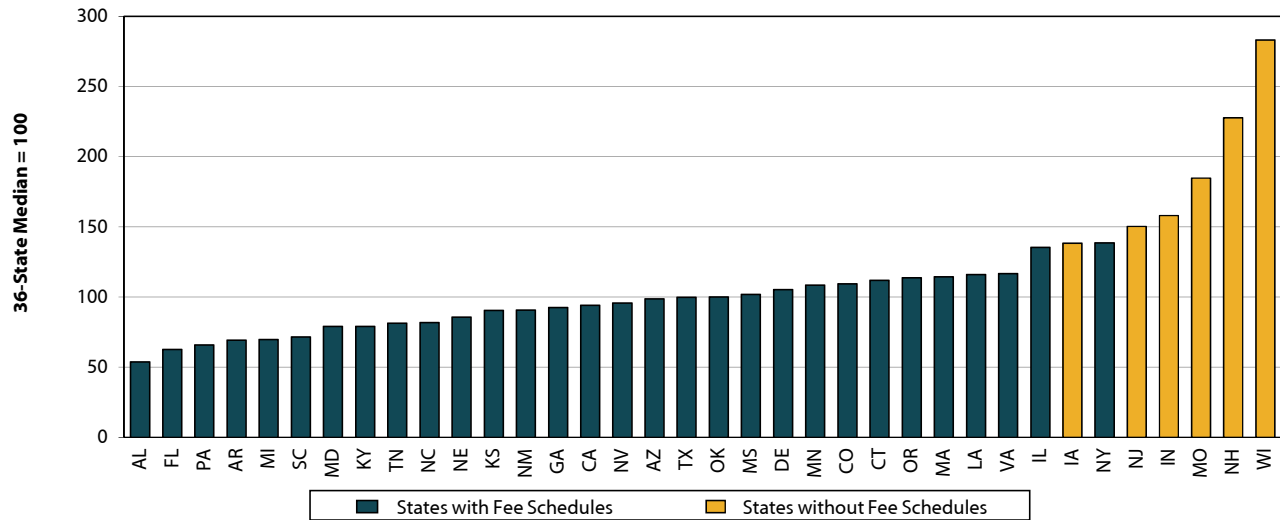


Figure A.16 Interstate Comparison of Prices Paid for Professional Neurological/Neuromuscular Testing Services, WCRI MPI-WC in 36 States, 2019^p



Special notation:^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019, based on results for earlier years from the prior editions of this study (see [Figure TA.1](#)).

Notes:

Neurological/neuromuscular testing: The services in this group are largely made up of sensory and motor nerve conduction tests but also include range of motion tests and application of neurostimulators; these services may be billed by physicians as well as by chiropractors and physical therapists. See [Table TA.2](#) for a detailed description of all service codes included in this group.

AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

IA, IN, MO, NH, NJ, WI: These states had no workers' compensation fee schedule in 2018 or 2019.

VA: This state adopted a fee schedule that became effective January 1, 2018.

AZ, CT, MN, TN: These states had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

Figure A.17 Interstate Comparison of Prices Paid for Professional Emergency Services, WCRI MPI-WC in 36 States, 2018

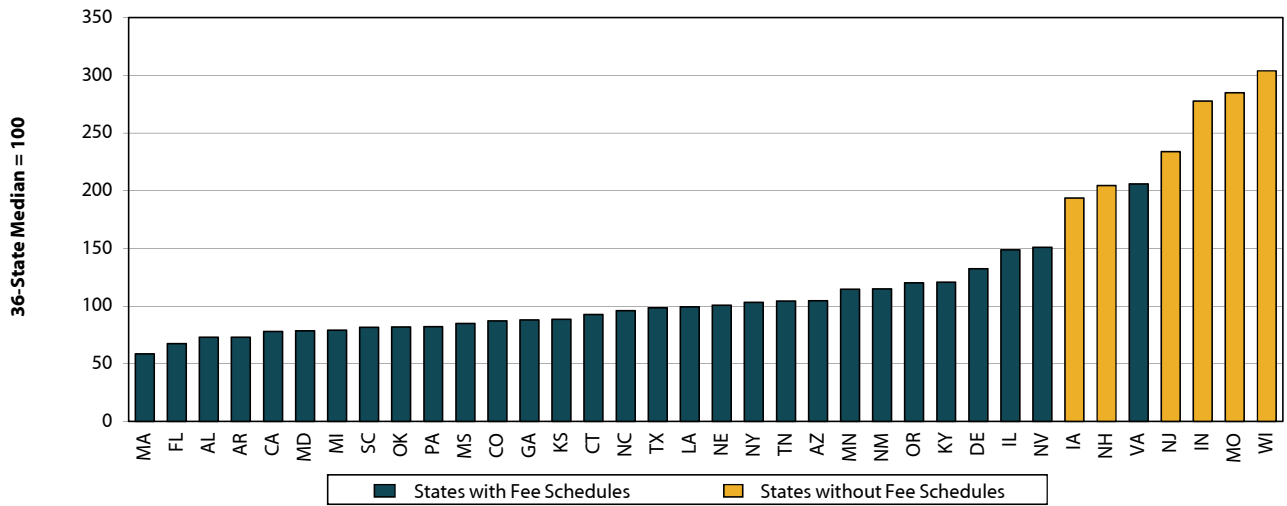
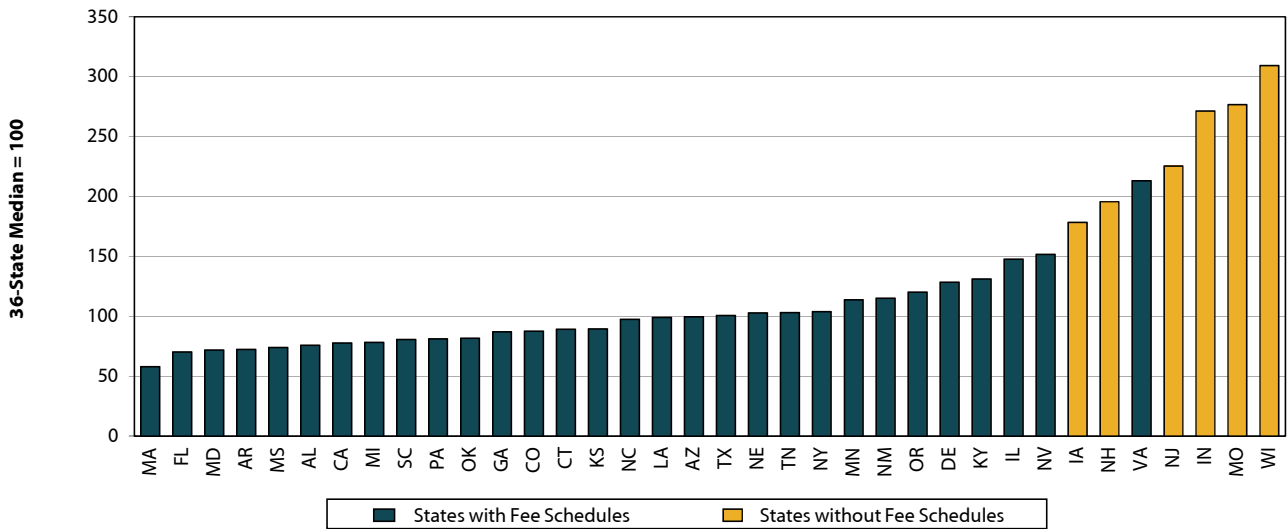


Figure A.18 Interstate Comparison of Prices Paid for Professional Emergency Services, WCRI MPI-WC in 36 States, 2019^p



Special notation: ^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the half-year data likely provide a reasonable approximation for interstate ranking across states in 2019, based on results for earlier years from the prior editions of this study (see [Figure TA.1](#)).

Notes:

Emergency: The services in this group include emergency department visits for patients with various levels of severity and office services provided on an emergency basis. See [Table TA.2](#) for a detailed description of all service codes included in this group.

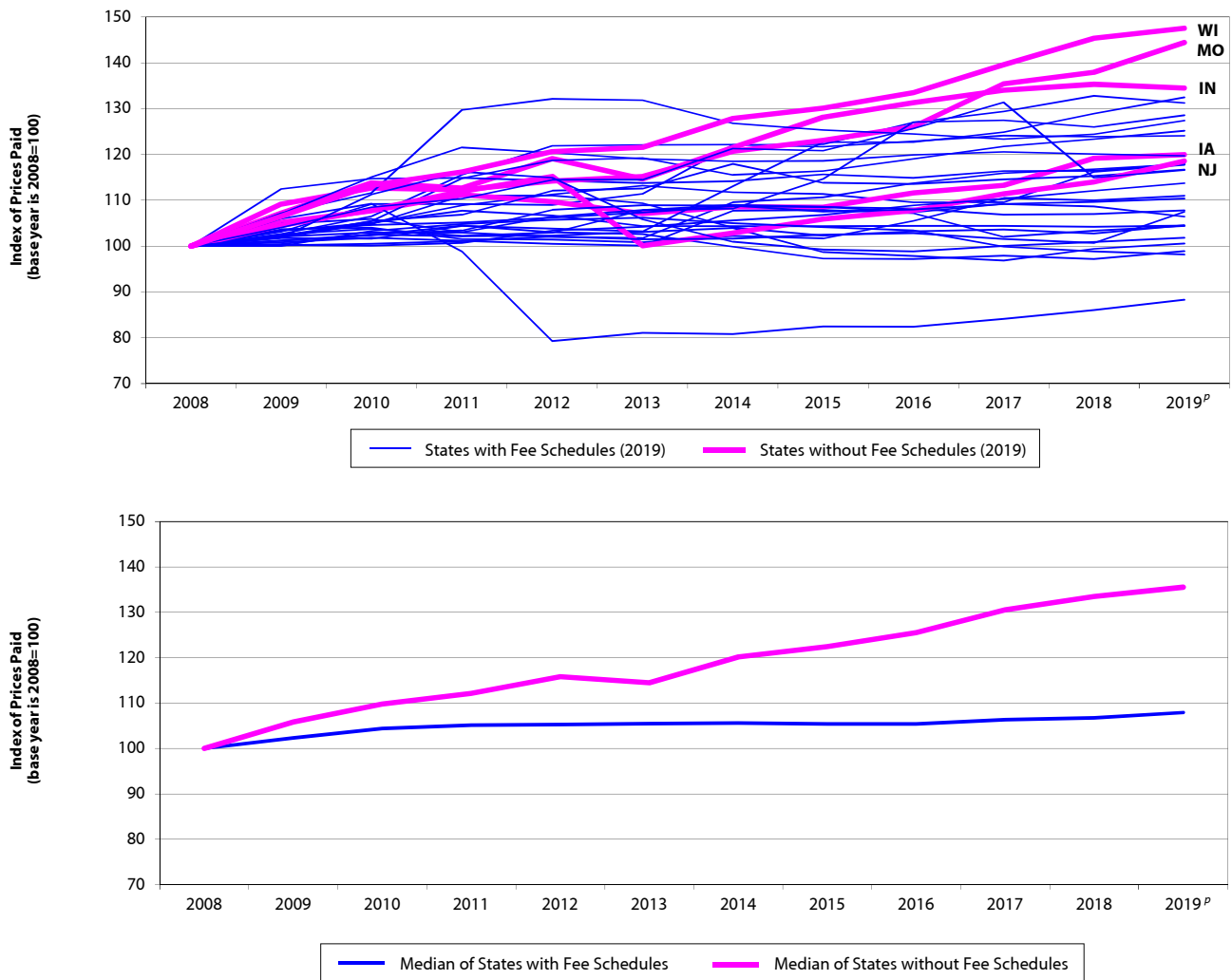
AZ, CO, MD, MO, NY, OK, OR: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

IA, IN, MO, NH, NJ, WI: These states had no workers' compensation fee schedule in 2018 or 2019.

VA: This state adopted a fee schedule that became effective January 1, 2018.

AZ, CT, MN, TN: These states had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

Figure B.1 Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



continued

Figure B.1 Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019 (continued)

State	Fee Regulation Type	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
AR	FS	100	102	105	111	111	109	104	102	103	104	103	104
AZ ^{a,b}	FS	100	103	109	109	109	111	122	122	127	129	133	131
CA	FS	100	102	103	103	102	102	110	111	114	116	117	118
CO ^a	FS	100	102	105	109	111	113	112	111	110	110	116	118
CT ^b	FS	100	103	105	108	107	104	104	104	104	104	104	104
FL	FS	100	104	104	102	101	101	102	102	106	111	110	111
GA	FS	100	103	107	116	122	122	122	122	123	124	124	124
IA	Non-FS	100	105	108	111	110	107	109	108	112	113	119	120
IL	FS	100	106	109	99	79	81	81	82	82	84	86	88
IN	Non-FS	100	107	114	113	119	115	122	128	131	134	135	134
KS	FS	100	102	106	107	112	113	118	114	114	115	115	117
KY	FS	100	102	102	104	104	103	113	123	123	125	129	132
LA	FS	100	104	105	105	106	107	109	108	108	107	107	108
MA	FS	100	112	115	115	114	114	114	116	115	116	116	118
MD ^a	FS	100	102	105	115	119	119	116	116	119	122	123	125
MI	FS	100	101	102	102	102	103	104	99	98	97	99	101
MN ^b	FS	100	105	106	103	106	108	109	109	107	109	110	110
MO ^a	Non-FS	100	109	113	112	114	115	121	123	126	135	138	144
MS	FS	100	101	102	101	100	100	108	108	107	102	103	104
NC	FS	100	103	104	102	103	108	108	115	127	127	126	129
NE	FS	100	101	102	104	103	103	100	97	97	98	97	99
NJ	Non-FS	100	105	108	112	115	100	103	106	108	111	114	119
NY ^a	FS	100	100	101	101	102	101	102	102	103	102	101	107
OK ^a	FS	100	100	103	103	108	109	109	107	108	109	109	106
OR ^a	FS	100	107	115	122	120	119	119	119	120	121	120	120
PA	FS	100	100	100	101	103	104	106	107	109	110	112	114
SC	FS	100	100	103	105	106	106	105	104	103	100	99	98
TN ^b	FS	100	102	111	116	115	106	101	99	99	100	101	102
TX	FS	100	107	112	130	132	132	127	125	124	123	124	127
VA ^c	Non-FS/FS	100	104	109	110	114	114	121	121	126	131	115	117
WI	Non-FS	100	106	113	116	121	122	128	130	133	140	145	148
Median growth rate in FS states		100	102	104	105	105	105	106	105	105	106	107	108
Median growth rate in non-FS states		100	106	110	112	116	114	120	122	126	131	134	136

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

Calendar year 2008 is the base year, which is equal to 100 in the index. For definitions of the service groups, please see [Table TA.1](#).

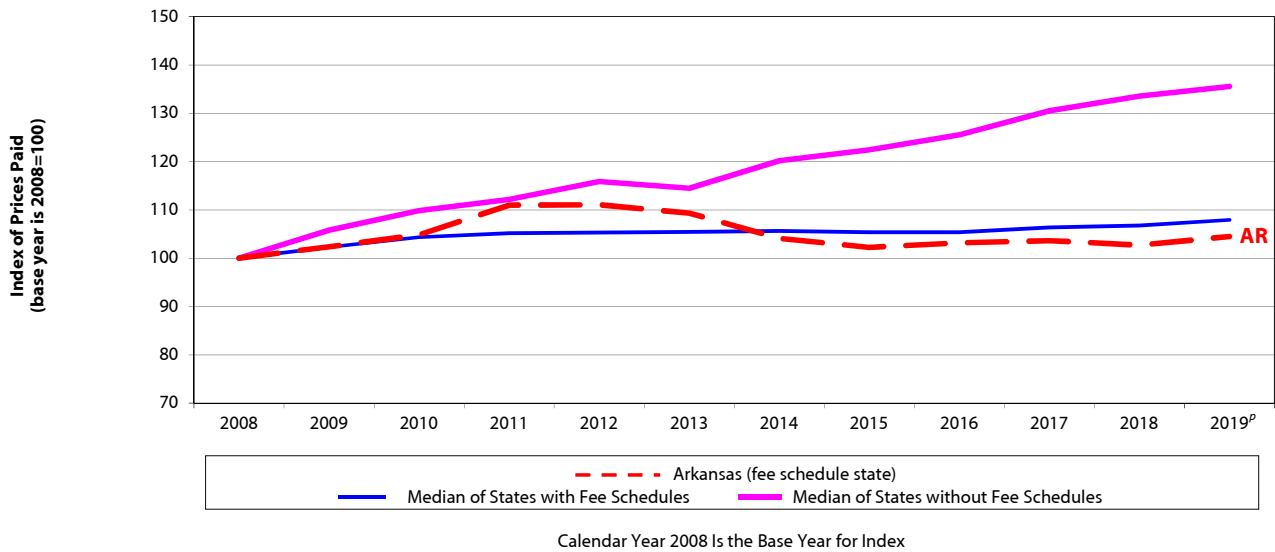
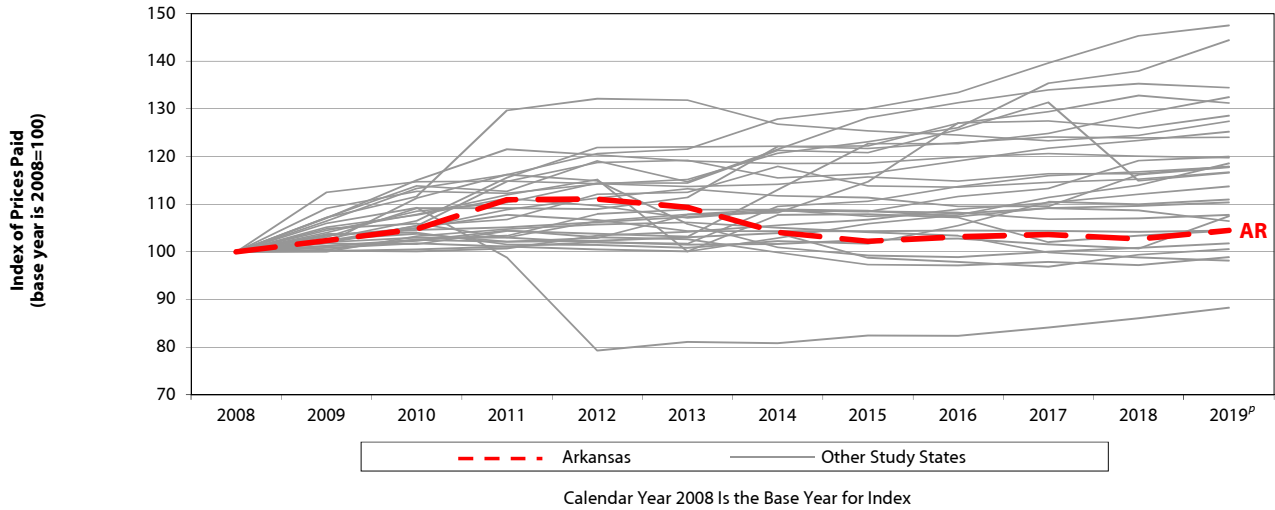
^a The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

^b This state had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

^c Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. Previously this state had no fee schedule.

Key: FS: fee schedule.

Figure B.2 Arkansas Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

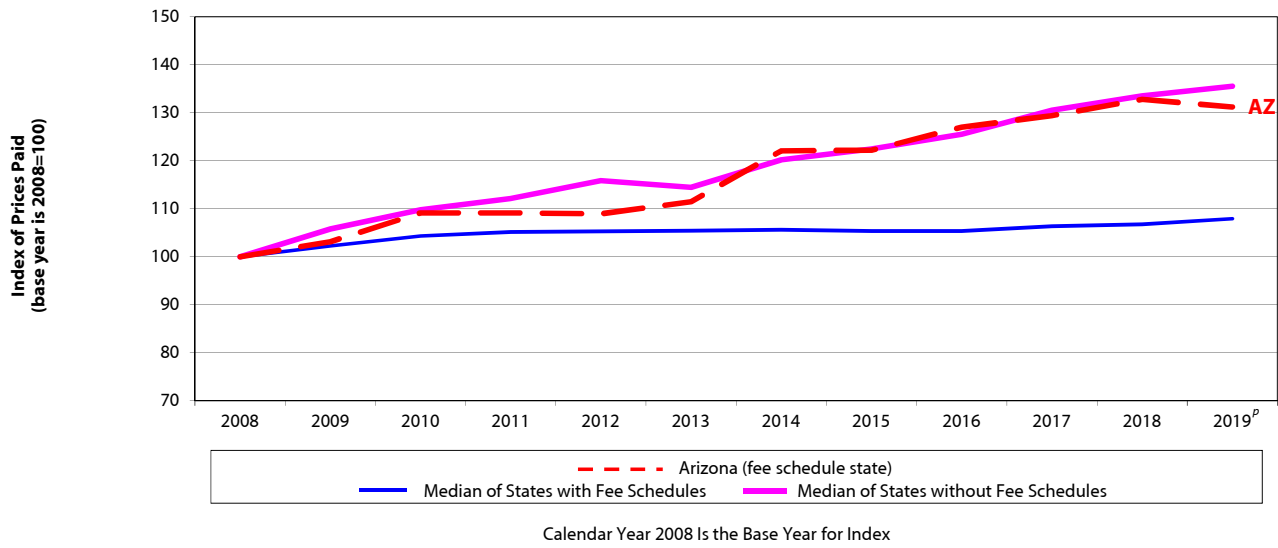
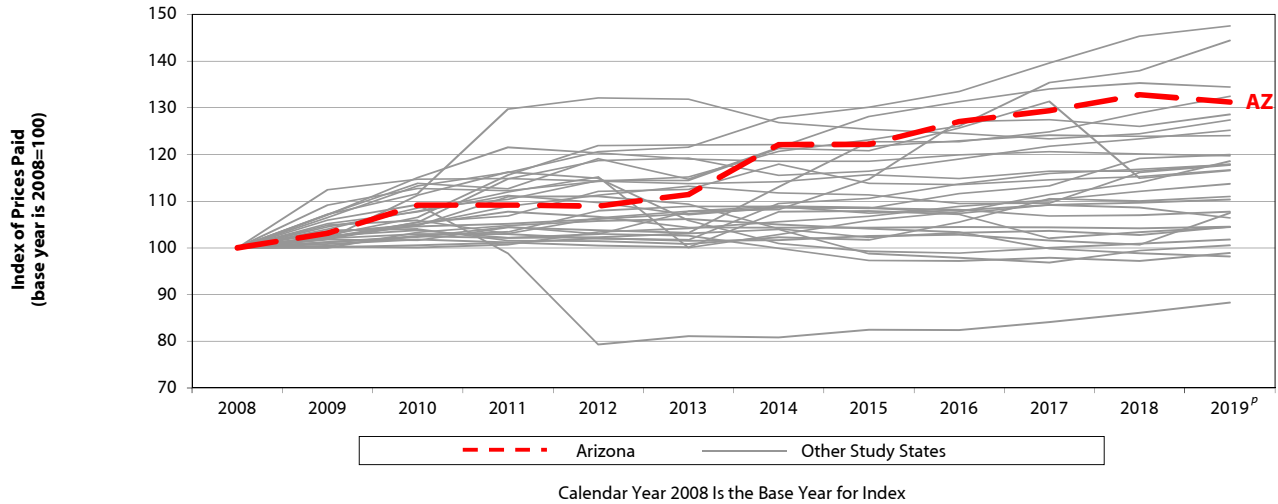


Arkansas	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	2%	2%	6%	0%	-2%	-5%	-2%	1%	0%	-1%	2%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Arkansas' fee schedule for professional services has regular updates on the relative value units tied to the most recent Medicare resource-based relative value scale (RBRVS), with applied state conversion factors adopted in May 2000 for the services included in this study. The most recent update covered in the study period in this report was effective January 1, 2019.

Figure B.3 Arizona Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



Arizona	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	3%	6%	0%	0%	2%	10%	0%	4%	2%	3%	-1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

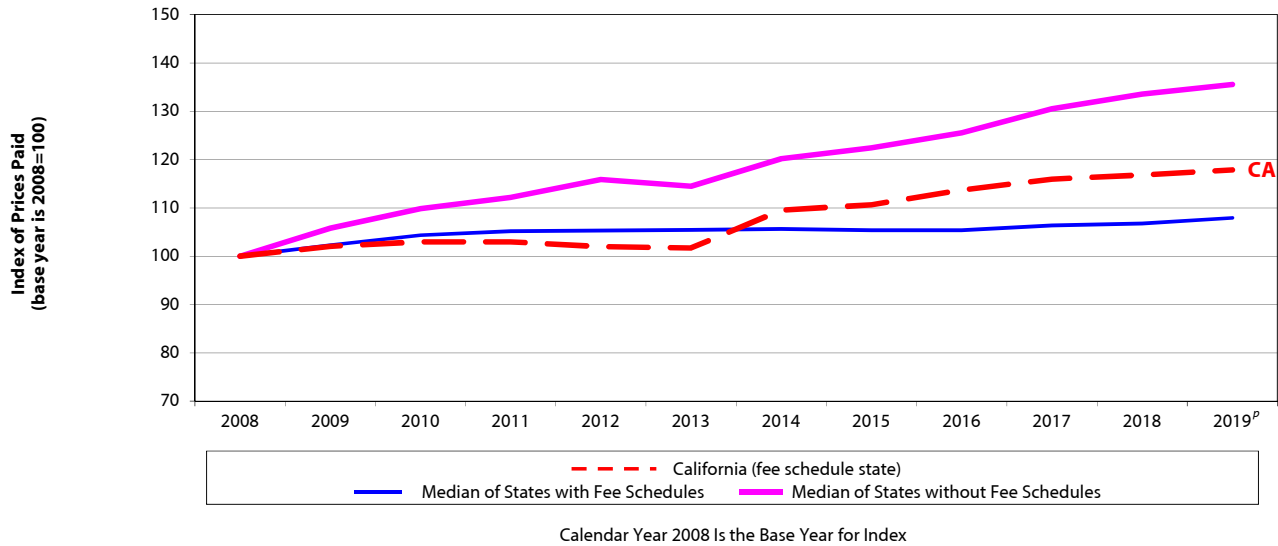
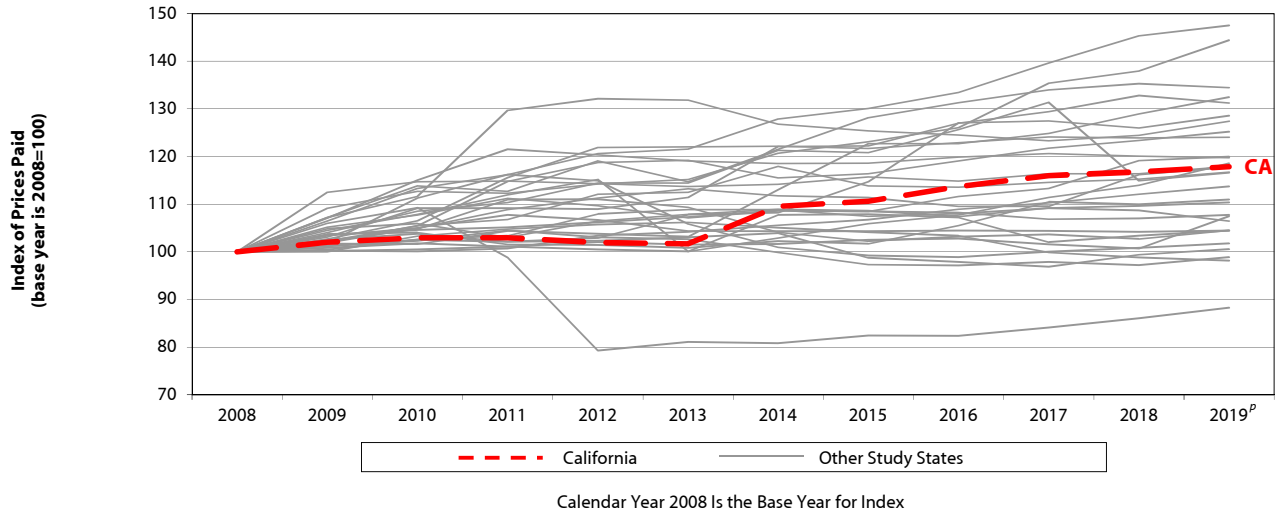
Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes:

The data for Arizona are not necessarily representative because they are missing data from a larger data source that is significant in this state. The results in Arizona are unlikely to be significantly under- or overestimated, given that the state uses a fee schedule to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in Arizona were materially different from other data sources included in this study from the same state.

Arizona publishes its fee schedule annually with effective dates of October 1 through September 30 of the following year. The Industrial Commission of Arizona reviews the fee schedule values annually with a focus each year on one of four specific groups of codes and rotates through these specific groups of codes every four years. To calculate the fee schedule values for the codes under review, the Commission surveys the workers' compensation fee schedules from the states of Colorado, Nevada, New Mexico, North Carolina, Oregon, Utah, and Washington and uses the following methodology: (a) current Arizona values between the 75th and 100th percentile of the states surveyed will not be adjusted; (b) current Arizona values over the 100th percentile of the states surveyed will be reduced to the 100th percentile; and (c) current Arizona values below the 75th percentile will be increased to the 75th percentile subject to the following: Increases shall be capped at 25 percent, unless and except as necessary to bring a current value up to the 50th percentile. In October 2013, Arizona reviewed and adjusted the fee schedule rates for evaluation and management, physical medicine, and surgery codes from 25000 to 39599. This update increased the fee schedule rates for evaluation and management and physical medicine services; the fee schedule rates for many common surgeries remained unchanged or had only small increases. The fee schedule effective October 2016 reflected a review of all codes. Effective October 1, 2017, Arizona transitioned to a resource-based relative value scale (RBRVS) based fee schedule. The impact of this fee schedule transition is examined in the section ["Discussion of Substantial Changes in Prices at Service-Type Level."](#)

Figure B.4 California Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



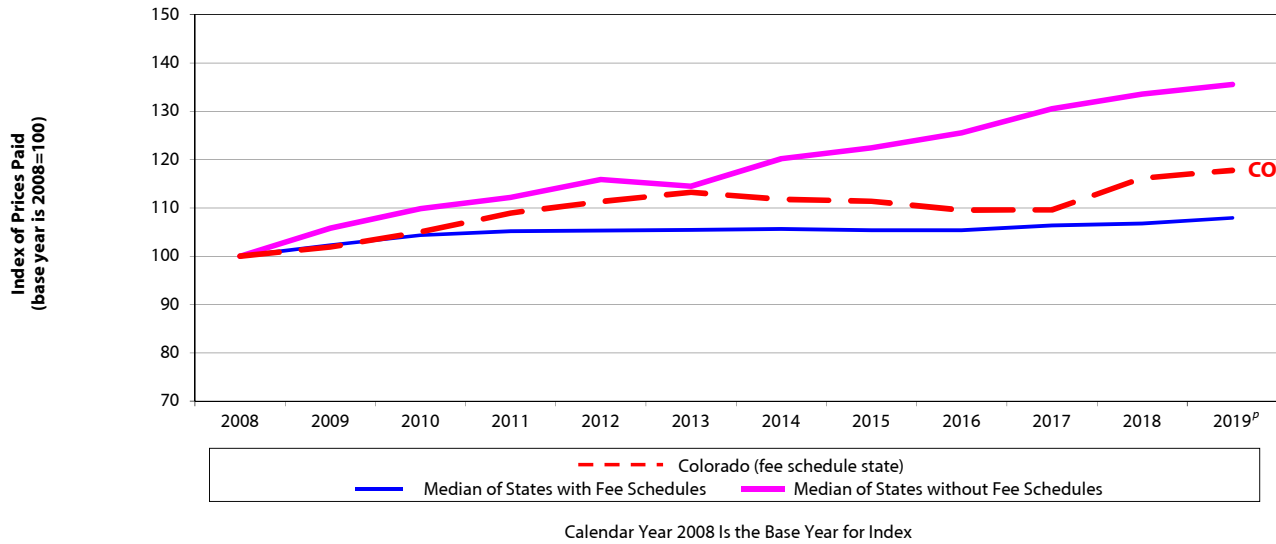
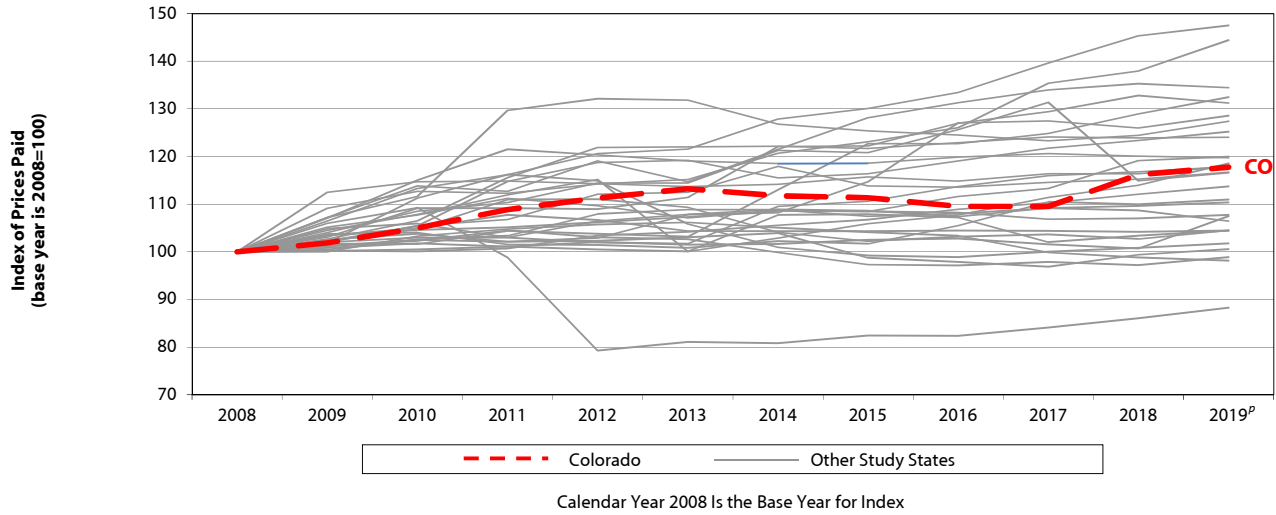
California	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^p
State average annual change in prices paid for professional services	2%	1%	0%	-1%	0%	8%	1%	3%	2%	1%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^p We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Effective January 2014, California transitioned to an RBRVS-based fee schedule. This fee schedule change is a part of the workers' compensation reform legislation outlined in Senate Bill 863. This legislation requires the adoption of Medicare's RBRVS schedule for professional services to be phased in over four years, beginning in 2014, and to remain in effect until the Division of Workers' Compensation adopts an RBRVS schedule that allows no more than 120 percent of the aggregate fees allowed by Medicare. During the four-year transition period, the conversion factors for primary care services increased and the conversion factors for specialty services decreased. The latest fee schedule update covered in the study period in this report was in April 2019. Before the change to an RBRVS-based fee schedule, California used the Official Medical Fee Schedule (OMFS) to regulate the payment of professional services, and the maximum reimbursement rates in the OMFS remained unchanged since 2007.

Key: RBRVS: resource-based relative value scale (Medicare).

Figure B.5 Colorado Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



Colorado	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	2%	3%	4%	2%	2%	-1%	0%	-2%	0%	6%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

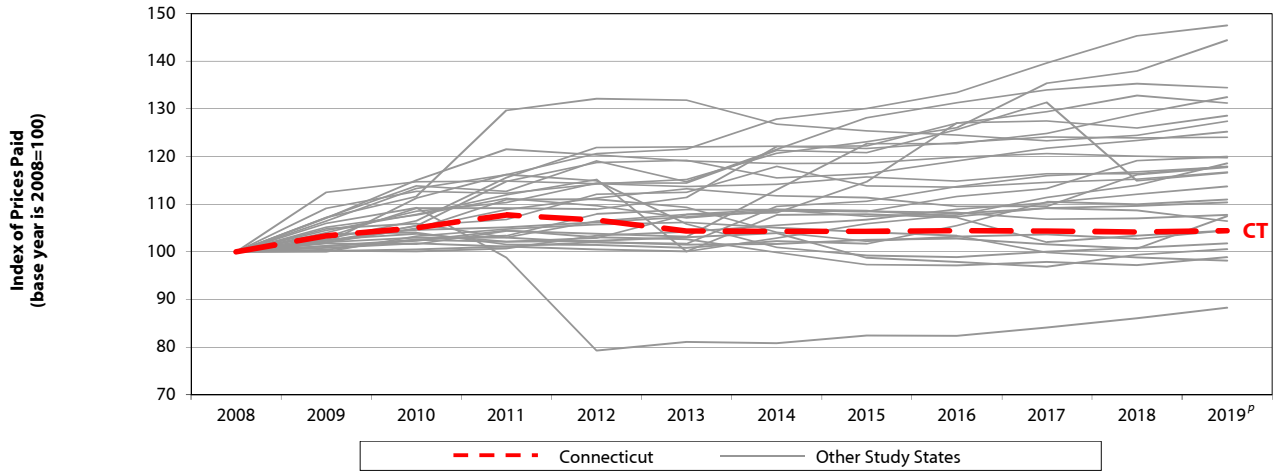
Notes:

The data for Colorado are not necessarily representative because they are missing data from a larger data source that is significant in this state. The results in Colorado are unlikely to be significantly under- or overestimated, given that the state uses a fee schedule to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in Colorado were materially different from other data sources included in this study from the same state.

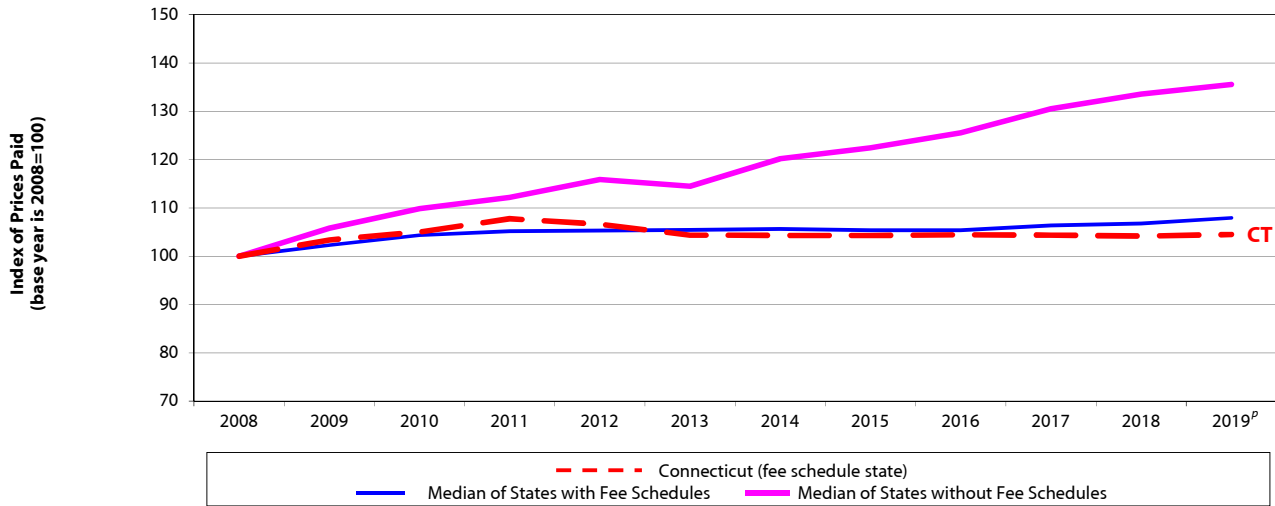
Colorado usually updates its fee schedule for professional services annually in January. The most recent update covered in the study period in this report was effective January 1, 2019. In January 2016, Colorado revised its fee schedule for professional services and incorporated the use of relative values from the National Physician Fee Schedule Relative Value Scale file (RBRVS) published by Medicare in January 2015. Previously, Colorado based its fee schedule levels on relative value units (RVUs) from the Relative Values for Physicians, currently published by OPTUM360[®].

Key: RBRVS: resource-based relative value scale (Medicare).

Figure B.6 Connecticut Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



Calendar Year 2008 Is the Base Year for Index



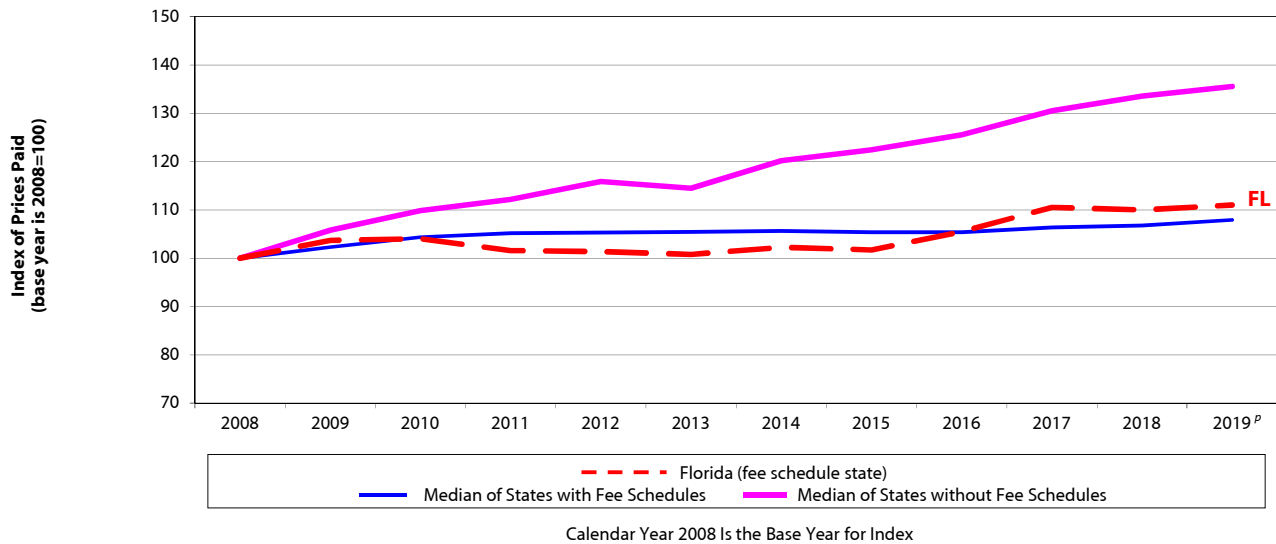
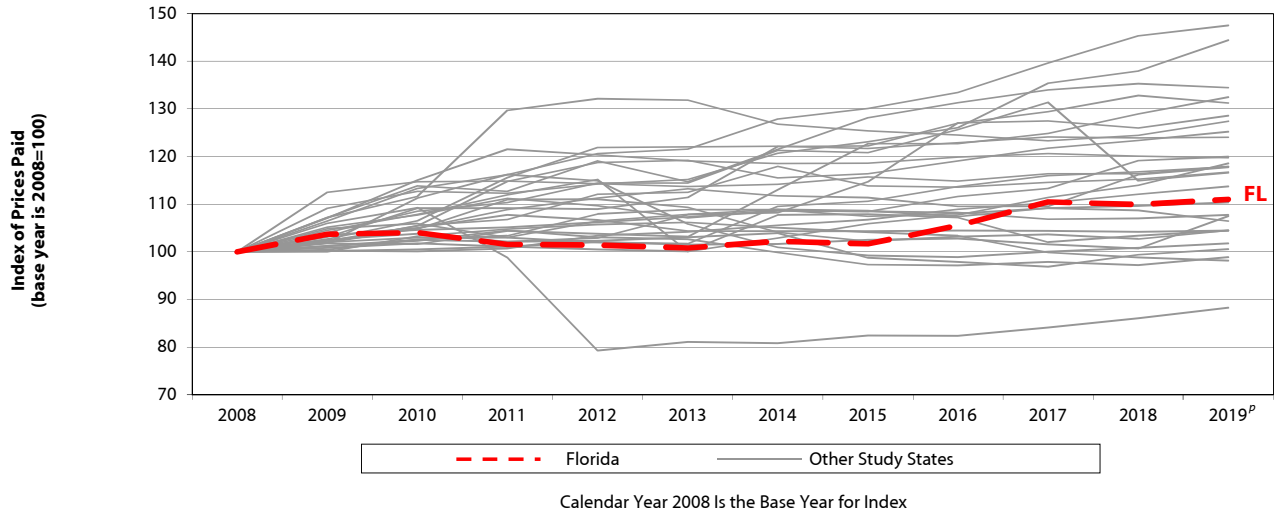
Calendar Year 2008 Is the Base Year for Index

Connecticut	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	3%	2%	3%	-1%	-2%	0%	0%	0%	0%	0%	0%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Connecticut has updated its fee schedule for professional services annually in July since 2008. The most recent update covered during the study period in this report was the 2018 Official Connecticut Practitioner Fee Schedule effective July 15, 2018.

Figure B.7 Florida Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

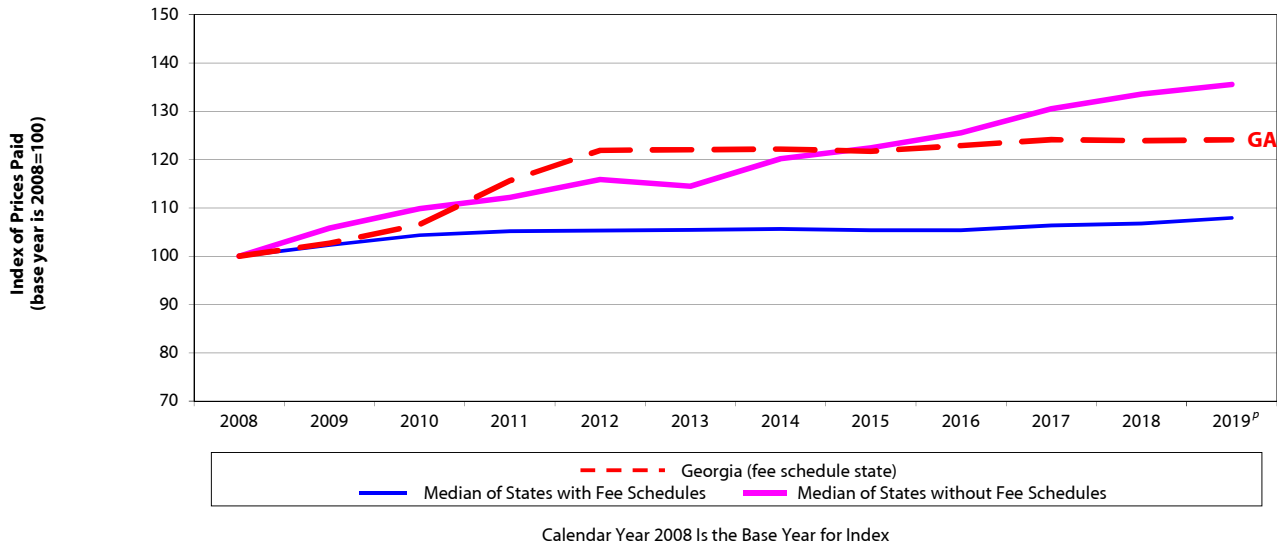
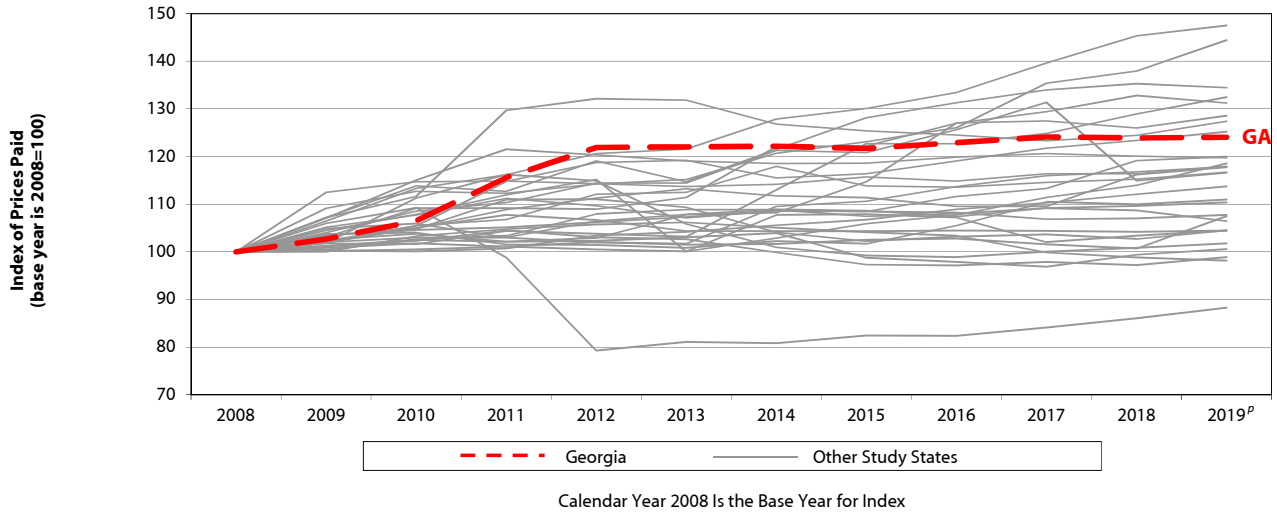


Florida	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	4%	0%	-2%	0%	-1%	1%	-1%	4%	5%	-1%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation ^P to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Florida implemented a fee schedule update effective July 1, 2016 (i.e., the 2015 edition of the Florida workers' compensation health care provider reimbursement manual). The updated fee schedule rates reflected the 2014 Medicare rates in the maximum allowable reimbursement (MAR) computation. Before this change, the fee schedule rates in Florida were set at 140 percent of the 2008 Medicare rates for surgeries and 110 percent of the 2008 Medicare rates for other professional services. Effective July 1, 2017, Florida implemented another update to its medical fee schedule for professional services (i.e., the 2016 edition of the Florida workers' compensation health care provider reimbursement manual); this most recent update covered in the study period was not expected to have a material impact on the system costs. As shown in this figure, the overall prices paid for professional services in Florida increased 8 percent from 2015 to 2018 following these two fee schedule updates. For different types of services, prices paid in Florida increased for some service groups and decreased or remained stable for others following this fee schedule change (see [Figure C.6](#)).

Figure B.8 Georgia Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

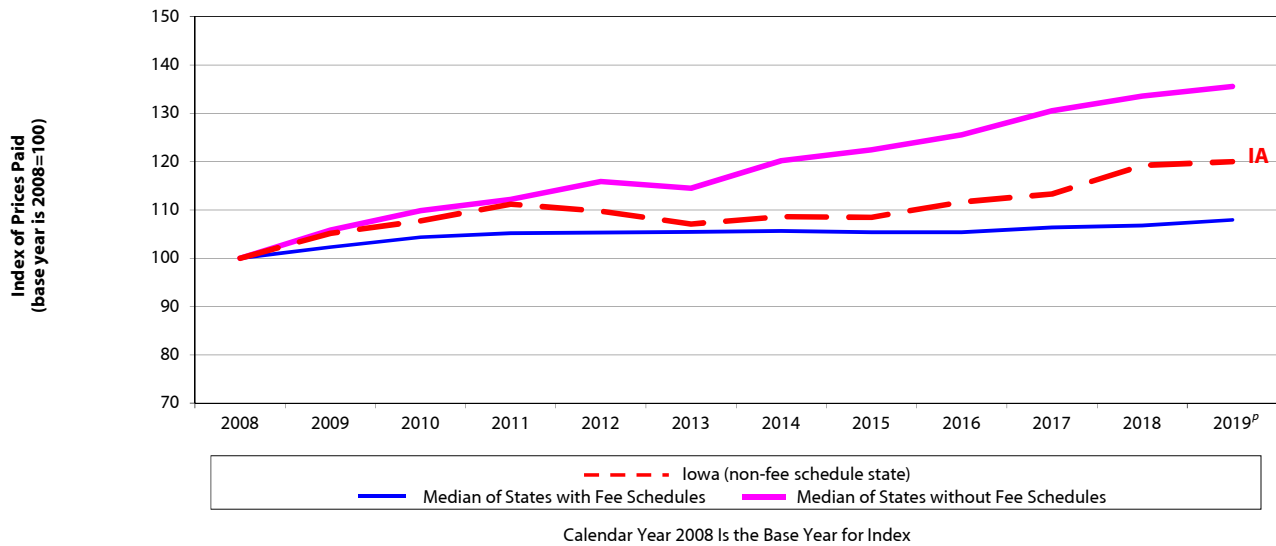
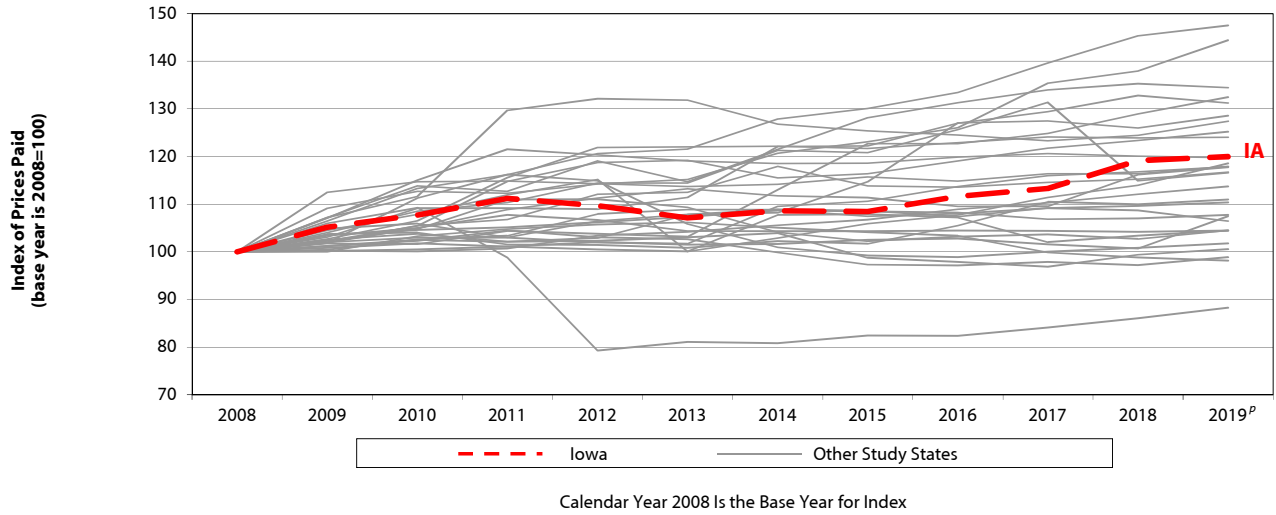


Georgia	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	3%	4%	9%	5%	0%	0%	0%	1%	1%	0%	0%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Georgia typically updates its fee schedule for professional services annually in April. The most recent update within the study period in this report was effective April 1, 2019; the half-year price data through June 2019 in this edition reflect only two months of experience after this fee schedule update.

Figure B.9 Iowa Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

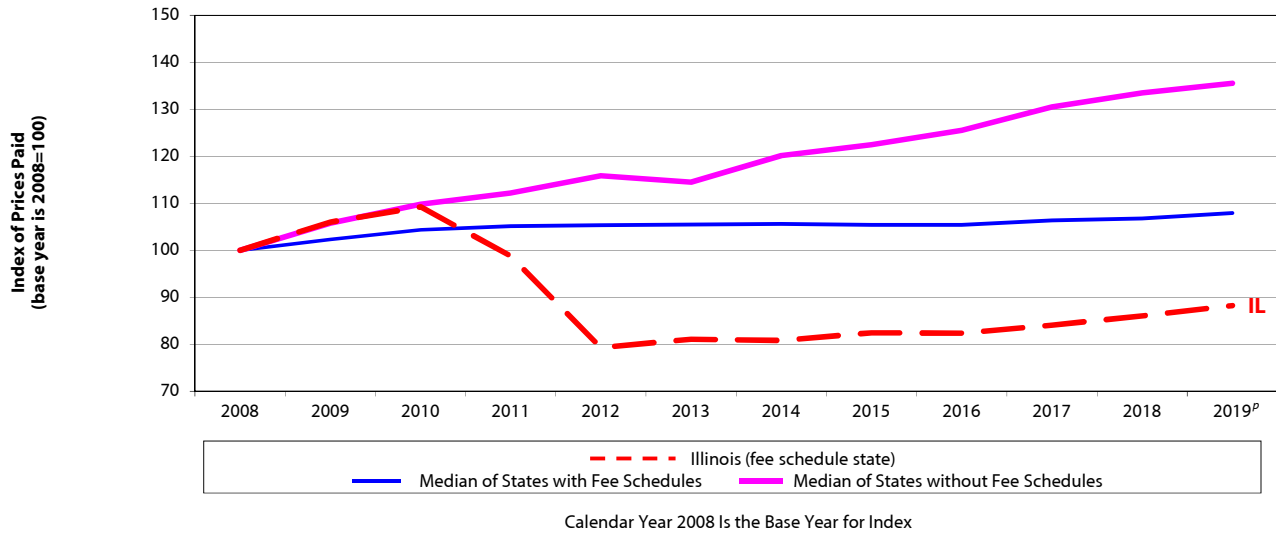
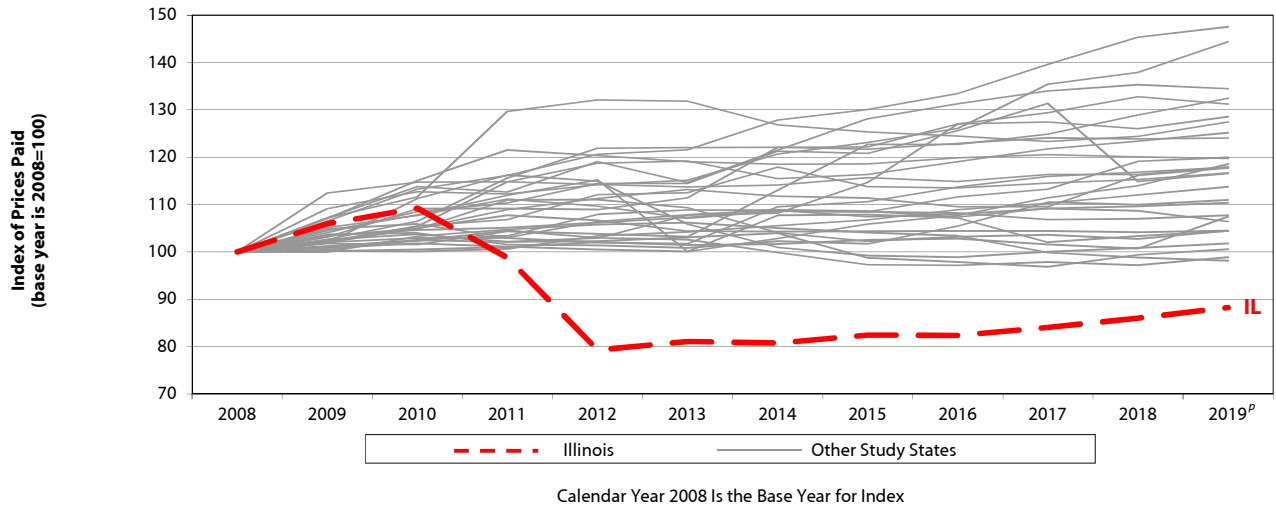


Iowa	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	5%	2%	3%	-1%	-2%	1%	0%	3%	1%	5%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Note: Iowa did not have a workers' compensation fee schedule as of 2019.

Figure B.10 Illinois Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



Illinois	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	6%	3%	-10%	-20%	2%	0%	2%	0%	2%	2%	3%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

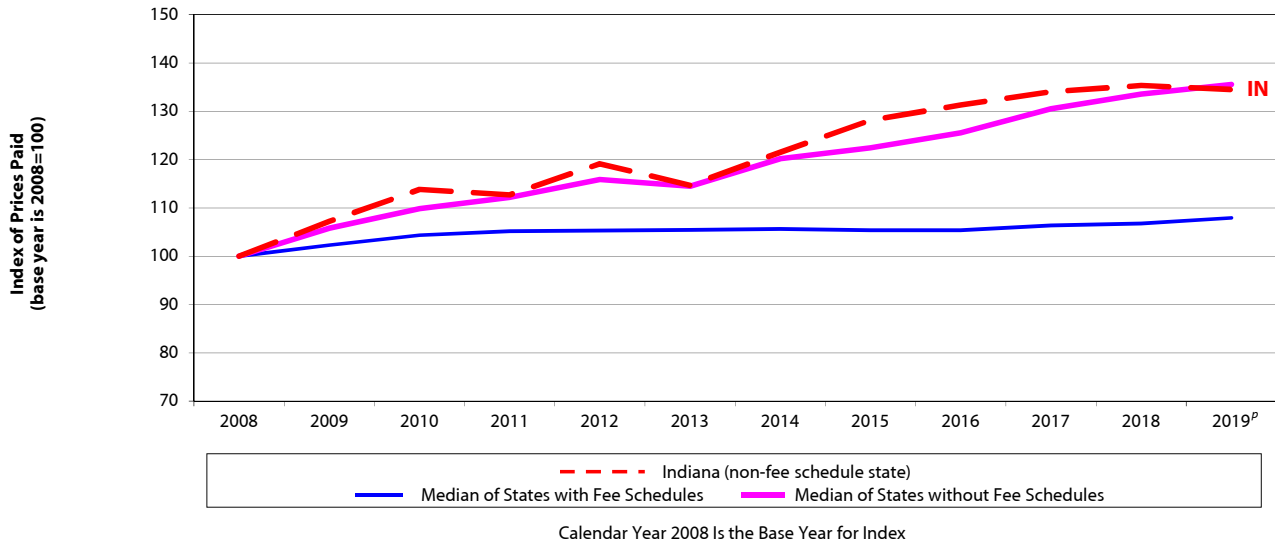
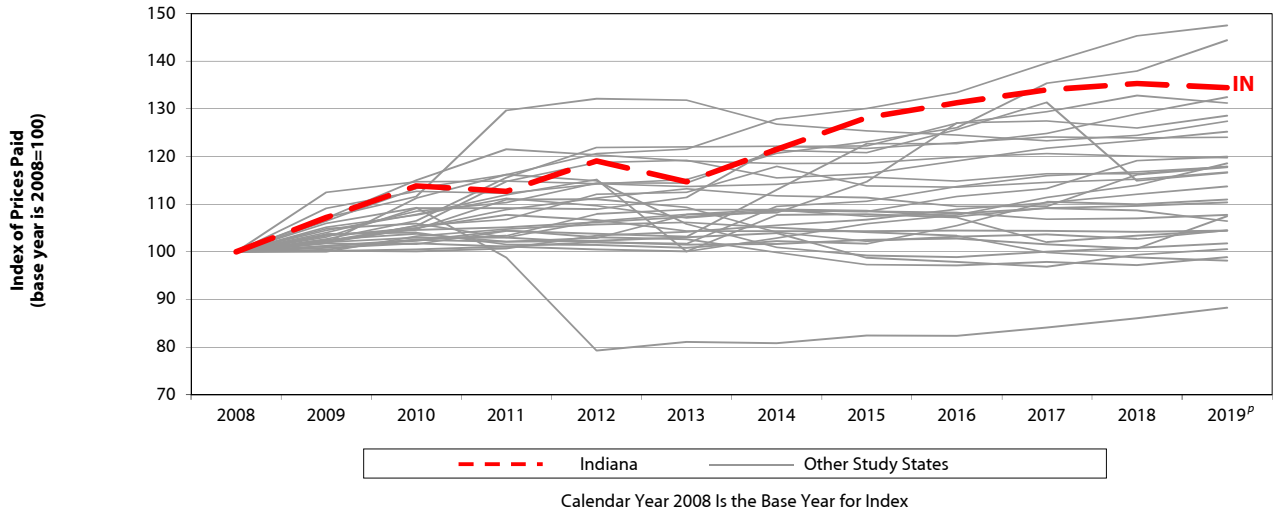
Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes:

Illinois implemented a workers' compensation fee schedule in February 2006. This workers' compensation fee schedule for professional services set different maximum reimbursement rates for the same services for each of 29 different areas of the state based on the first three digits of the zip code where the service was delivered. The 29 fee schedules ranged from a low of 115 percent above Medicare to a high of 219 percent above Medicare—a difference of 104 percentage points. This difference might create unintended incentives for providers to control revenue by moving the site of service. Prices in this study represent the aggregate state-level estimation without drilling down to the 29 geozip areas; therefore, the price trends after 2006 could be influenced by the potential behavior changes of the providers. In September 2011, Illinois enacted new legislation that introduced a 30 percent decrease in the fee schedule rates. On January 1, 2012, Illinois discontinued its use of the 29 geozip areas for physicians and other providers in favor of four county-based regions.

After further review, Illinois determined that the 30 percent decrease implemented across all services in September 2011 caused fee schedule rates for certain evaluation and management services to fall below appropriate fee schedule levels, which resulted in more limited access to medical care for workers with injuries. Effective July 16, 2014, the state adjusted its fee schedule to increase the fee schedule rates for these evaluation and management codes to a level more comparable to Medicare rates. The most recent update covered in the study period in this report was effective January 1, 2019.

Figure B.11 Indiana Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

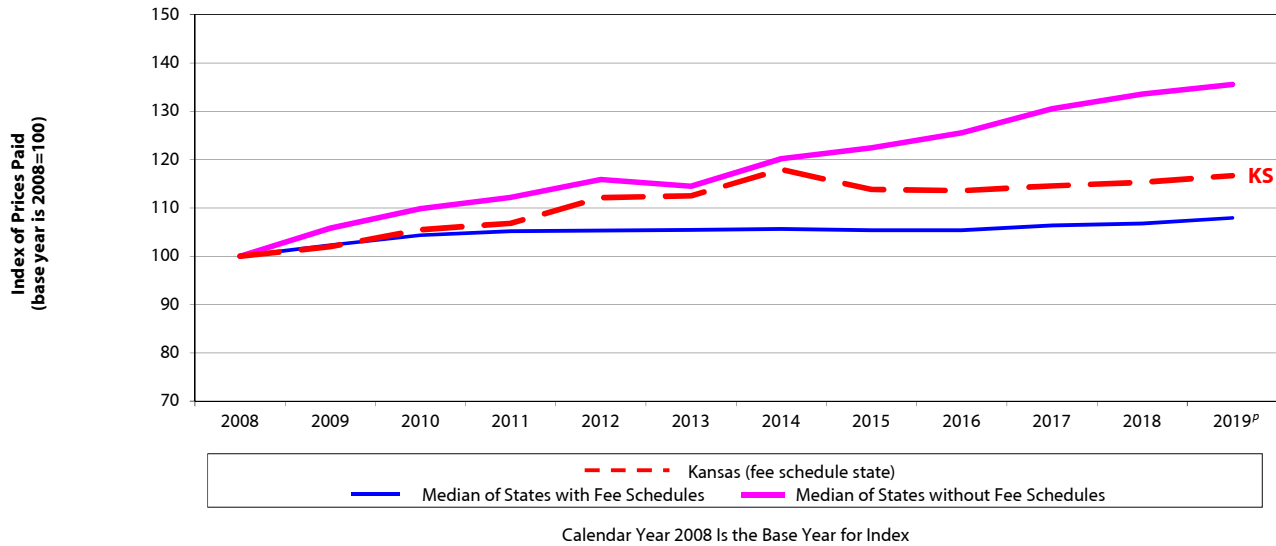
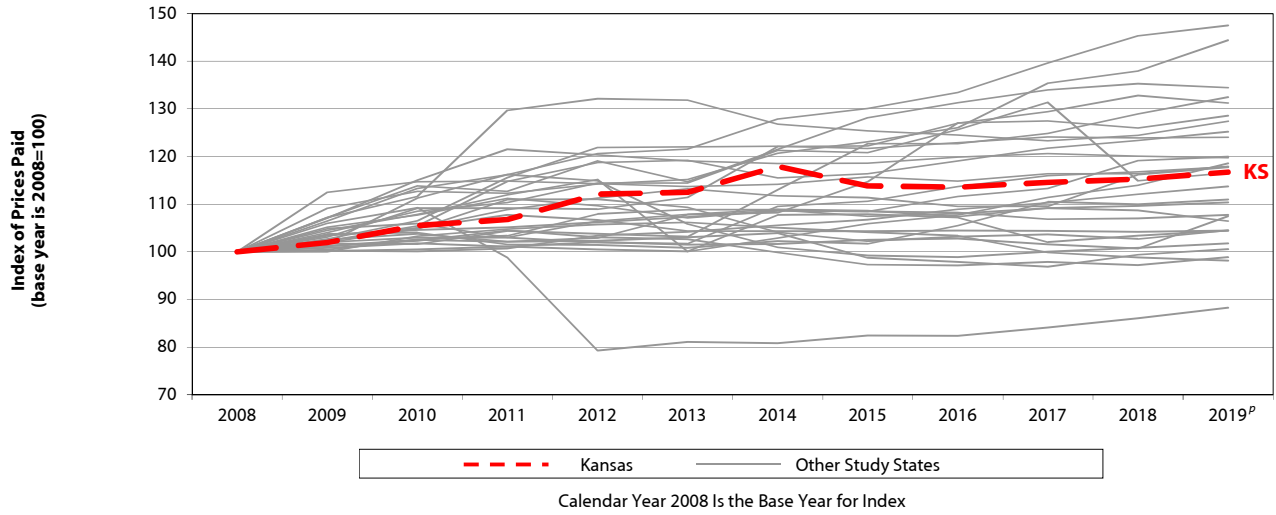


Indiana	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	7%	6%	-1%	6%	-4%	6%	5%	2%	2%	1%	-1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Note: Indiana did not have a workers' compensation fee schedule as of 2019.

Figure B.12 Kansas Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

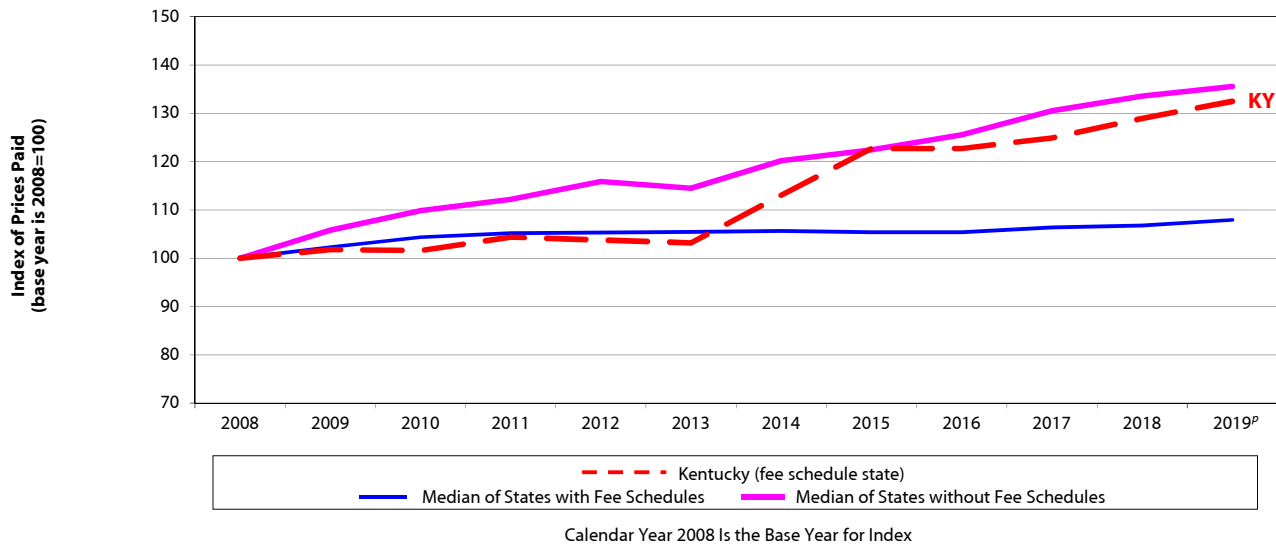
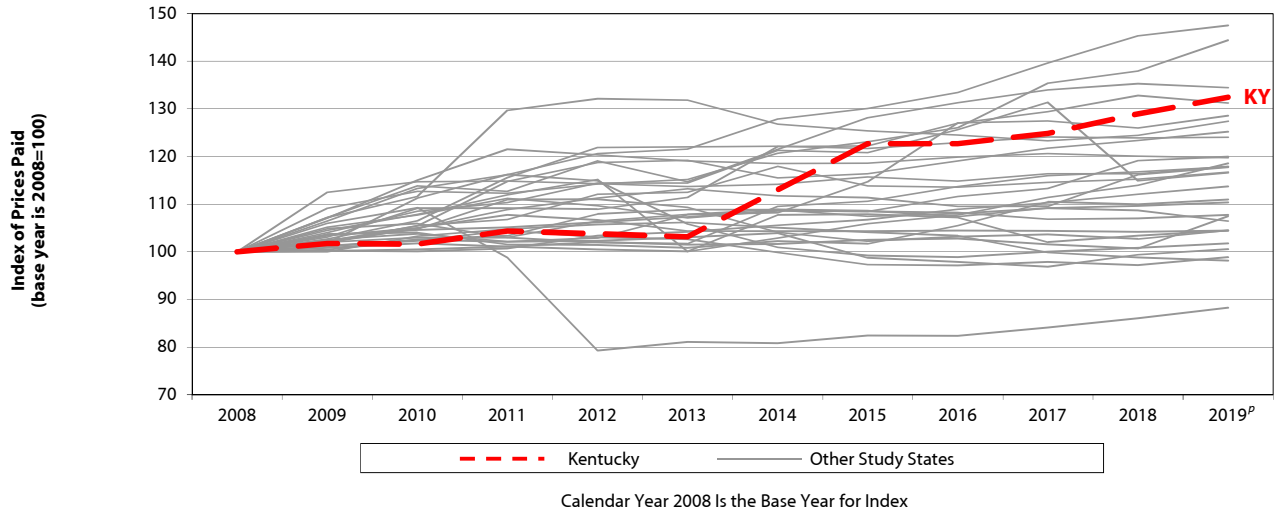


Kansas	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	2%	3%	1%	5%	0%	5%	-3%	0%	1%	1%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Kansas typically updates its fee schedule for professional services either annually or biennially in January. The most recent update covered in the study period in this report was effective March 29, 2019.

Figure B.13 Kentucky Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

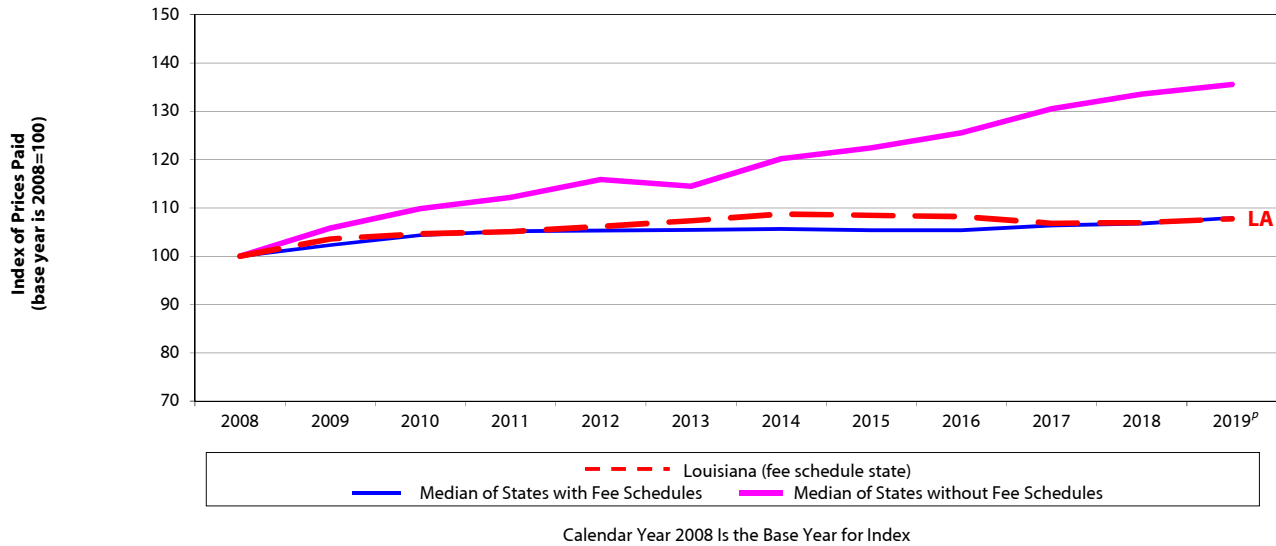
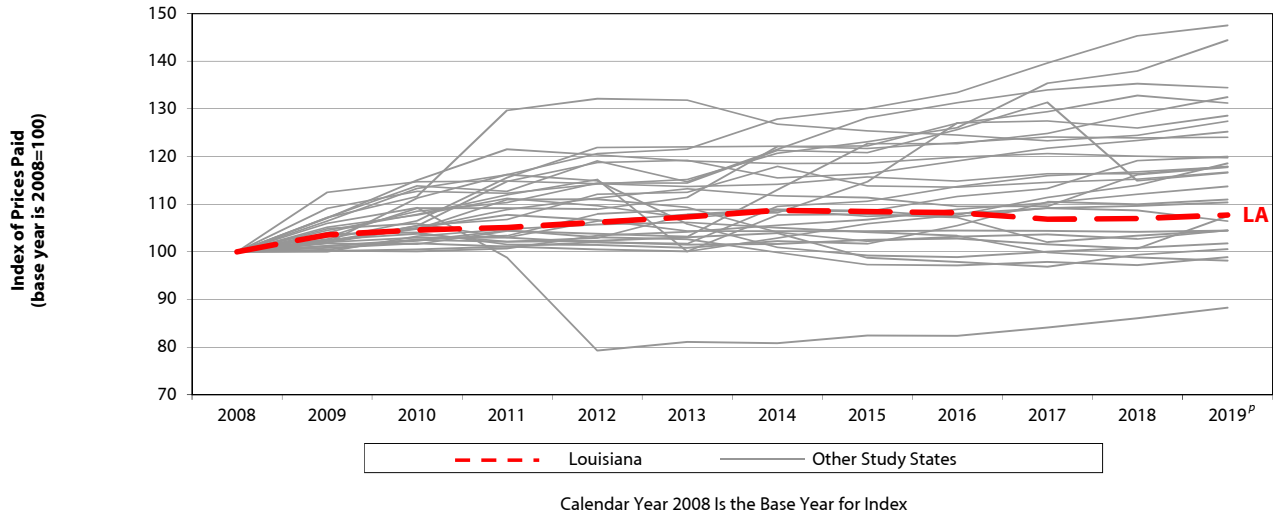


Kentucky	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	2%	0%	3%	-1%	-1%	10%	9%	0%	2%	3%	3%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Kentucky periodically updates its fee schedule for professional services, typically every two to three years. Effective June 6, 2014, Kentucky discontinued the use of relative values from Medicare's resource-based relative value scale (RBRVS) for its professional fee schedule and transitioned to using state-specific relative values based on historic data from FAIR Health commercial database values. The most recent fee schedule update covered in the study period in this report was effective July 1, 2018. As this figure shows, the average overall price for professional services increased 6 percent between 2017 and 2019, following this fee schedule update. Price growth was observed for most types of professional services in Kentucky (see [Figure C.12](#)). With data through June 2019, results shown in this edition reflect a full year of experience after the July 2018 fee schedule update in this state.

Figure B.14 Louisiana Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



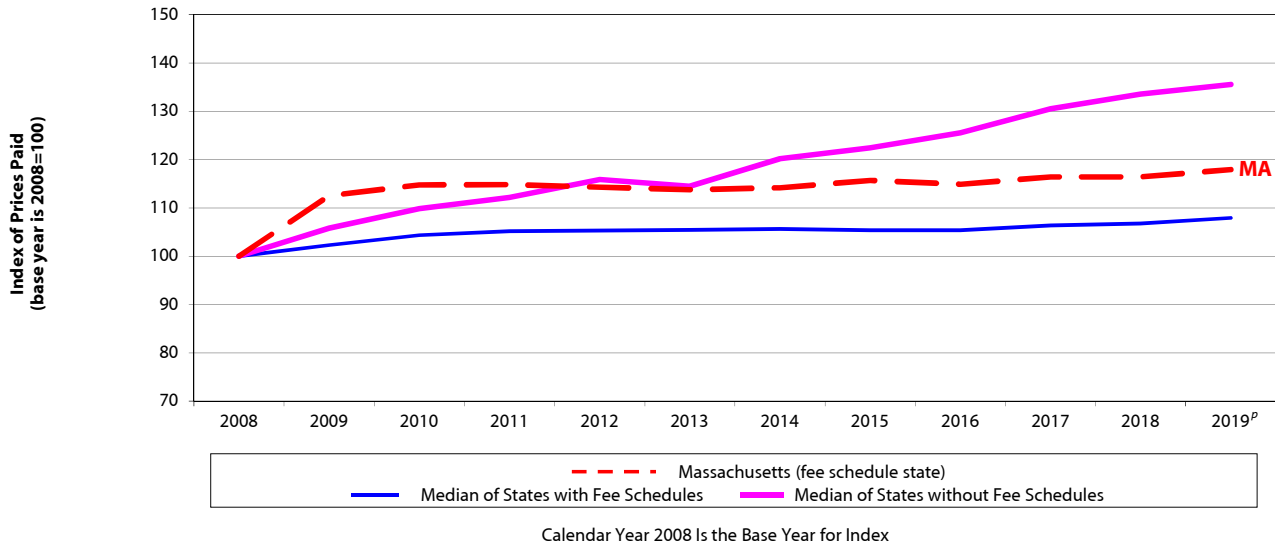
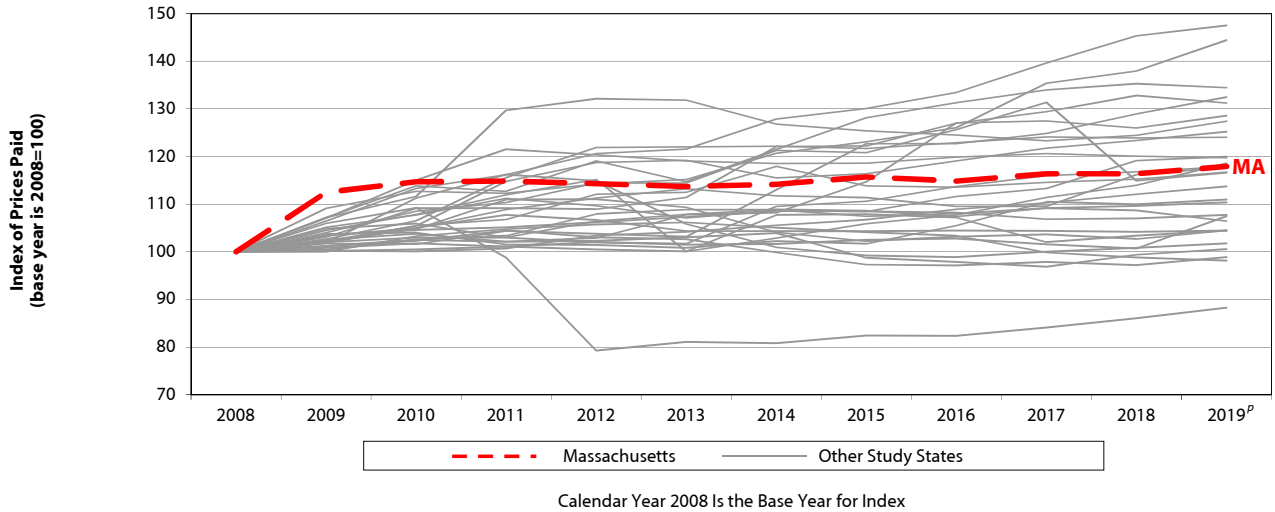
Louisiana	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	4%	1%	0%	1%	1%	1%	0%	0%	-1%	0%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Louisiana's fee schedule for professional services uses the 1999 CPT list published by the American Medical Association and the maximum allowable reimbursement rates effective as of March 2001. Effective July 20, 2013, Louisiana updated its fee schedule using the 2012 CPT list. Maximum allowable reimbursement rates were added for new or revised codes; however, the fee schedule rates for the existing codes appeared to remain at the March 2001 rates. The state-specific codes relating to physical and occupational therapies were discontinued in favor of national CPT codes. Effective June 20, 2016, Louisiana made further updates to its fee schedule to account for some CPT codes that were inadvertently omitted in a February 2014 update.

Key: CPT: Current Procedural Terminology.

Figure B.15 Massachusetts Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



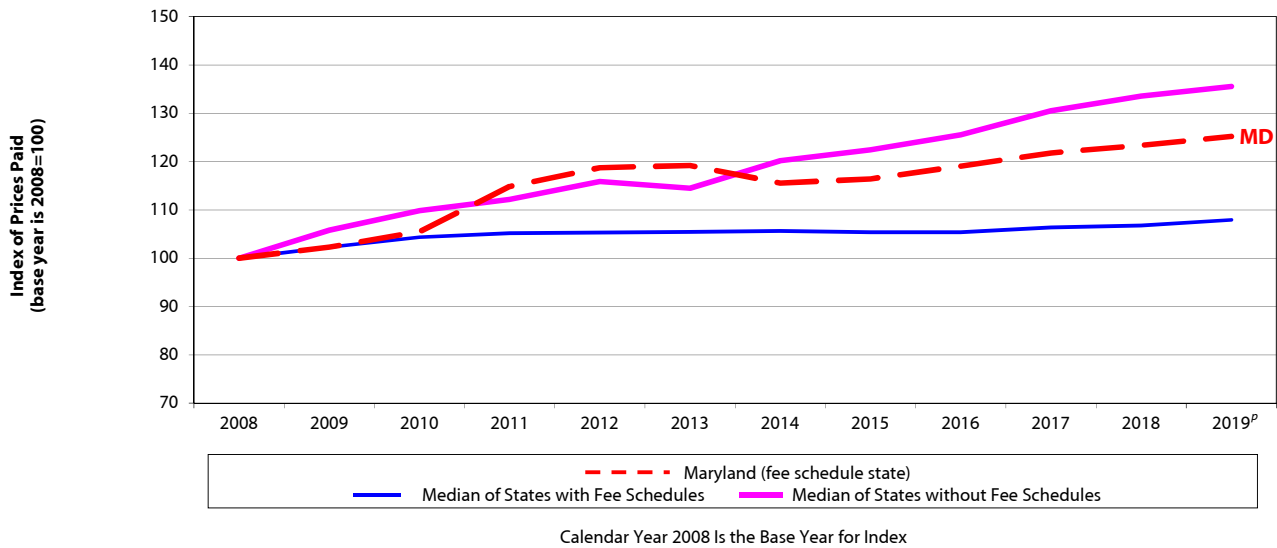
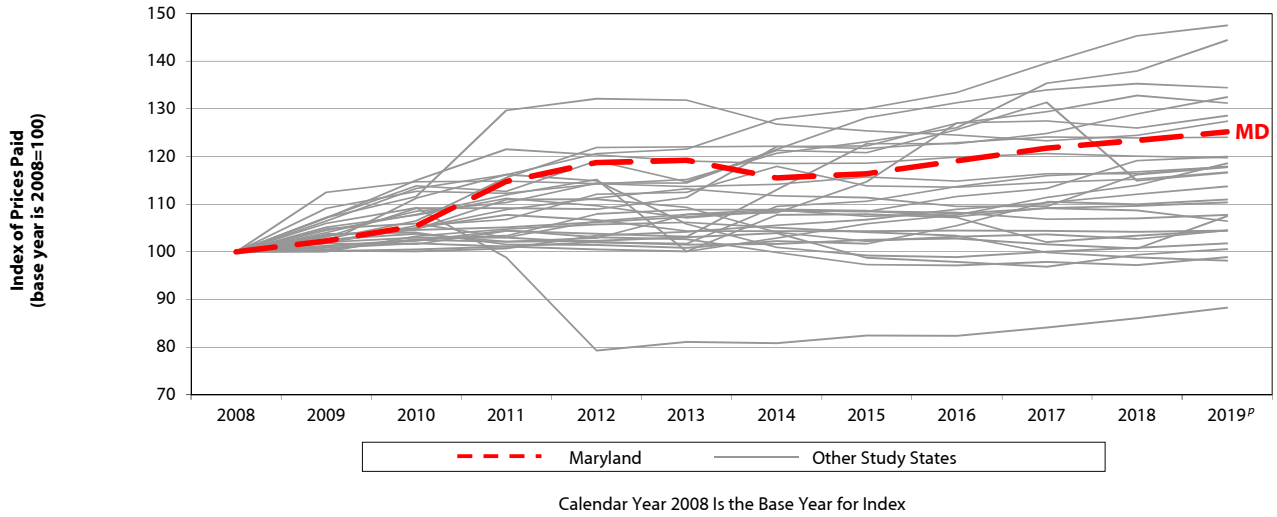
Massachusetts	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	12%	2%	0%	0%	0%	0%	1%	-1%	1%	0%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Massachusetts increased the fee schedule rates for many professional services, effective in April 2009. The fee schedule increases for major surgeries were especially significant; the rates for some surgeries increased two to three times the previous rates to be more in line with the median prices paid. Prior to that, the fee schedule for professional services had not been updated since September 2004. A WCRI study showed that major surgeries were often paid above the fee schedule rates (Eccleston, 2006). That study found that for many of these surgeries, it was not uncommon for the median prices paid to be two or three times the fee schedule amount. Typically, 50–60 percent of these surgical procedures were paid above the fee schedule rate. System participants indicated that payors in the state were willing to negotiate with surgeons because workers had better outcomes and return to work was faster (Radeva, 2014b). The most recent fee schedule update within the study period in this report was effective June 26, 2019, which was essentially the same as the fee schedule effective in April 2009 with new CPT/HCPCS codes recognized but without specific fee schedule rates assigned.

Key: CPT: Current Procedural Terminology; HCPCS: Healthcare Common Procedure Coding System.

Figure B.16 Maryland Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



Maryland	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	2%	3%	9%	3%	0%	-3%	1%	2%	2%	1%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

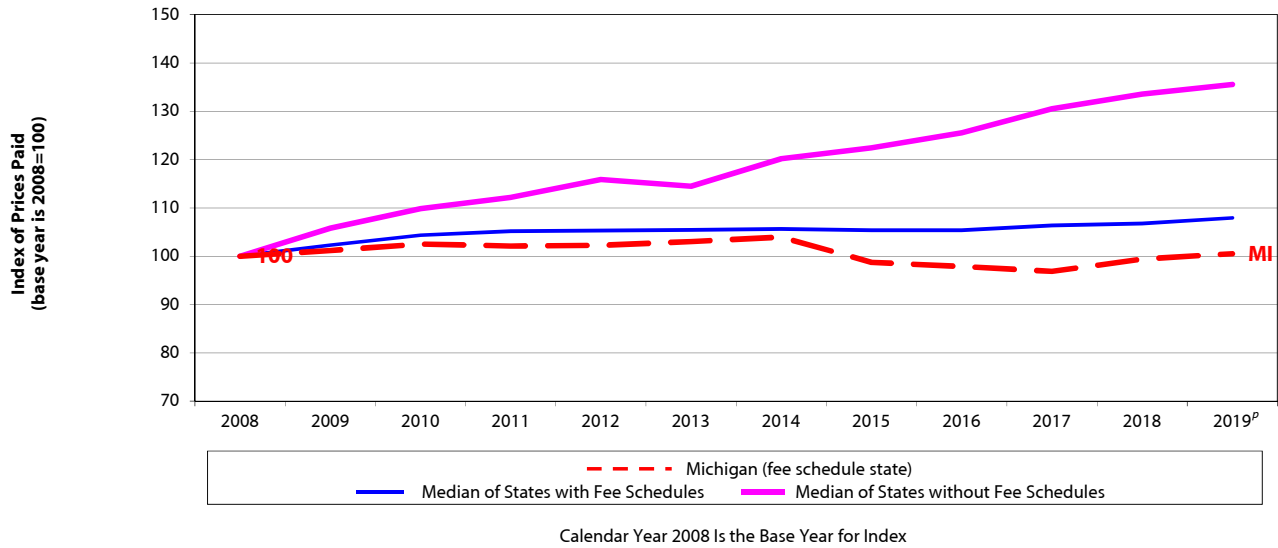
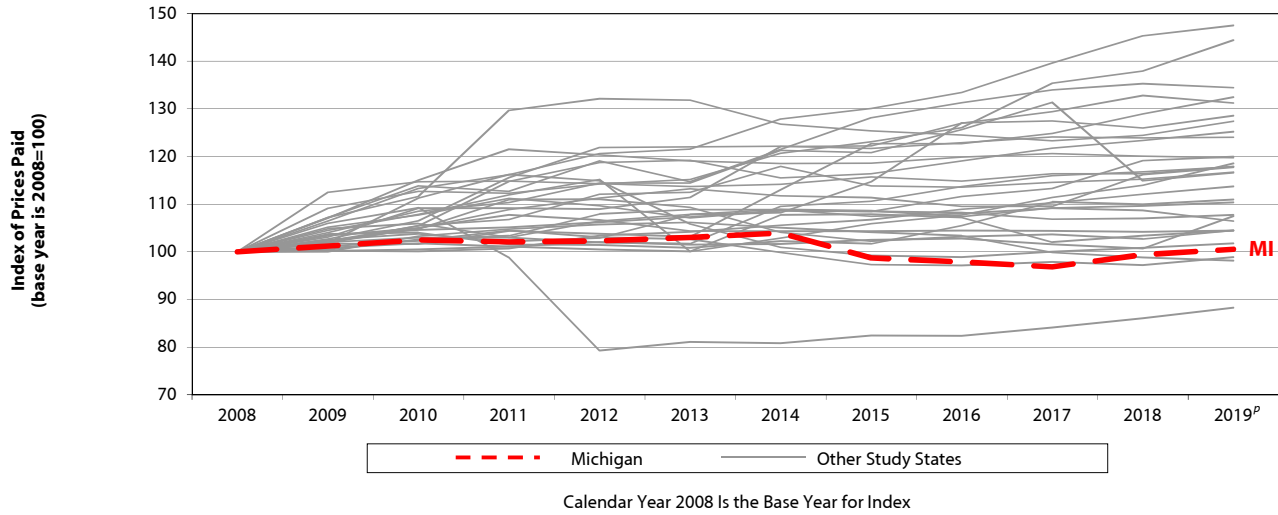
Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes:

The data for Maryland are not necessarily representative because they are missing data from a larger data source that is significant in this state. The results in Maryland are unlikely to be significantly under- or overestimated, given that the state uses a fee schedule to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in Maryland were materially different from other data sources included in this study from the same state.

Starting in March 2008, Maryland implemented annual increases to its fee schedule rates for professional services based on changes in the Medicare Economic Index. The most recent update covered during the study period in this report became effective January 1, 2019.

Figure B.17 Michigan Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

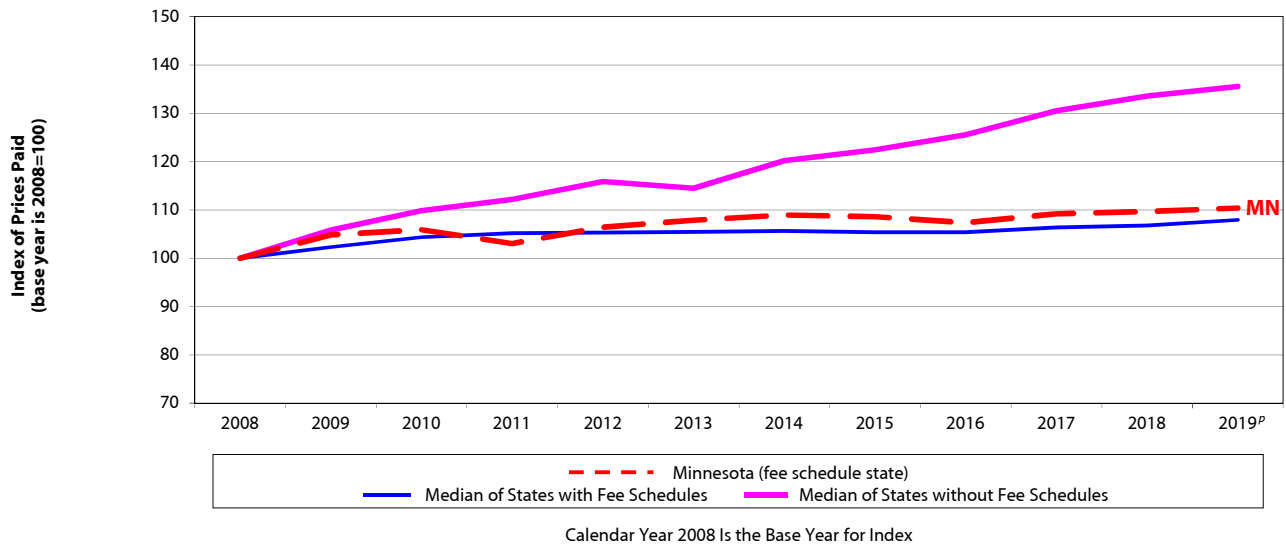
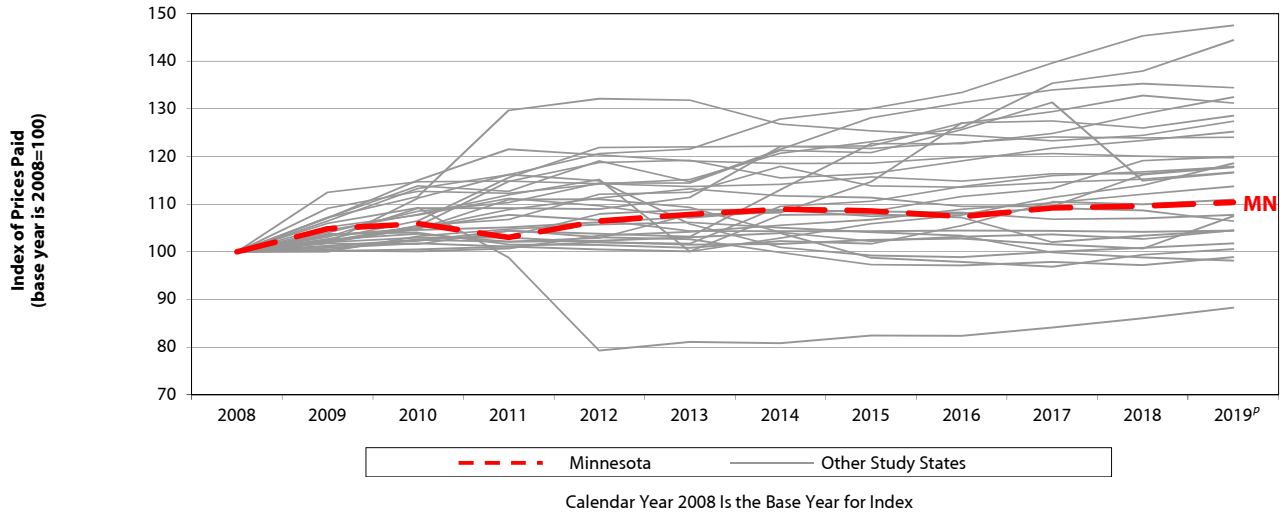


Michigan	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	1%	1%	0%	0%	1%	1%	-5%	-1%	-1%	3%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation ^P to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Michigan typically updates its fee schedule for professional services annually. The most recent update covered in the study period in this report was effective January 1, 2019.

Figure B.18 Minnesota Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

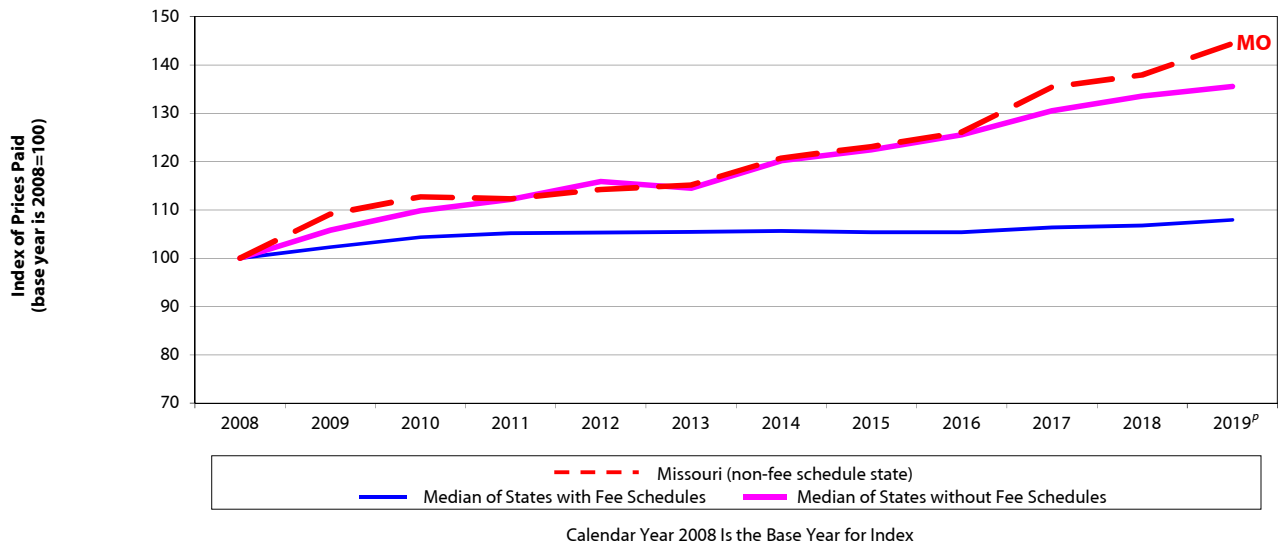
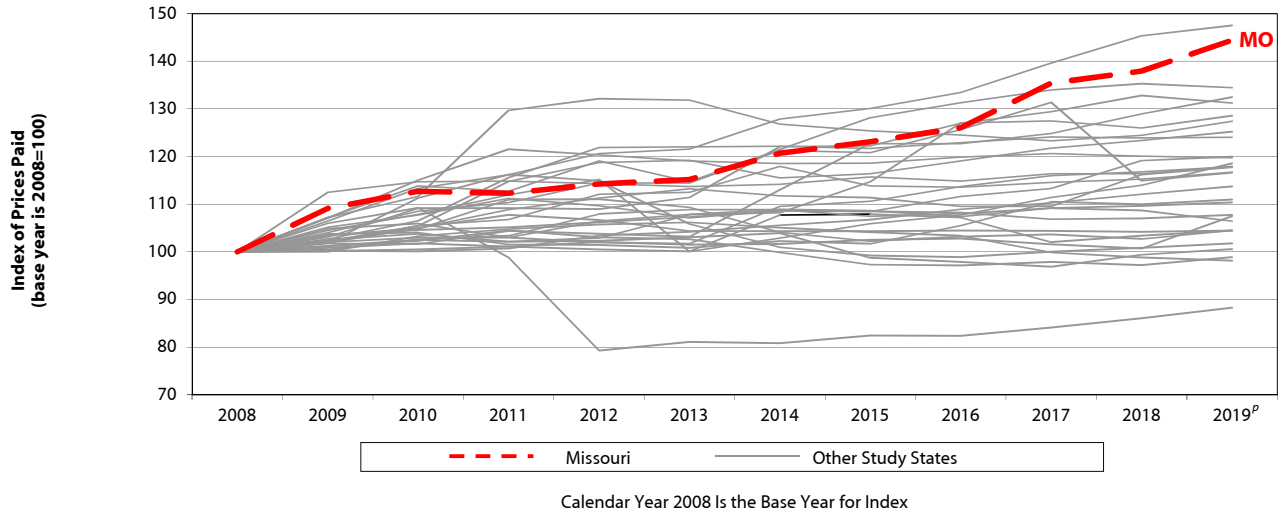


Minnesota	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	5%	1%	-3%	3%	1%	1%	0%	-1%	2%	0%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Minnesota's fee schedule for professional services from 2002 to September 2010 was based on 1998 Medicare relative value units (RVUs), with annual updates to the conversion factor. Effective October 1, 2010, Minnesota updated its fee schedule by using 2009 Medicare RVUs and decreasing the state conversion factor. The most recent update covered in the study period in this report was effective October 1, 2018, and is based on 2018 Medicare RVUs.

Figure B.19 Missouri Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



Missouri	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	9%	3%	0%	2%	1%	5%	2%	2%	7%	2%	5%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

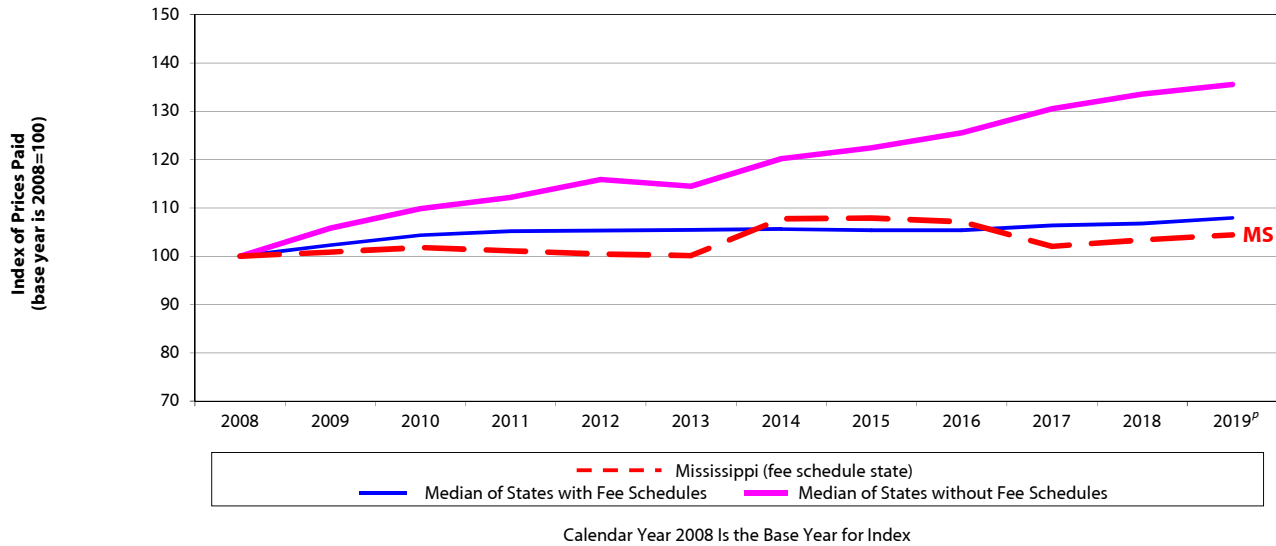
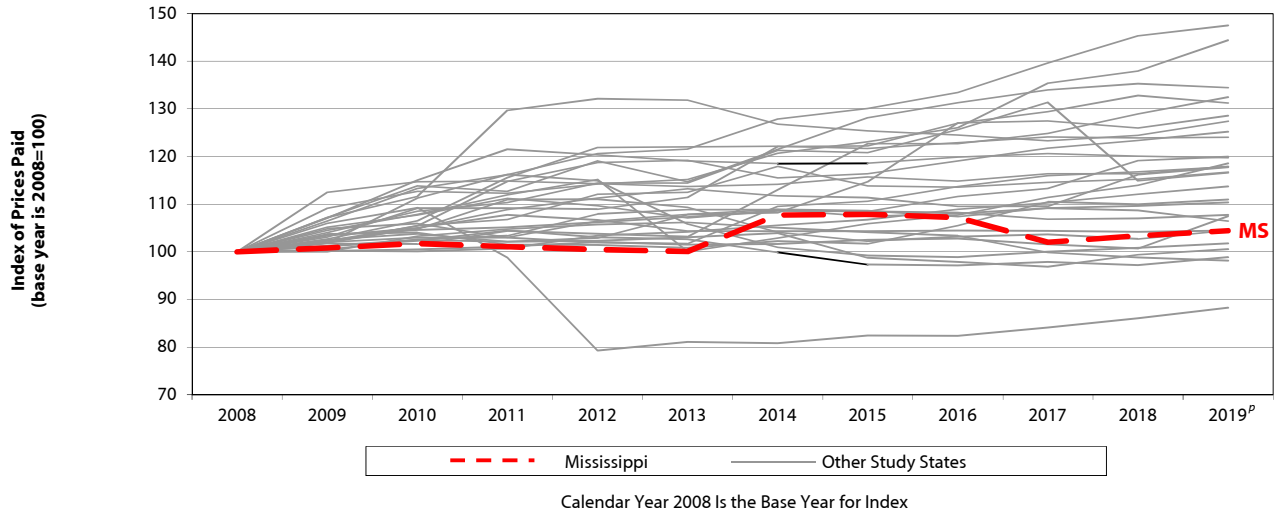
Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes:

The data for Missouri are not necessarily representative because the state is missing data from a larger data source that is significant in the state. To the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to under- or overestimations in the results.

Missouri did not have a workers' compensation fee schedule as of 2019.

Figure B.20 Mississippi Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

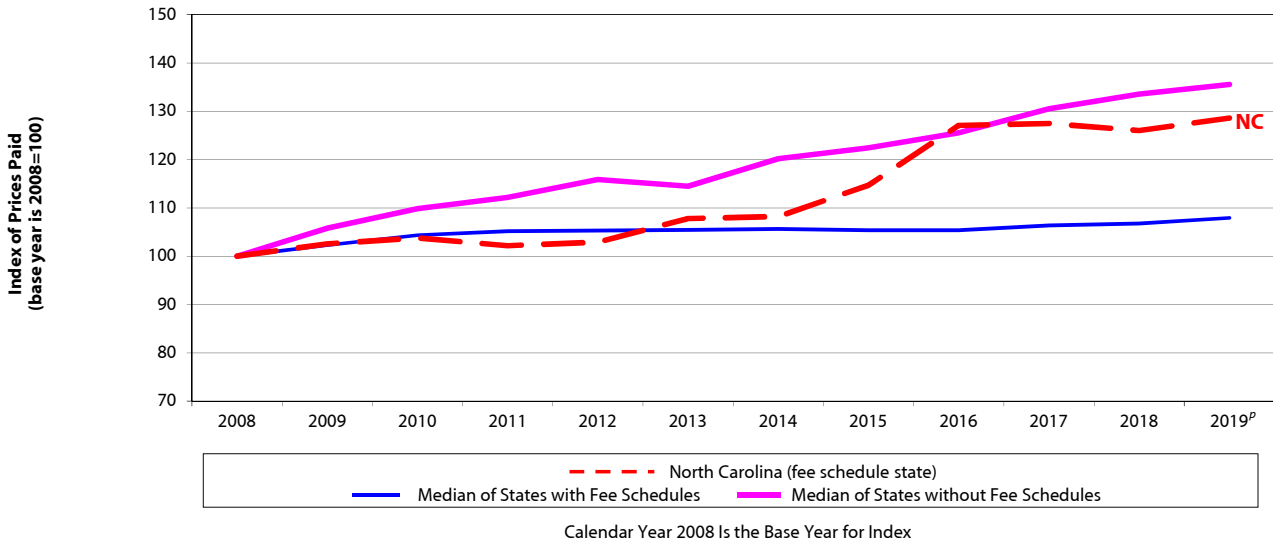
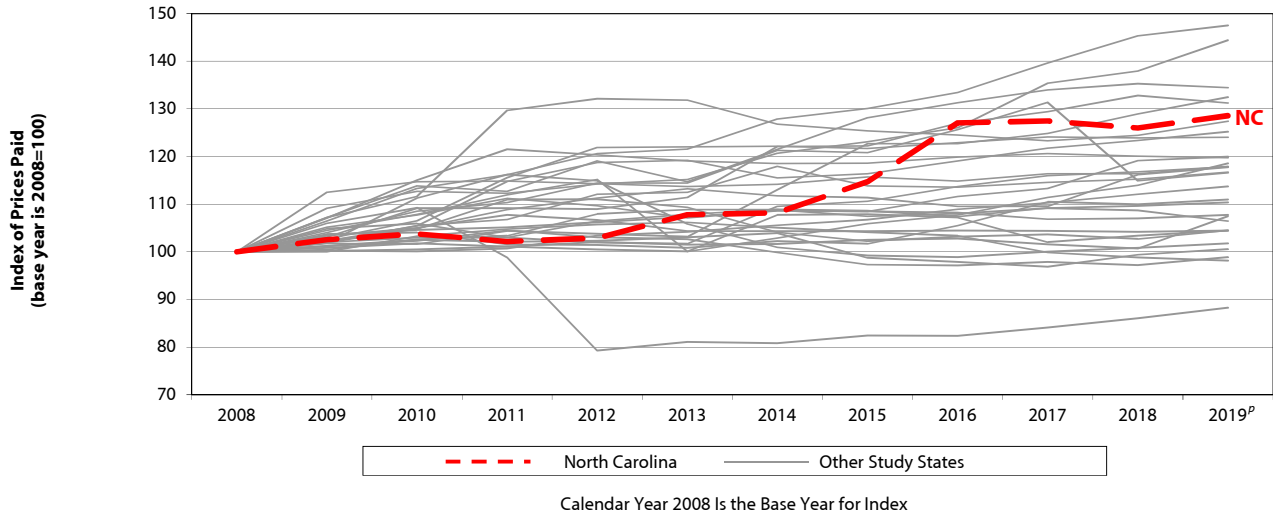


Mississippi	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	1%	1%	-1%	-1%	0%	8%	0%	-1%	-5%	1%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Mississippi updates its fee schedule for professional services periodically every few years. The most recent fee schedule update within the study period in this report occurred on June 15, 2019. Data in this report include prices through June 30, 2019, primarily reflecting experience before the fee schedule update effective June 15, 2019.

Figure B.21 North Carolina Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

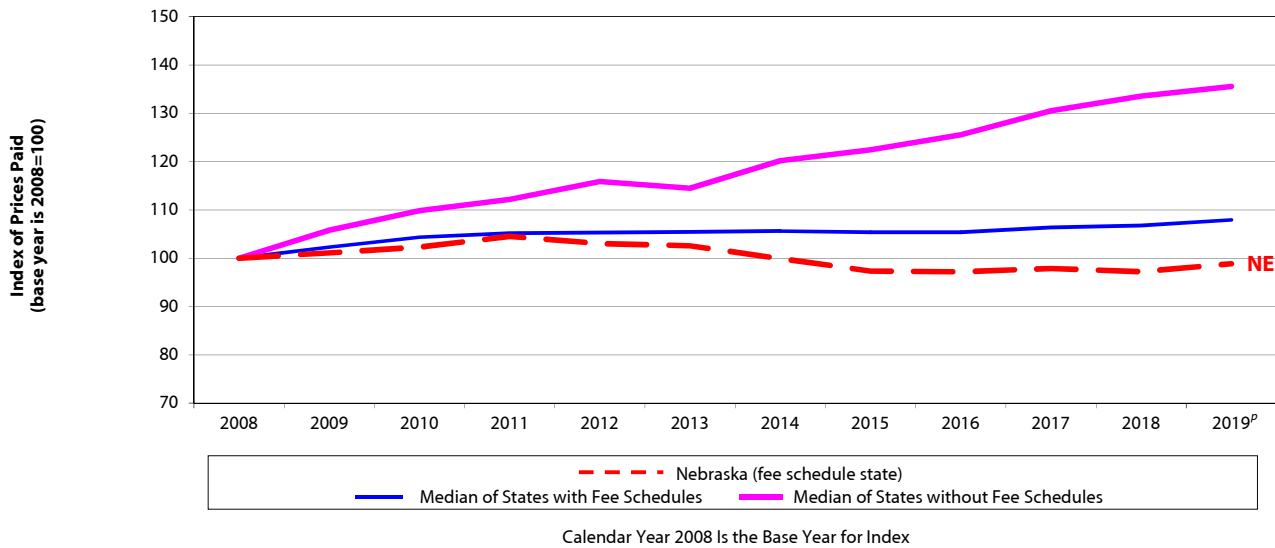
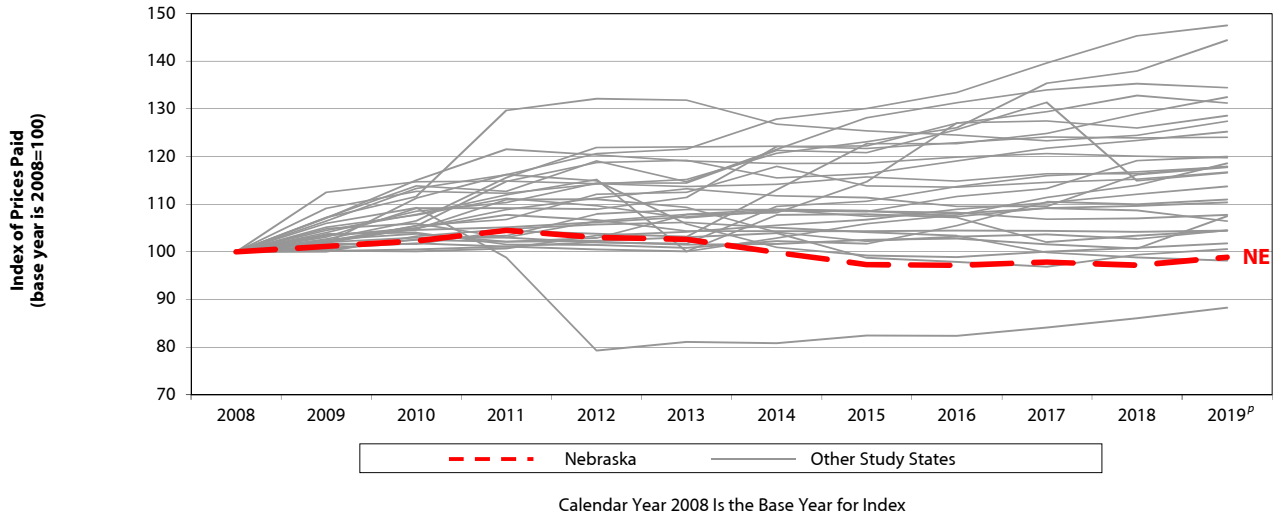


North Carolina	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	3%	1%	-2%	1%	5%	0%	6%	11%	0%	-1%	2%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Maximum reimbursement amounts in the North Carolina fee schedule for professional services are based on those adopted by the North Carolina Industrial Commission effective January 1996, which was based on the 1995 Medicare values. North Carolina updates its fee schedule annually in January to account for new and discontinued Current Procedural Terminology (CPT) codes published by the American Medical Association. In 2013, the fee schedule rates for office visits increased in North Carolina. Effective July 1, 2015, North Carolina implemented new fee schedule rates, which incorporate the 2015 Medicare rates with the revised service-type specific multipliers, ranging between 140 and 195 percent of Medicare. Before this change, the fee schedule rates for most types of professional services in North Carolina were set at 158 percent of the 1995 Medicare values. Starting in 2016, and each year thereafter, North Carolina publishes a fee schedule table that is effective January 1. The most recent update covered during the study period in this report became effective January 1, 2019.

Figure B.22 Nebraska Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

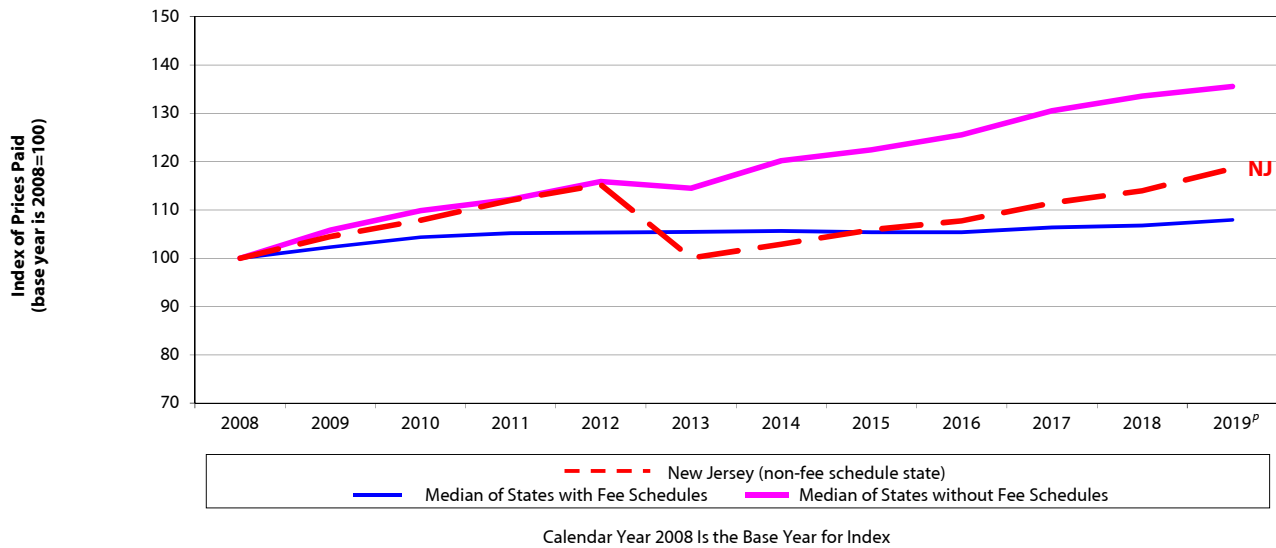
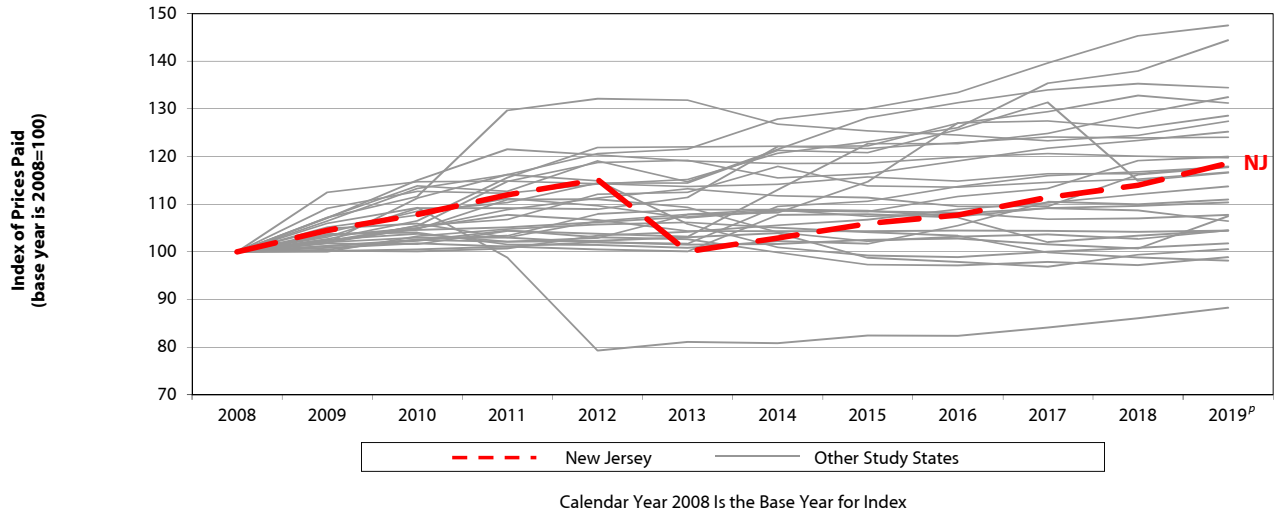


Nebraska	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	1%	1%	2%	-1%	0%	-3%	-3%	0%	1%	-1%	2%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Nebraska has historically updated its fee schedule for professional services annually or biennially in June since 2008. The most recent update covered in the study period in this report was effective January 1, 2019.

Figure B.23 New Jersey Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

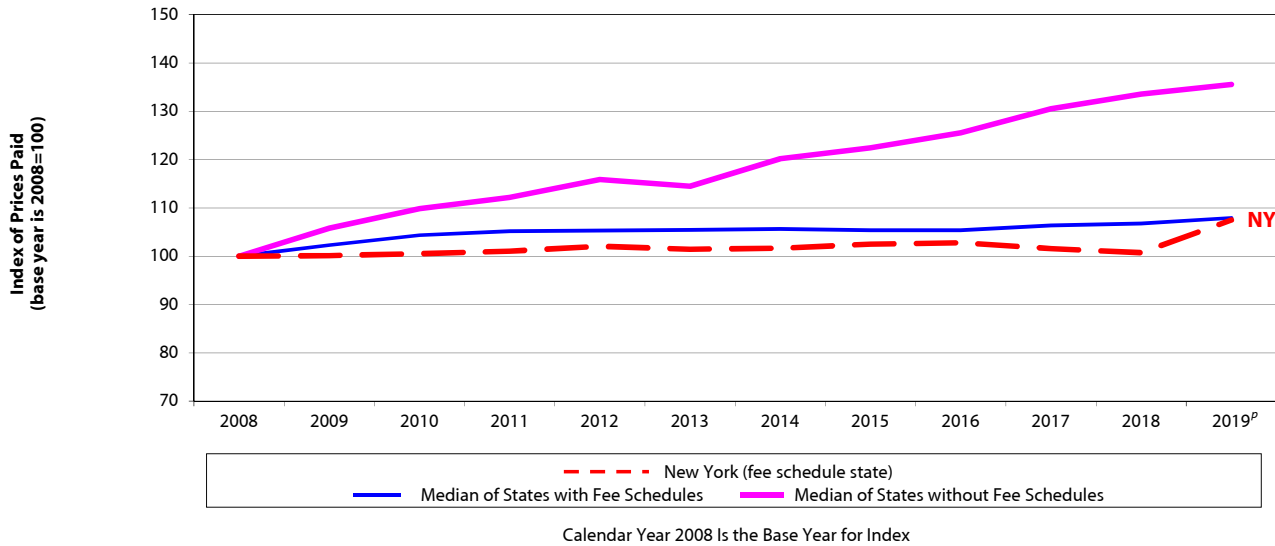
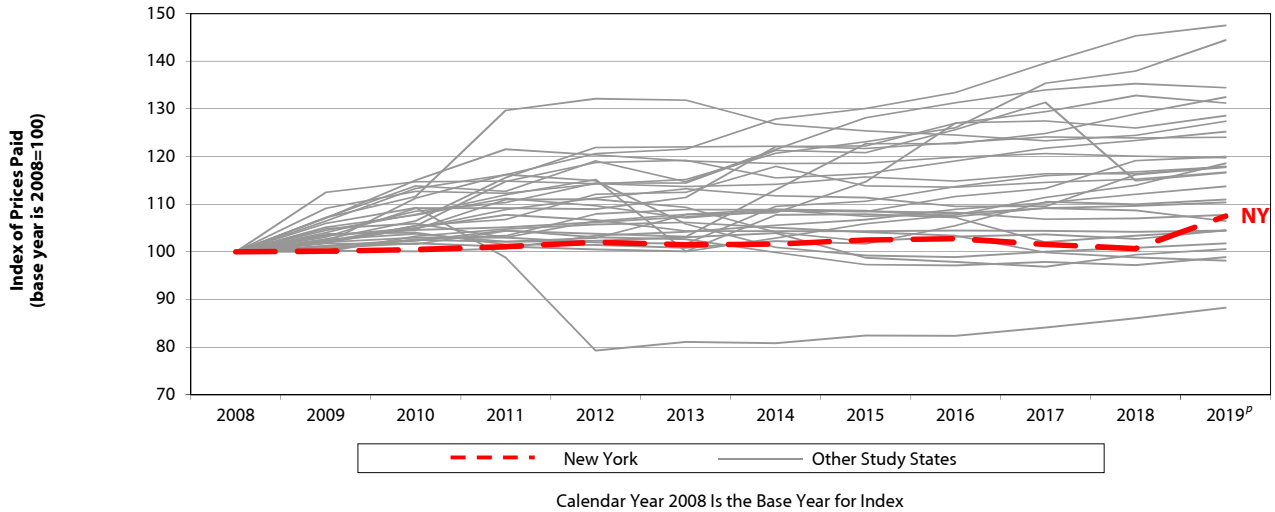


New Jersey	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	5%	3%	4%	3%	-13%	3%	3%	2%	3%	2%	4%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: New Jersey did not have a workers' compensation fee schedule as of 2019. Note that in 2013, New Jersey experienced decreases in prices paid for multiple types of professional services. More prevalent network participation and bigger discounts in the negotiated prices under network agreements were the main factors underlying this unusual trend among the states with no fee schedules.

Figure B.24 New York Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



New York	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	0%	0%	1%	1%	-1%	0%	1%	0%	-1%	-1%	7%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

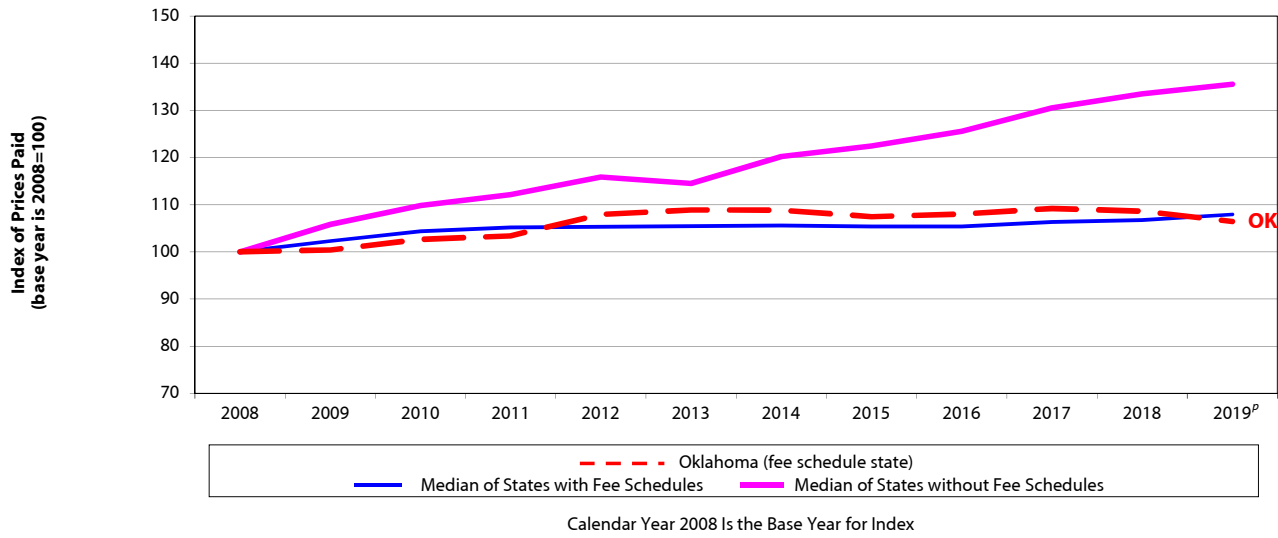
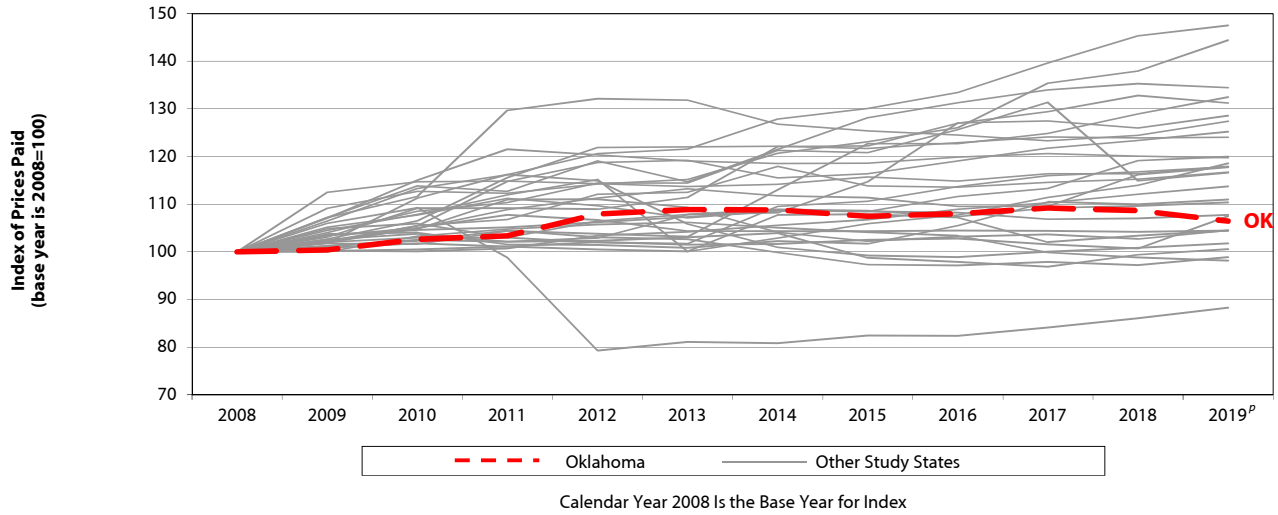
Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes:

The data for New York are not necessarily representative because they are missing data from a larger data source that is significant in this state. The results in New York are unlikely to be significantly under- or overestimated, given that the state uses a fee schedule to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in New York were materially different from other data sources included in this study from the same state.

New York periodically updates its fee schedule for professional services; however, the maximum allowable reimbursement rates for most services covered in this report did not change from 2002 to November 2010. Effective December 1, 2010, the fee schedule rates in New York increased for evaluation and management services and emergency services. Effective April 1, 2019, New York implemented a fee schedule change, aiming to raise medical fee schedule rates, increase medical provider participation in the workers' compensation system, and improve workers' access to timely, quality medical care. The half-year price data through June 2019 in this report reflect only two months of experience under the new fee schedule. As this figure shows, the average overall price for professional services increased 7 percent from 2018 to June 2019. Price growth in half-year 2019 was observed for many types of professional services in New York (see [Figure C.23](#)). The next edition of this report will examine the price trends with 14 months of experience after the April 2019 fee schedule change.

Figure B.25 Oklahoma Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



Oklahoma	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	0%	2%	1%	4%	1%	0%	-1%	0%	1%	0%	-2%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

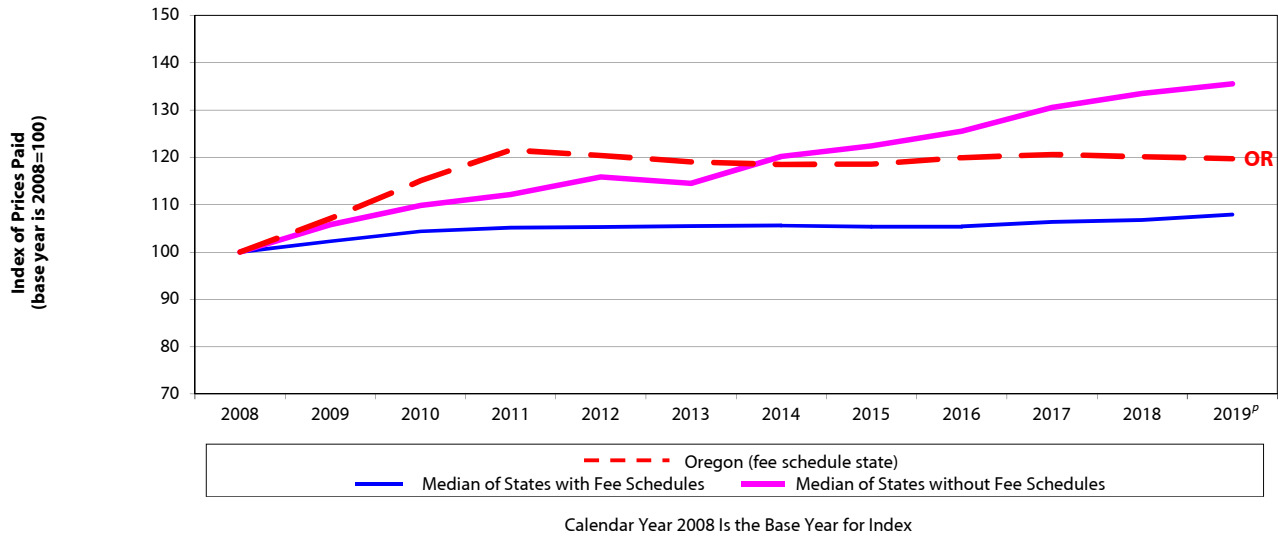
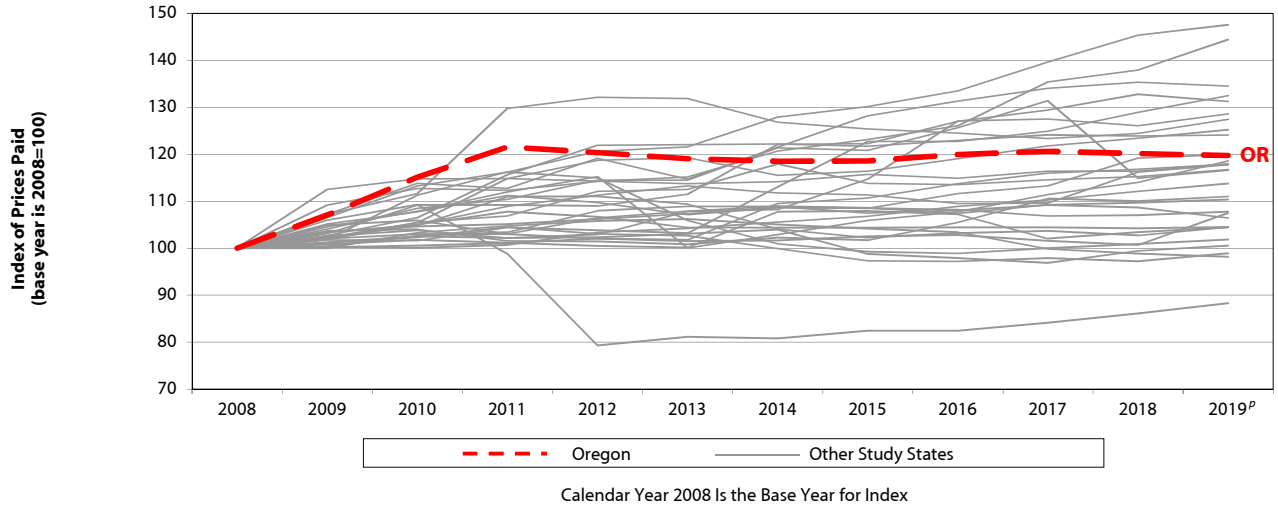
Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes:

The data for Oklahoma are not necessarily representative because they are missing data from a larger data source that is significant in this state. The results in Oklahoma are unlikely to be significantly under- or overestimated, given that the state uses a fee schedule to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in Oklahoma were materially different from other data sources included in this study from the same state.

Oklahoma regularly updated its fee schedule for professional services over the study period. The most recent version of the fee schedule within the study period in this report was effective June 1, 2018, which was essentially the same as the fee schedule effective in January 2012. Note that the fee schedule rates for office visits increased materially in 2012. For the most frequently billed office visits for low to moderate severity for established patients (Current Procedural Terminology [CPT] 99213), the fee schedule rate increased 51 percent in that year.

Figure B.26 Oregon Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



Oregon	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	7%	7%	6%	-1%	-1%	0%	0%	1%	1%	0%	0%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

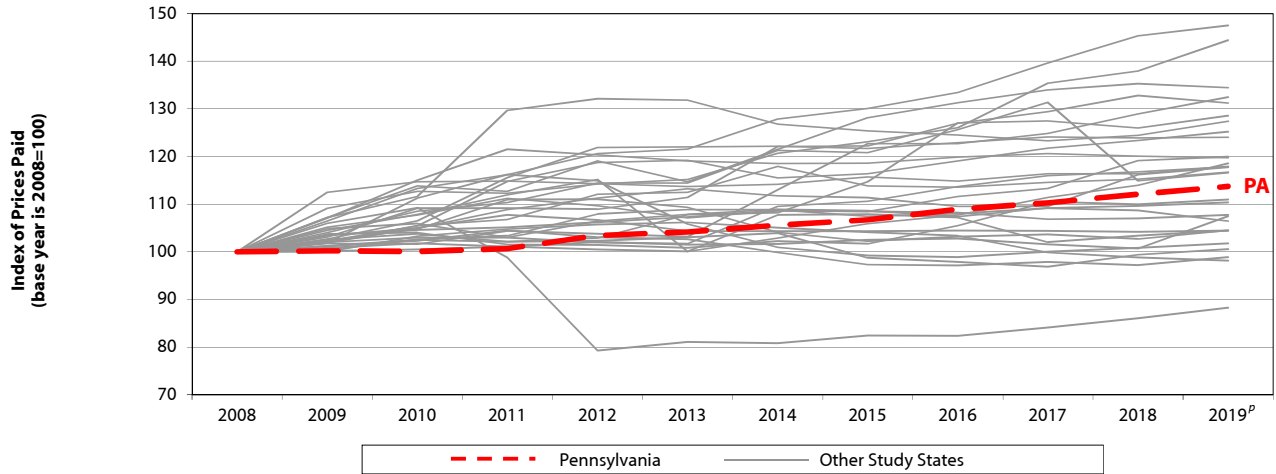
Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes:

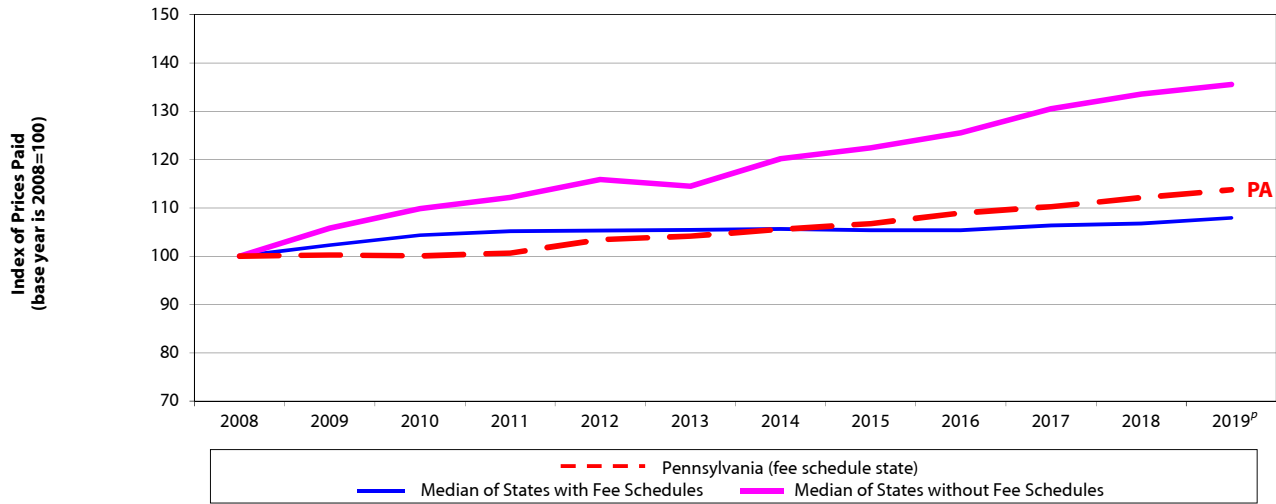
The data for Oregon are not necessarily representative because they are missing data from a larger data source that is significant in this state. The results in Oregon are unlikely to be significantly under- or overestimated, given that the state uses a fee schedule to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in Oregon were materially different from other data sources included in this study from the same state.

In July 2010, Oregon moved away from referencing the federal resource-based relative value scale (RBRVS) values in its fee schedule regulation. Instead, the state established the maximum allowable payment (MAP) amounts published by the Oregon Workers' Compensation Division to make it easier for payors and providers to find the correct fee schedule MAP. The underlying values of the Oregon MAP amounts reported in Appendix B of the Oregon Medical Fee and Payment Rules (Oregon Administrative Rules, Chapter 436, Division 009) are based on Medicare relative value unit (RVU) values. Oregon typically updates its fee schedule annually. The most recent update covered in the study period in this report was effective April 1, 2019.

Figure B.27 Pennsylvania Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



Calendar Year 2008 Is the Base Year for Index



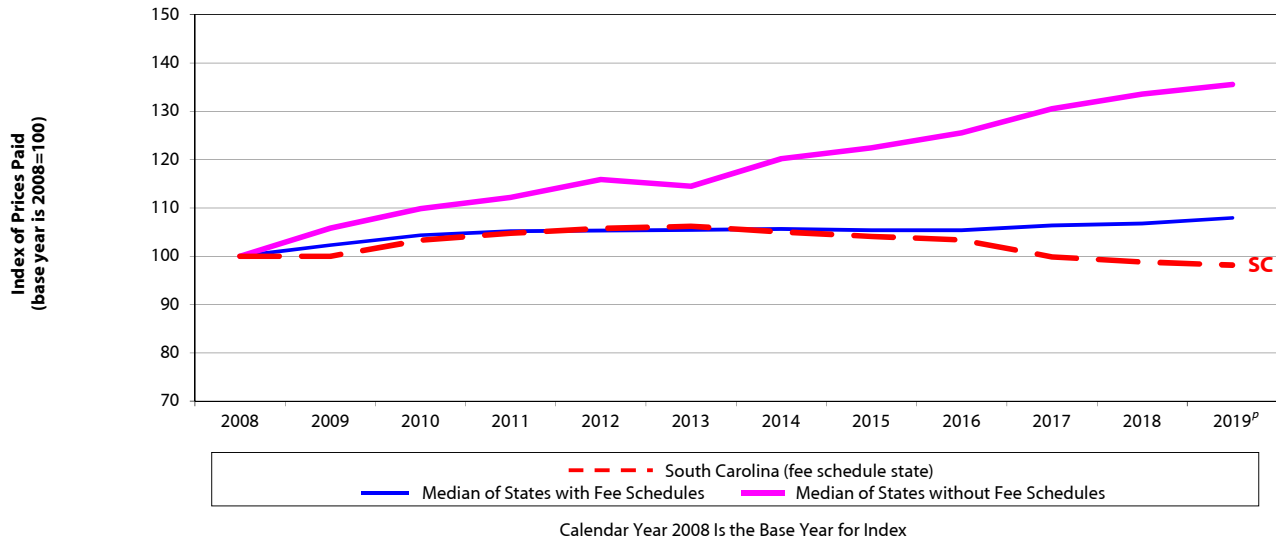
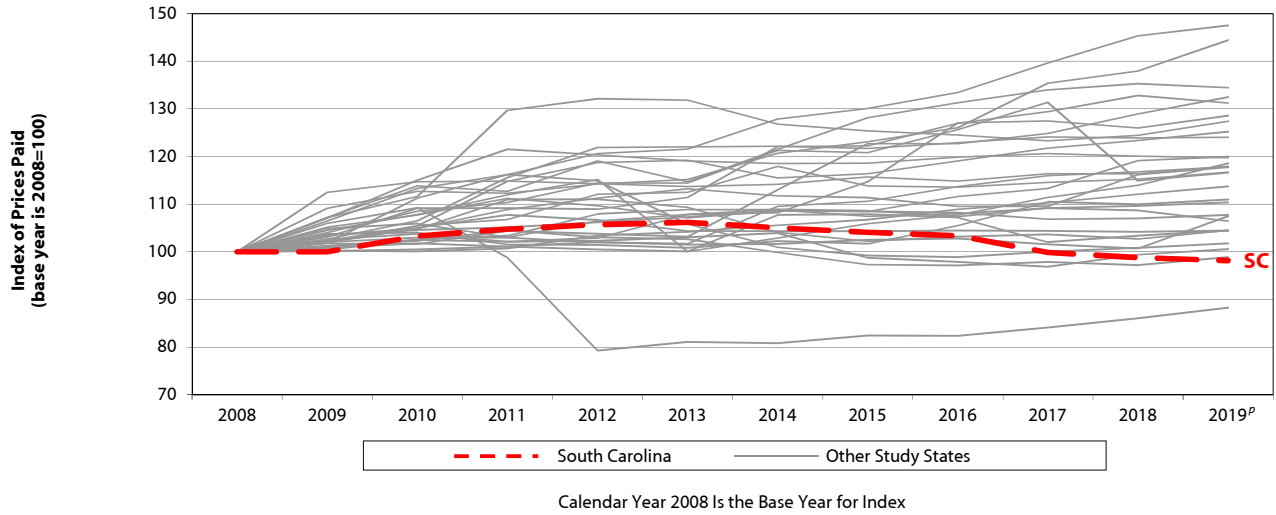
Calendar Year 2008 Is the Base Year for Index

Pennsylvania	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	0%	0%	1%	3%	1%	1%	1%	2%	1%	2%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Pennsylvania updates its fee schedule for professional services annually, based on the percentage change in the statewide average weekly wage. For 2019, this percentage change was 2.3 percent and applies to all services rendered on or after January 1, 2019.

Figure B.28 South Carolina Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

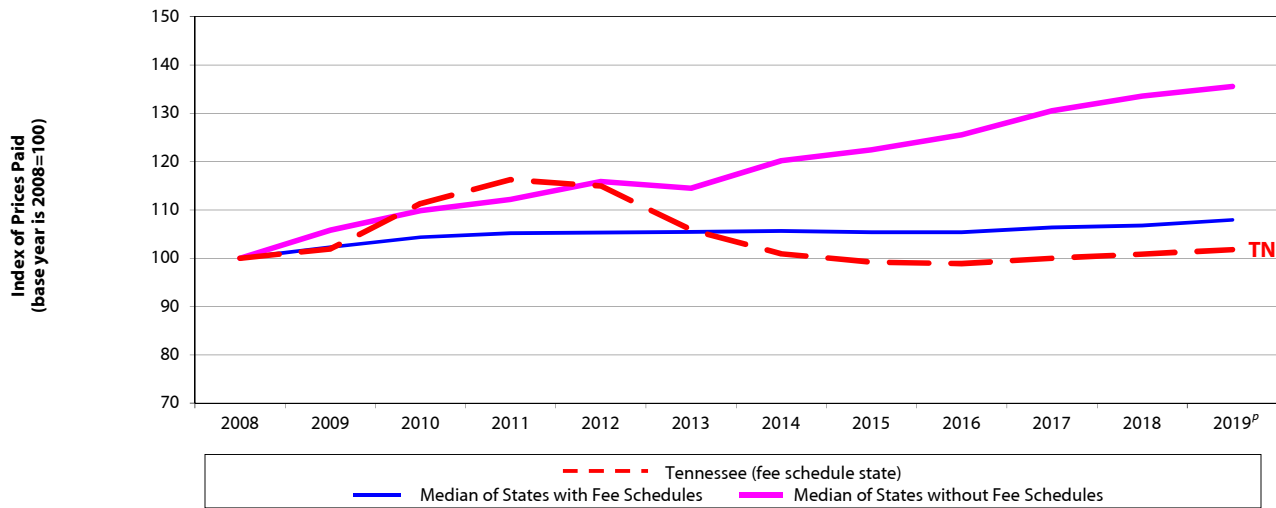
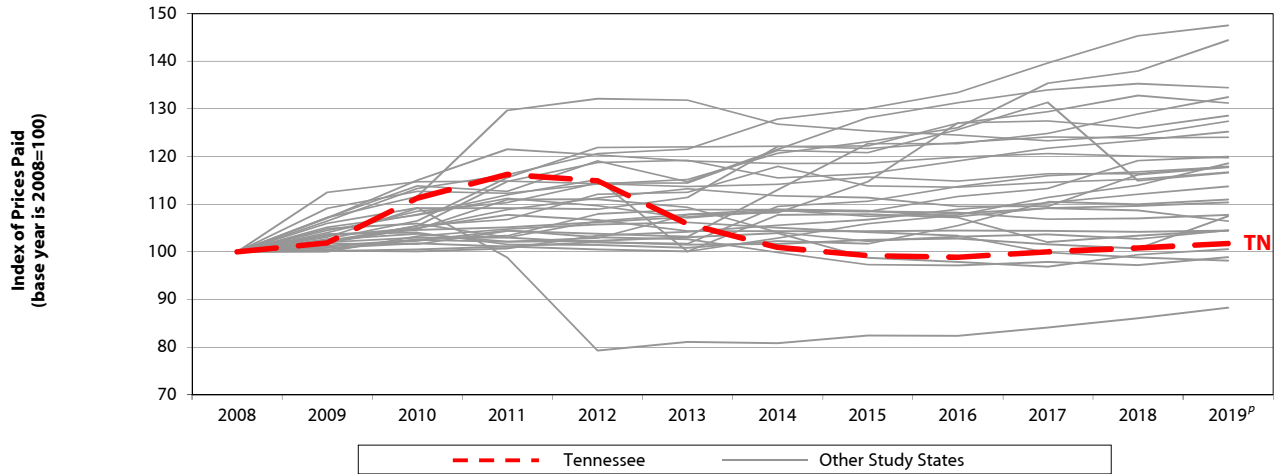


South Carolina	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	0%	3%	1%	1%	0%	-1%	-1%	-1%	-3%	-1%	-1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: South Carolina's fee schedule for professional services remained unchanged (after an update in January 2003) until 2009. Effective July 1, 2010, South Carolina had another update to its fee schedule, which increased the fee schedule rates for many professional services (evaluation and management, emergency, etc.) and decreased the rates for others (pain management injections, radiology services, etc.). The most recent update within the study period in this report was effective April 1, 2019; the half-year price data through June 2019 in this edition reflect only two months of experience after this fee schedule update.

Figure B.29 Tennessee Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



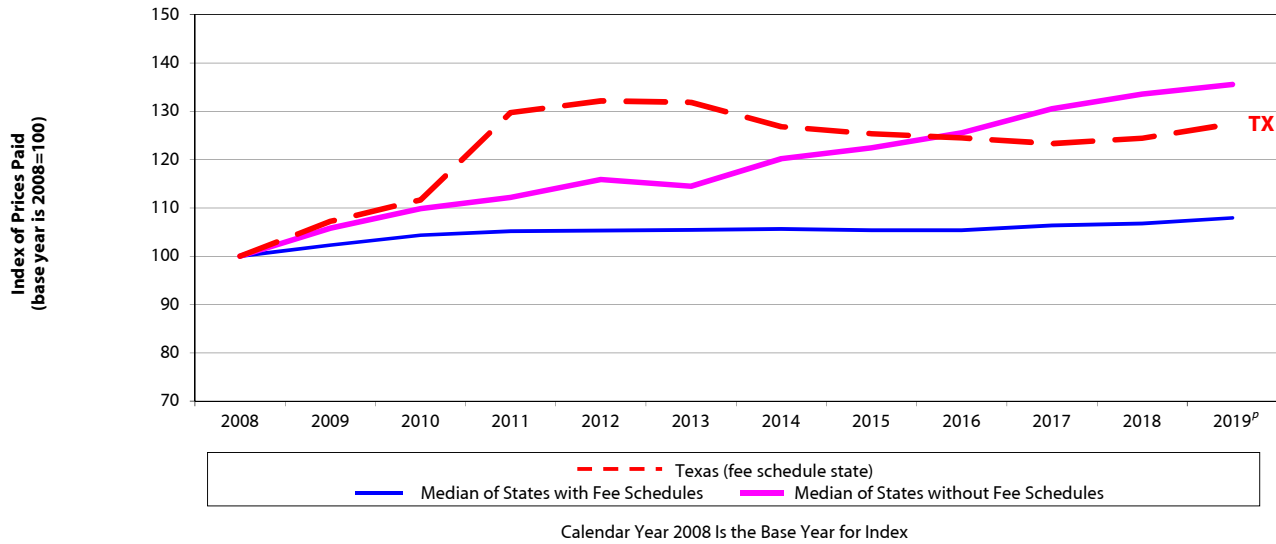
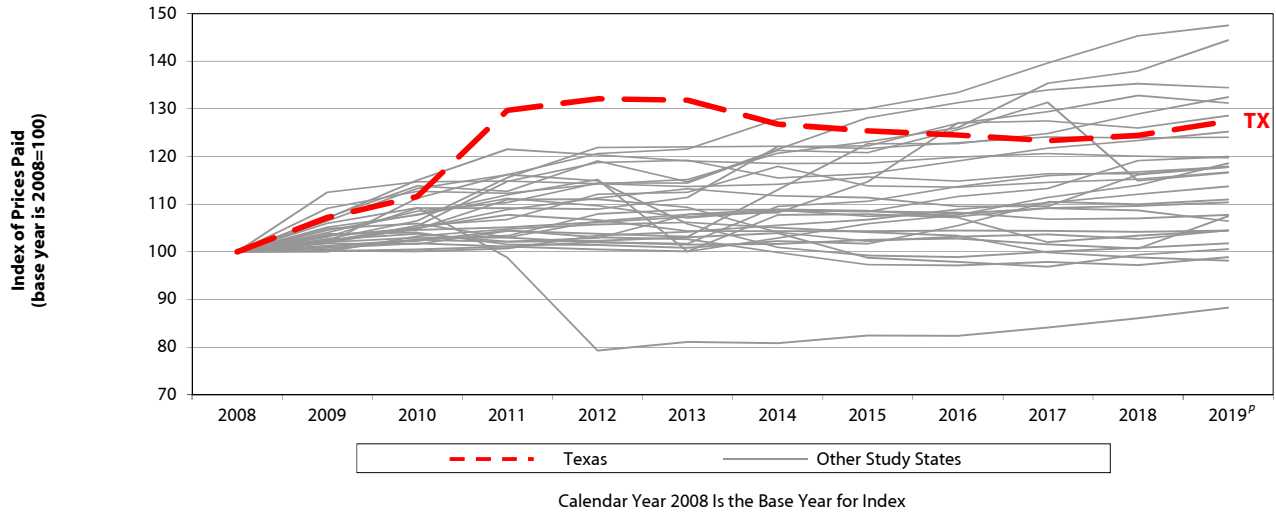
Tennessee	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	2%	9%	4%	-1%	-8%	-5%	-2%	0%	1%	1%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Note: Tennessee implemented an RBRVS-based fee schedule in July 2005 and had regular updates in the following years. For instance, the fee schedule rates decreased across service groups in 2013. The most recent update covered in the study period in this report was effective April 1, 2019.

Key: RBRVS: resource-based relative value scale (Medicare).

Figure B.30 Texas Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

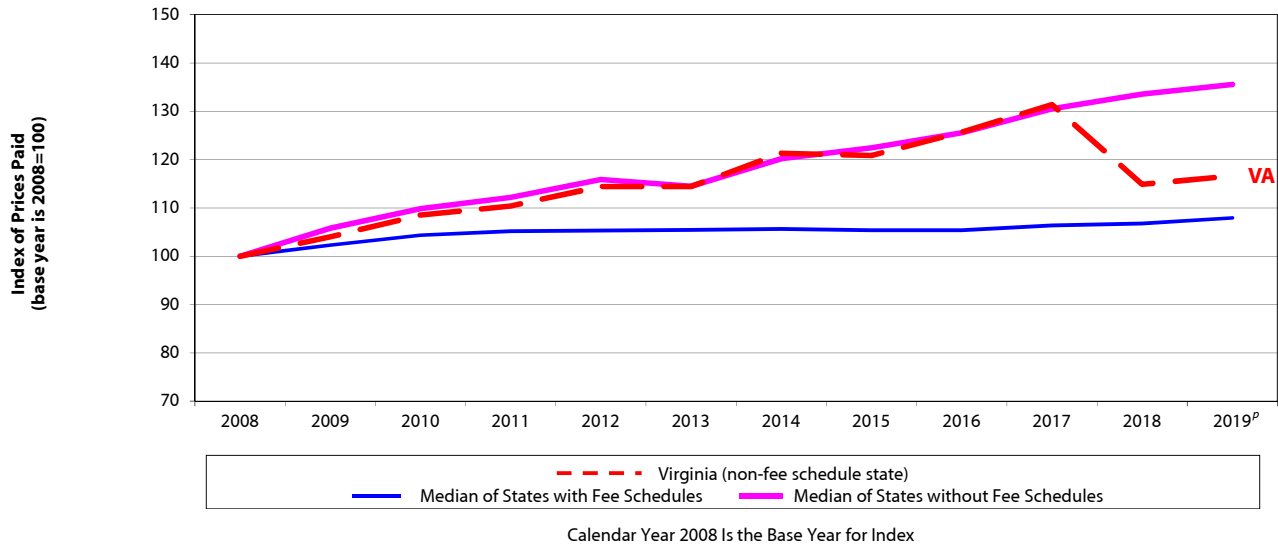
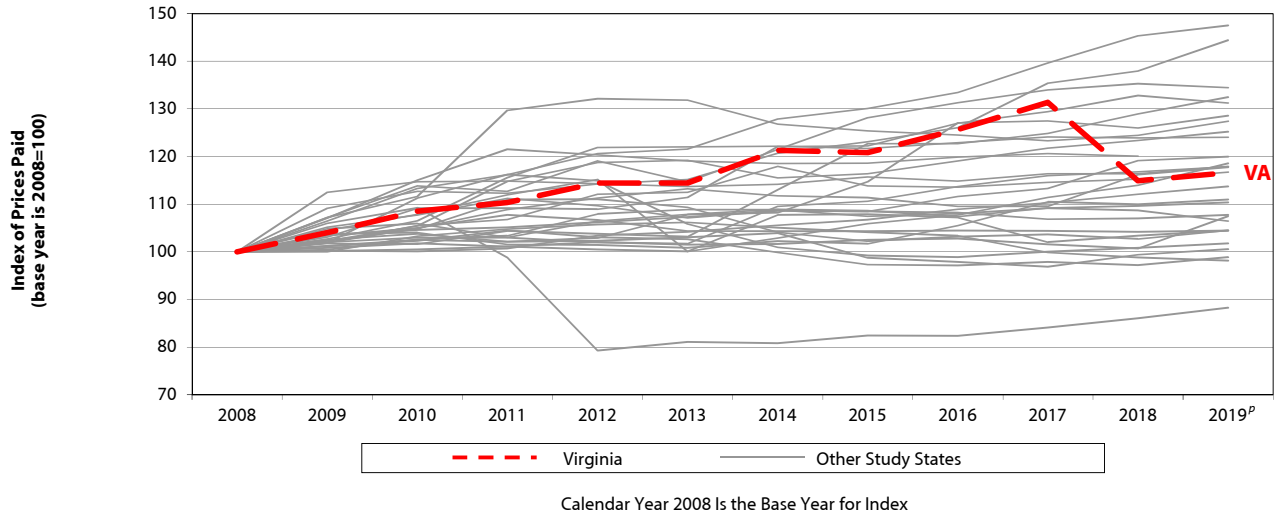


Texas	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	7%	4%	16%	2%	0%	-4%	-1%	-1%	-1%	1%	2%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: In March 2008, Texas increased fee schedule rates for professional services, especially for surgeries, and allowed annual increases based on changes in the Medicare Economic Index. In 2011, the fee schedule rates in Texas increased for most professional services following the Medicare updates. The most recent update covered in the study period in this report was effective April 1, 2019.

Figure B.31 Virginia Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019

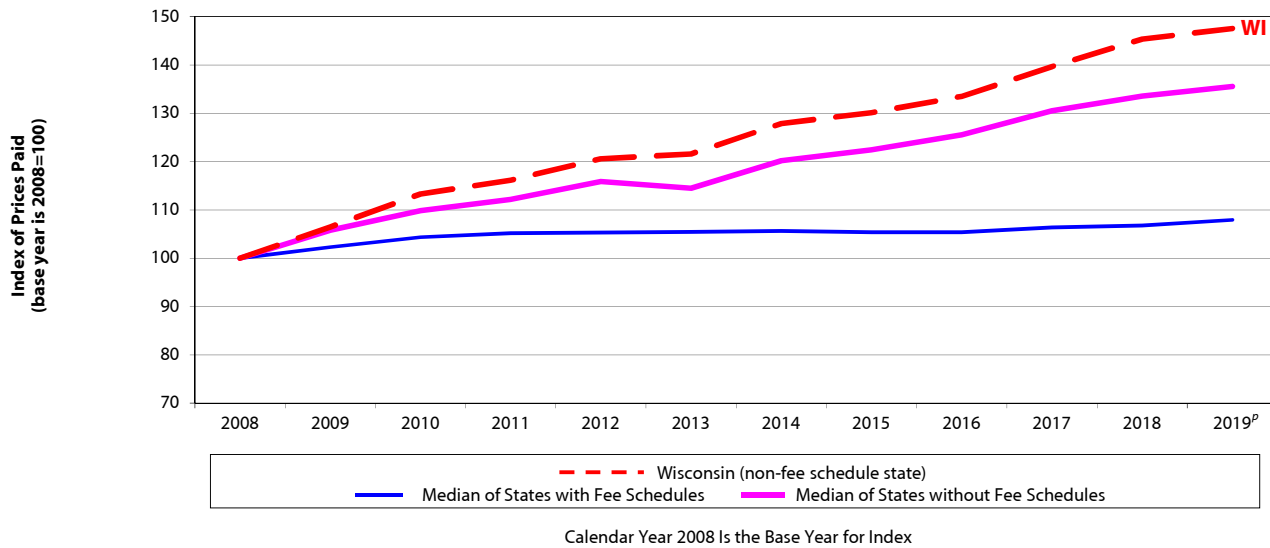
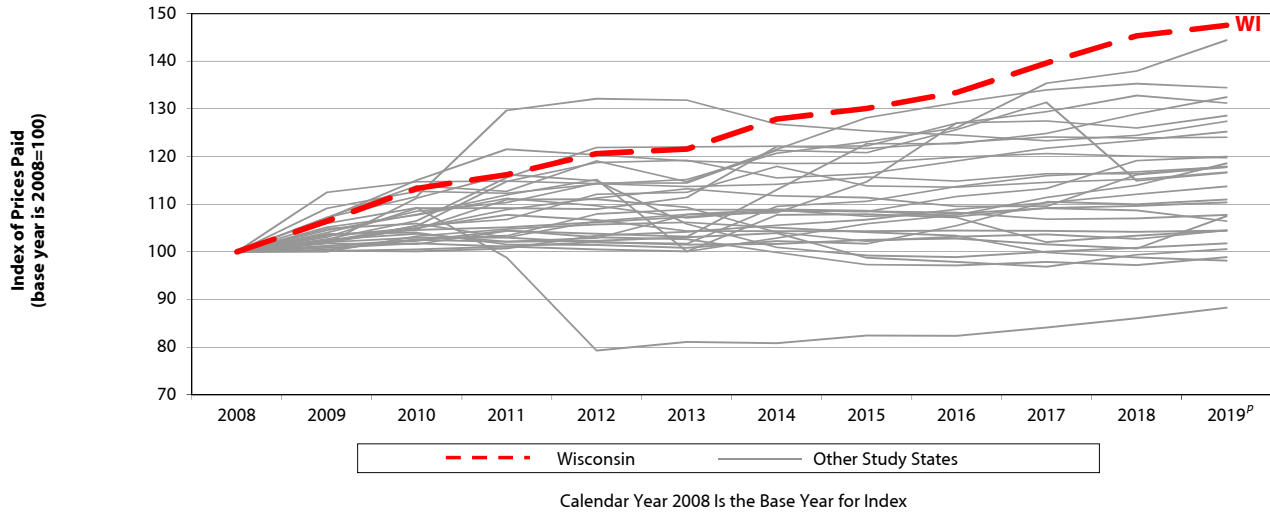


Virginia	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	4%	4%	2%	4%	0%	6%	0%	4%	5%	-13%	1%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Notes: Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. As this figure shows, overall prices paid in Virginia decreased 13 percent from 2017 to 2018, following this policy change. The introduction of the fee schedule also led to decreases in prices paid for all types of professional services (see [Figure C.30](#)). With data through June 2019, results shown in this edition reflect the impact of the first 18 months of the fee schedule adoption in this state.

Figure B.32 Wisconsin Trends in Prices Paid for Professional Services, WCRI MPI-WC, 2008 to 2019



Wisconsin	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
State average annual change in prices paid for professional services	6%	6%	3%	4%	1%	5%	2%	3%	5%	4%	2%
Median annual change for fee schedule states	2%	2%	1%	0%	0%	0%	0%	0%	1%	0%	1%
Median annual change for non-fee schedule states	6%	4%	2%	3%	-1%	5%	2%	3%	4%	2%	2%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019. Note that the trend lines for the median of states with fee schedules and the median of states without fee schedules represent the median rates of growth of prices paid among states with and without fee schedules from year to year.

Note: Wisconsin did not have a conventional workers' compensation fee schedule as of 2019.

Table B.1 Trends in Prices Paid for Professional Evaluation and Management Services, WCRI MPI-WC, 2008 to 2019

State	Fee Regulation Type	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
AR	FS	100	101	109	115	117	117	114	115	115	116	115	116
AZ ^{a,b}	FS	100	103	114	115	116	118	139	141	156	162	179	180
CA	FS	100	100	101	101	100	100	131	138	147	154	157	159
CO ^a	FS	100	104	108	113	115	116	118	119	125	130	138	139
CT ^b	FS	100	106	116	127	131	131	133	135	133	133	132	132
FL	FS	100	102	104	104	104	103	104	103	113	124	124	125
GA	FS	100	102	108	118	124	129	130	130	131	134	136	138
IA	Non-FS	100	107	111	114	116	120	124	124	127	132	134	136
IL	FS	100	104	105	97	78	79	83	87	88	89	91	94
IN	Non-FS	100	104	111	115	117	118	125	134	136	141	143	145
KS	FS	100	100	115	120	128	130	140	139	140	145	146	147
KY	FS	100	102	102	108	109	109	121	132	132	131	135	143
LA	FS	100	102	102	104	105	106	108	108	109	108	108	108
MA	FS	100	107	110	109	108	108	107	106	106	107	107	106
MD ^a	FS	100	104	109	120	127	131	127	129	133	135	138	142
MI	FS	100	103	104	106	105	110	112	110	110	108	109	109
MN ^b	FS	100	103	109	125	129	133	145	145	146	151	153	154
MO ^a	Non-FS	100	106	110	111	115	118	122	127	132	139	142	147
MS	FS	100	101	101	102	101	99	100	99	99	108	107	107
NC	FS	100	101	101	100	101	123	125	140	163	164	164	167
NE	FS	100	100	111	121	120	121	121	120	120	122	121	124
NJ	Non-FS	100	103	109	112	114	105	108	111	115	120	125	133
NY ^a	FS	100	104	105	125	127	128	129	129	129	129	129	141
OK ^a	FS	100	101	103	103	142	143	143	141	140	138	138	138
OR ^a	FS	100	110	121	134	135	135	135	135	138	138	138	139
PA	FS	100	99	98	100	103	105	108	109	111	112	115	119
SC	FS	100	99	107	115	115	115	114	114	115	116	115	118
TN ^b	FS	100	101	110	117	115	114	110	108	108	110	108	109
TX	FS	100	108	114	134	138	142	139	140	141	143	145	148
VA ^c	Non-FS/FS	100	106	111	115	117	121	126	131	137	144	129	130
WI	Non-FS	100	106	112	118	124	132	140	145	151	158	165	172
Median growth rate in FS states		100	102	106	111	112	112	114	114	114	116	116	117
Median growth rate in non-FS states		100	106	111	114	117	121	125	130	134	141	143	148

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

Calendar year 2008 is the base year, which is equal to 100 in the index.

Evaluation and management: The services in this group are new and established patient office visits. These consist of office visits that require at least two of three parts: a problem focused history, a problem focused examination, and/or straightforward medical decision making of various complexities. See [Table TA.2](#) for a detailed description of all service codes included in this group.

^a The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

^b This state had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

^c Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. Previously this state had no fee schedule.

Key: FS: fee schedule.

Table B.2 Trends in Prices Paid for Professional Physical Medicine Services, WCRI MPI-WC, 2008 to 2019

State	Fee Regulation Type	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
AR	FS	100	106	110	116	117	122	117	114	117	116	116	120
AZ ^{a,b}	FS	100	107	115	114	115	117	135	136	140	145	155	151
CA	FS	100	105	104	104	103	99	126	129	136	142	142	143
CO ^a	FS	100	102	109	112	114	116	119	117	123	126	129	133
CT ^b	FS	100	104	108	113	113	114	118	119	120	121	122	122
FL	FS	100	107	108	103	104	102	104	104	112	118	118	121
GA	FS	100	102	106	113	120	124	125	127	128	129	126	127
IA	Non-FS	100	106	112	115	112	111	115	118	124	125	142	146
IL	FS	100	109	113	102	84	85	86	87	87	89	91	92
IN	Non-FS	100	107	113	107	117	119	133	142	150	156	160	160
KS	FS	100	101	102	103	113	113	127	123	121	121	124	126
KY	FS	100	102	103	103	102	101	118	135	134	131	136	138
LA	FS	100	106	106	107	109	111	115	113	115	114	114	114
MA	FS	100	106	112	110	111	109	109	111	112	114	111	115
MD ^a	FS	100	104	106	119	126	131	130	132	134	138	138	140
MI	FS	100	102	106	104	104	108	108	108	107	106	112	114
MN ^b	FS	100	106	106	106	108	112	115	113	113	114	115	116
MO ^a	Non-FS	100	103	108	102	109	115	120	123	128	130	134	141
MS	FS	100	102	103	101	99	103	120	120	119	109	110	112
NC	FS	100	103	105	103	102	106	107	125	156	157	153	157
NE	FS	100	100	102	106	102	102	103	104	103	104	102	105
NJ	Non-FS	100	108	112	111	119	120	133	142	145	153	154	162
NY ^a	FS	100	100	100	96	96	95	94	96	97	94	92	104
OK ^a	FS	100	101	105	105	104	106	106	104	105	108	107	108
OR ^a	FS	100	111	123	132	128	133	133	132	133	134	133	133
PA	FS	100	101	101	102	107	110	112	113	116	118	119	119
SC	FS	100	104	107	108	109	111	111	114	116	107	107	102
TN ^b	FS	100	105	114	118	117	117	113	109	108	110	116	118
TX	FS	100	109	111	130	134	140	137	133	129	123	123	127
VA ^c	Non-FS/FS	100	110	114	111	116	127	136	136	142	147	128	132
WI	Non-FS	100	105	112	115	120	126	134	140	145	149	160	165
Median growth rate in FS states		100	104	106	107	108	110	112	113	113	114	114	116
Median growth rate in non-FS states		100	106	112	110	116	120	128	133	139	143	148	152

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

Calendar year 2008 is the base year, which is equal to 100 in the index.

Physical medicine: The services in this group include physical medicine procedures, modalities, therapeutic activities and manual therapy techniques involving one or more areas, electronic stimulation, and work hardening/conditioning, as well as chiropractic care and manipulations. These services may be provided by physical therapists and occupational therapists as well as chiropractors. Physical medicine codes may be billed by physicians, chiropractors, or physical therapists and occupational therapists. See [Table TA.2](#) for a detailed description of all service codes included in this group.

^a The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

^b This state had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

^c Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. Previously this state had no fee schedule.

Key: FS: fee schedule.

Table B.3 Trends in Prices Paid for Professional Major Surgery Services, WCRI MPI-WC, 2008 to 2019

State	Fee Regulation Type	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
AR	FS	100	99	104	112	108	109	106	105	105	106	103	106
AZ ^{a,b}	FS	100	102	104	105	103	105	107	107	107	103	92	90
CA	FS	100	103	106	107	106	109	86	82	76	71	71	72
CO ^a	FS	100	100	99	105	105	107	106	106	78	79	91	91
CT ^b	FS	100	101	99	99	96	94	94	94	96	95	94	95
FL	FS	100	102	99	97	96	97	99	97	93	93	94	91
GA	FS	100	104	106	118	124	127	127	124	126	126	127	124
IA	Non-FS	100	105	105	109	105	102	96	94	96	97	99	98
IL	FS	100	106	110	99	77	78	78	79	78	80	82	85
IN	Non-FS	100	114	122	120	128	122	122	128	127	122	121	116
KS	FS	100	106	109	110	109	113	116	111	111	111	111	111
KY	FS	100	100	99	100	98	98	101	102	104	114	115	113
LA	FS	100	103	106	104	104	105	105	105	105	106	105	107
MA	FS	100	127	127	129	125	122	123	127	124	125	127	129
MD ^a	FS	100	104	108	115	111	113	111	110	114	116	119	121
MI	FS	100	97	95	94	94	93	93	90	89	88	89	91
MN ^b	FS	100	106	102	80	83	86	85	87	83	86	86	86
MO ^a	Non-FS	100	120	121	127	125	127	133	133	130	159	165	174
MS	FS	100	100	101	102	103	102	110	112	112	108	112	115
NC	FS	100	103	105	103	104	102	101	98	93	92	92	93
NE	FS	100	100	97	93	93	94	91	90	91	91	91	91
NJ	Non-FS	100	104	105	111	112	92	91	93	94	93	96	98
NY ^a	FS	100	101	101	98	100	99	99	100	101	100	101	104
OK ^a	FS	100	100	100	105	93	92	92	93	92	94	95	89
OR ^a	FS	100	100	104	106	103	104	101	102	101	103	103	99
PA	FS	100	101	101	101	104	109	110	111	114	115	119	122
SC	FS	100	96	97	94	96	94	90	83	79	81	79	81
TN ^b	FS	100	102	114	116	114	101	98	100	99	99	98	98
TX	FS	100	108	116	140	133	136	131	131	133	134	136	139
VA ^c	Non-FS/FS	100	93	97	103	108	104	110	103	108	119	104	103
WI	Non-FS	100	107	113	118	123	127	135	134	136	145	151	148
Median growth rate in FS states		100	102	103	103	102	103	103	103	103	103	103	104
Median growth rate in non-FS states		100	106	109	114	117	114	116	116	117	121	125	124

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

Calendar year 2008 is the base year, which is equal to 100 in the index.

Major surgery: The majority of the services in this group include orthopedic surgeries, such as arthroscopy of the shoulder or knee and lumbar laminotomies, neuroplasty and/or transposition of the median nerve at the carpal tunnel, and hernia repair. See [Table TA.2](#) for a detailed description of all service codes included in this group.

^a The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

^b This state had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

^c Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. Previously this state had no fee schedule.

Key: FS: fee schedule.

Table B.4 Trends in Prices Paid for Professional Pain Management Injection Services, WCRI MPI-WC, 2008 to 2019

State	Fee Regulation Type	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
AR	FS	100	108	118	128	128	125	102	111	115	120	116	115
AZ ^{a,b}	FS	100	105	106	111	110	118	119	123	132	140	119	115
CA	FS	100	100	98	98	97	97	94	94	89	84	83	88
CO ^a	FS	100	90	110	107	112	116	72	71	86	79	93	80
CT ^b	FS	100	100	105	102	99	98	93	97	103	112	110	118
FL	FS	100	100	102	98	97	101	102	101	96	105	101	105
GA	FS	100	101	104	112	118	123	108	112	120	130	123	125
IA	Non-FS	100	114	119	123	120	118	125	113	105	119	126	123
IL	FS	100	112	123	110	89	92	92	94	95	104	111	115
IN	Non-FS	100	103	119	119	120	124	128	135	142	158	150	160
KS	FS	100	106	95	92	95	96	98	81	79	95	91	107
KY	FS	100	102	101	100	95	91	95	97	99	109	107	114
LA	FS	100	108	107	105	115	118	112	125	124	130	130	141
MA	FS	100	106	111	108	109	112	114	113	115	146	155	142
MD ^a	FS	100	87	95	87	93	89	79	86	88	82	82	84
MI	FS	100	94	94	91	94	100	98	87	83	115	99	101
MN ^b	FS	100	99	94	72	74	72	67	65	65	84	85	87
MO ^a	Non-FS	100	108	114	109	112	107	119	111	108	121	120	131
MS	FS	100	107	107	108	108	104	106	106	110	113	109	113
NC	FS	100	101	103	100	96	98	96	88	86	89	89	95
NE	FS	100	101	92	88	84	90	81	73	86	84	83	78
NJ	Non-FS	100	110	121	132	146	123	107	99	99	126	123	117
NY ^a	FS	100	101	102	101	101	99	98	98	98	100	101	106
OK ^a	FS	100	104	95	93	92	91	94	96	93	94	104	102
OR ^a	FS	100	87	83	80	83	83	87	82	88	76	72	81
PA	FS	100	103	99	103	106	108	109	109	109	107	110	116
SC	FS	100	99	95	88	88	86	84	88	87	81	77	78
TN ^b	FS	100	93	103	110	114	100	86	103	95	93	95	98
TX	FS	100	105	108	125	127	124	106	121	123	126	130	132
VA ^c	Non-FS/FS	100	98	105	108	112	117	122	119	123	128	102	105
WI	Non-FS	100	114	131	136	147	146	157	161	161	176	173	182
Median growth rate in FS states		100	101	101	99	99	100	98	98	100	103	102	105
Median growth rate in non-FS states		100	109	118	122	125	124	131	125	125	139	137	144

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

Calendar year 2008 is the base year, which is equal to 100 in the index.

Pain management injections: The services in this group include injection procedures that are commonly used for pain management, such as epidural or steroid injections on nerve roots and muscles for lumbar, sacral, cervical, or thoracic areas. See [Table TA.2](#) for a detailed description of all service codes included in this group.

^a The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

^b This state had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

^c Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. Previously this state had no fee schedule.

Key: FS: fee schedule.

Table B.5 Trends in Prices Paid for Professional Major Radiology Services, WCRI MPI-WC, 2008 to 2019^P

State	Fee Regulation Type	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
AR	FS	100	103	76	76	79	74	61	55	56	55	54	52
AZ ^{a,b}	FS	100	98	97	98	97	99	99	101	99	99	95	95
CA	FS	100	100	100	100	99	95	76	70	66	62	62	61
CO ^a	FS	100	104	104	105	102	104	103	103	90	77	81	81
CT ^b	FS	100	109	108	112	107	103	91	80	77	77	78	74
FL	FS	100	104	105	99	99	97	96	96	94	94	90	90
GA	FS	100	104	103	101	104	103	100	100	100	101	99	99
IA	Non-FS	100	103	103	105	105	112	114	108	105	98	91	89
IL	FS	100	102	105	94	80	85	83	83	82	83	85	87
IN	Non-FS	100	101	103	100	101	105	105	103	97	102	99	100
KS	FS	100	105	98	93	82	84	64	55	57	53	52	51
KY	FS	100	105	101	110	109	111	110	110	108	113	118	122
LA	FS	100	105	106	107	106	105	102	102	93	85	85	85
MA	FS	100	109	109	111	109	109	107	106	106	105	105	106
MD ^a	FS	100	100	97	102	101	93	75	70	72	73	73	72
MI	FS	100	103	106	105	108	98	96	59	54	54	54	54
MN ^b	FS	100	106	108	98	100	95	72	71	68	57	56	56
MO ^a	Non-FS	100	107	105	106	104	105	109	104	108	105	103	100
MS	FS	100	101	102	101	99	101	82	81	79	60	61	61
NC	FS	100	105	104	104	105	104	103	83	64	64	65	64
NE	FS	100	105	102	100	94	95	76	61	58	59	60	59
NJ	Non-FS	100	100	100	101	102	102	102	98	98	99	97	100
NY ^a	FS	100	95	96	94	92	91	91	91	90	87	85	84
OK ^a	FS	100	98	100	101	97	101	101	98	100	101	102	91
OR ^a	FS	100	106	102	96	95	93	95	95	97	98	98	96
PA	FS	100	97	99	98	98	100	98	97	97	97	96	96
SC	FS	100	100	88	75	75	75	74	72	67	62	58	57
TN ^b	FS	100	99	101	106	101	90	74	69	70	70	69	67
TX	FS	100	103	101	98	107	96	77	73	74	75	76	76
VA ^c	Non-FS/FS	100	110	107	109	108	110	115	112	110	106	95	96
WI	Non-FS	100	106	107	102	103	101	101	97	96	101	96	95
Median growth rate in FS states		100	103	103	102	101	100	98	97	96	95	95	94
Median growth rate in non-FS states		100	104	104	106	106	107	108	104	102	101	99	98

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

Calendar year 2008 is the base year, which is equal to 100 in the index.

Major radiology: The services in this group mostly include magnetic resonance imaging of various areas, including, but not limited to, spinal canal and contents, cervical, lumbar, and any joint of the upper or lower extremity. See [Table TA.2](#) for a detailed description of all service codes included in this group.

^a The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

^b This state had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

^c Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. Previously this state had no fee schedule.

Key: FS: fee schedule.

Table B.6 Trends in Prices Paid for Professional Minor Radiology Services, WCRI MPI-WC, 2008 to 2019

State	Fee Regulation Type	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
AR	FS	100	103	105	105	104	106	98	92	91	91	91	93
AZ ^{a,b}	FS	100	99	100	87	86	88	89	92	95	99	101	103
CA	FS	100	100	100	100	100	100	114	103	98	93	94	98
CO ^a	FS	100	101	101	103	105	105	106	106	156	126	127	129
CT ^b	FS	100	105	103	103	99	102	98	91	87	87	87	86
FL	FS	100	103	109	103	103	103	103	102	103	101	97	102
GA	FS	100	104	107	117	123	126	120	112	110	111	113	115
IA	Non-FS	100	103	105	102	101	102	101	100	104	105	106	106
IL	FS	100	104	107	94	75	77	78	80	80	81	82	84
IN	Non-FS	100	104	107	105	106	106	106	108	108	109	109	106
KS	FS	100	101	99	96	101	99	105	96	95	90	90	91
KY	FS	100	101	100	111	113	115	116	116	117	132	144	158
LA	FS	100	102	104	105	106	105	105	105	104	103	103	104
MA	FS	100	104	107	108	104	104	103	103	102	104	106	105
MD ^a	FS	100	99	99	111	116	118	107	100	102	104	105	110
MI	FS	100	101	104	104	103	102	102	93	93	87	87	88
MN ^b	FS	100	103	103	95	96	99	106	104	102	97	96	97
MO ^a	Non-FS	100	105	104	104	103	104	104	105	110	115	119	119
MS	FS	100	100	101	101	97	101	117	116	113	102	102	101
NC	FS	100	102	101	99	99	97	97	98	101	101	101	106
NE	FS	100	108	107	109	108	108	102	98	93	94	93	97
NJ	Non-FS	100	105	109	121	122	102	99	100	102	102	113	127
NY ^a	FS	100	99	98	93	94	93	93	93	92	92	92	95
OK ^a	FS	100	101	101	100	99	100	99	98	98	97	97	97
OR ^a	FS	100	104	106	110	113	115	113	108	109	110	110	109
PA	FS	100	104	104	106	108	111	113	115	118	119	121	123
SC	FS	100	99	103	99	99	99	98	95	92	92	90	93
TN ^b	FS	100	99	108	112	114	106	95	89	89	90	91	93
TX	FS	100	106	109	112	125	130	117	109	111	113	116	121
VA ^c	Non-FS/FS	100	102	104	103	103	105	110	108	108	107	82	84
WI	Non-FS	100	106	114	112	115	118	123	123	128	130	136	140
Median growth rate in FS states		100	102	102	103	103	104	104	102	102	103	103	106
Median growth rate in non-FS states		100	105	107	106	106	107	107	108	111	112	116	116

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

Calendar year 2008 is the base year, which is equal to 100 in the index.

Minor radiology: The services in this group mostly include radiologic exams (X rays or ultrasounds) involving at least two views of various areas of the body, including, but not limited to, the spine, lumbosacral, shoulder, and wrist. See [Table TA.2](#) for a detailed description of all service codes included in this group.

^a The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

^b This state had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

^c Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. Previously this state had no fee schedule.

Key: FS: fee schedule.

Table B.7 Trends in Prices Paid for Professional Neurological/Neuromuscular Testing Services, WCRI MPI-WC, 2008 to 2019^P

State	Fee Regulation Type	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
AR	FS	100	97	115	124	127	78	75	81	81	83	84	83
AZ ^{a,b}	FS	100	102	112	112	114	119	103	69	70	76	78	77
CA	FS	100	101	102	100	97	100	58	62	67	68	72	73
CO ^a	FS	100	98	98	102	116	119	58	61	91	91	95	99
CT ^b	FS	100	100	96	90	88	73	61	60	59	59	61	62
FL	FS	100	101	102	103	103	104	105	105	86	79	80	79
GA	FS	100	102	110	127	139	94	88	90	91	91	91	93
IA	Non-FS	100	98	99	107	112	69	82	86	88	93	94	97
IL	FS	100	104	107	98	74	80	55	58	58	61	64	64
IN	Non-FS	100	103	108	116	123	73	89	87	96	98	97	101
KS	FS	100	98	98	101	117	106	76	79	82	83	81	84
KY	FS	100	101	104	105	108	104	87	80	81	87	88	91
LA	FS	100	99	100	101	103	102	109	106	103	100	103	105
MA	FS	100	98	94	100	115	131	137	140	145	138	140	147
MD ^a	FS	100	92	96	101	107	86	83	86	86	88	93	90
MI	FS	100	97	93	92	97	88	96	72	71	72	73	72
MN ^b	FS	100	104	107	110	124	113	87	86	86	90	91	92
MO ^a	Non-FS	100	113	127	117	118	85	104	106	110	131	95	135
MS	FS	100	99	101	98	102	84	109	106	106	74	75	74
NC	FS	100	99	98	99	111	110	110	106	101	105	102	104
NE	FS	100	102	99	102	110	97	88	72	74	75	80	81
NJ	Non-FS	100	99	106	114	114	66	80	84	85	88	91	90
NY ^a	FS	100	98	99	97	97	98	100	100	99	100	100	90
OK ^a	FS	100	101	104	102	100	97	101	103	113	125	100	95
OR ^a	FS	100	104	104	109	122	80	72	73	75	77	80	82
PA	FS	100	102	102	103	97	64	62	63	64	66	68	69
SC	FS	100	98	109	124	129	128	127	113	85	84	84	85
TN ^b	FS	100	97	107	122	125	76	76	76	75	77	78	79
TX	FS	100	100	106	127	133	93	91	93	95	96	99	98
VA ^c	Non-FS/FS	100	107	121	121	127	87	99	102	100	101	97	102
WI	Non-FS	100	110	121	121	124	88	91	90	94	98	99	99
Median growth rate in FS states		100	100	101	103	107	97	95	95	95	96	97	98
Median growth rate in non-FS states		100	105	114	118	122	80	95	98	101	105	107	110

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

Calendar year 2008 is the base year, which is equal to 100 in the index.

Neurological/neuromuscular testing: The services in this group are largely made up of sensory and motor nerve conduction tests but also include range of motion tests and application of neurostimulators; these services may be billed by physicians as well as by chiropractors and physical therapists. See [Table TA.2](#) for a detailed description of all service codes included in this group.

Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

^a The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

^b This state had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

^c Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. Previously this state had no fee schedule.

Key: FS: fee schedule.

Table B.8 Trends in Prices Paid for Professional Emergency Services, WCRI MPI-WC, 2008 to 2019

State	Fee Regulation Type	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
AR	FS	100	98	103	106	103	103	101	101	100	100	100	100
AZ ^{a,b}	FS	100	105	125	130	126	127	133	137	145	140	122	118
CA	FS	100	101	102	98	98	99	87	92	97	101	102	103
CO ^a	FS	100	104	108	115	116	117	118	119	70	71	75	77
CT ^b	FS	100	99	101	98	96	96	95	98	98	95	95	93
FL	FS	100	101	100	101	101	101	100	100	103	106	106	112
GA	FS	100	105	105	109	112	113	113	113	112	114	113	113
IA	Non-FS	100	107	109	108	105	107	109	120	141	148	146	137
IL	FS	100	106	106	99	86	89	89	90	90	92	96	97
IN	Non-FS	100	111	121	121	135	139	153	179	193	194	197	195
KS	FS	100	100	119	121	128	129	134	135	133	135	134	137
KY	FS	100	103	104	108	108	108	126	141	145	167	179	197
LA	FS	100	101	101	103	104	104	104	105	105	105	105	106
MA	FS	100	106	112	109	110	109	108	107	107	108	108	107
MD ^a	FS	100	101	102	109	113	114	112	113	113	112	116	107
MI	FS	100	103	102	104	101	97	97	94	95	95	96	96
MN ^b	FS	100	110	109	100	103	105	102	105	105	110	106	107
MO ^a	Non-FS	100	112	121	119	123	134	155	185	198	209	212	208
MS	FS	100	102	100	100	100	101	101	100	98	98	112	98
NC	FS	100	104	108	105	104	104	104	120	137	137	135	139
NE	FS	100	99	120	134	133	134	133	132	133	136	133	137
NJ	Non-FS	100	111	115	120	127	127	111	109	115	120	126	123
NY ^a	FS	100	104	104	122	123	128	128	128	127	126	127	129
OK ^a	FS	100	101	101	104	118	124	114	114	112	111	110	111
OR ^a	FS	100	104	137	124	115	113	112	114	117	118	117	118
PA	FS	100	94	93	95	99	102	103	105	107	107	109	109
SC	FS	100	101	122	129	130	129	130	131	130	128	129	129
TN ^b	FS	100	106	117	120	112	106	105	106	105	105	102	102
TX	FS	100	111	113	123	121	122	121	123	124	125	127	131
VA ^c	Non-FS/FS	100	108	114	118	125	123	138	151	163	170	146	153
WI	Non-FS	100	107	112	120	125	132	139	143	152	157	165	170
Median growth rate in FS states		100	103	104	106	107	107	107	108	108	108	108	109
Median growth rate in non-FS states		100	110	115	117	123	126	136	150	161	167	170	167

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

Calendar year 2008 is the base year, which is equal to 100 in the index.

Emergency services: The services in this group include emergency department visits for patients with various levels of severity and office services provided on an emergency basis. See [Table TA.2](#) for a detailed description of all service codes included in this group.

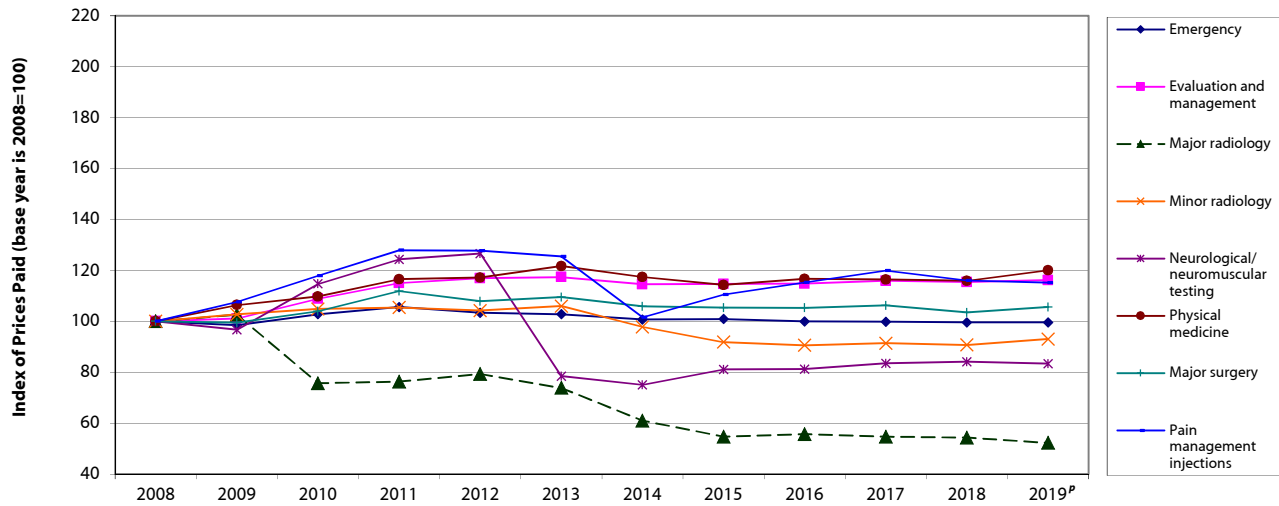
^a The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, CO, MD, NY, OK, and OR are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

^b This state had fee schedule changes or updates within 2019 but after June 30, 2019, that are not reflected in the results.

^c Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. Previously this state had no fee schedule.

Key: FS: fee schedule.

Figure C.1 Arkansas Trend in Professional Prices Paid by Service Group, 2008 to 2019



Arkansas Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	98	103	106	103	103	101	101	100	100	100	100
Evaluation and management	100	101	109	115	117	117	114	115	115	116	115	116
Major radiology	100	103	76	76	79	74	61	55	56	55	54	52
Minor radiology	100	103	105	105	104	106	98	92	91	91	91	93
Neurological/neuromuscular testing ^a	100	97	115	124	127	78	75	81	81	83	84	83
Physical medicine	100	106	110	116	117	122	117	114	117	116	116	120
Major surgery	100	99	104	112	108	109	106	105	105	106	103	106
Pain management injections	100	108	118	128	128	125	102	111	115	120	116	115

Arkansas Annual Change in Professional Prices Paid by Service Group (%)

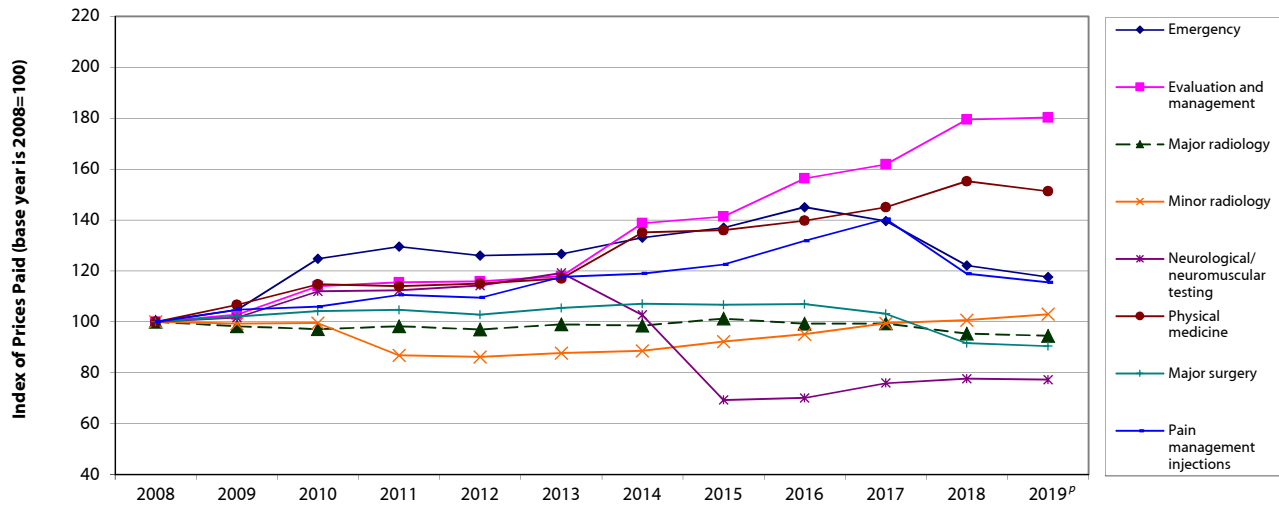
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	-2%	4%	3%	-2%	-1%	-2%	0%	-1%	0%	0%	0%
Evaluation and management	1%	8%	6%	2%	0%	-2%	0%	0%	1%	0%	1%
Major radiology	3%	-26%	1%	4%	-7%	-17%	-10%	2%	-2%	-1%	-4%
Minor radiology	3%	2%	1%	-1%	2%	-8%	-6%	-1%	1%	-1%	3%
Neurological/neuromuscular testing ^a	-3%	19%	8%	2%	-38%	-4%	8%	0%	3%	1%	-1%
Physical medicine	6%	3%	6%	1%	4%	-4%	-3%	2%	0%	0%	4%
Major surgery	-1%	5%	8%	-4%	2%	-3%	0%	0%	1%	-3%	2%
Pain management injections	8%	10%	8%	0%	-2%	-19%	9%	4%	4%	-3%	-1%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Arkansas' fee schedule for professional services has regular updates on the relative value units tied to the most recent Medicare resource-based relative value scale (RBRVS), with applied state conversion factors adopted in May 2000 for the services included in this study. The most recent update covered in the study period in this report was effective January 1, 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.2 Arizona Trend in Professional Prices Paid by Service Group, 2008 to 2019



Arizona Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	105	125	130	126	127	133	137	145	140	122	118
Evaluation and management	100	103	114	115	116	118	139	141	156	162	179	180
Major radiology	100	98	97	98	97	99	99	101	99	99	95	95
Minor radiology	100	99	100	87	86	88	89	92	95	99	101	103
Neurological/neuromuscular testing ^a	100	102	112	112	114	119	103	69	70	76	78	77
Physical medicine	100	107	115	114	115	117	135	136	140	145	155	151
Major surgery	100	102	104	105	103	105	107	107	107	103	92	90
Pain management injections	100	105	106	111	110	118	119	123	132	140	119	115

Arizona Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	5%	19%	4%	-3%	0%	5%	3%	6%	-4%	-13%	-4%
Evaluation and management	3%	11%	1%	0%	2%	18%	2%	11%	4%	11%	0%
Major radiology	-2%	-1%	1%	-1%	2%	0%	3%	-2%	0%	-4%	-1%
Minor radiology	-1%	0%	-13%	-1%	2%	1%	4%	3%	5%	1%	2%
Neurological/neuromuscular testing ^a	2%	10%	0%	2%	4%	-14%	-33%	1%	8%	2%	-1%
Physical medicine	7%	8%	-1%	1%	2%	15%	1%	3%	4%	7%	-3%
Major surgery	2%	2%	0%	-2%	3%	2%	0%	0%	-4%	-11%	-1%
Pain management injections	5%	1%	4%	-1%	7%	1%	3%	8%	6%	-15%	-3%

Special notation:^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

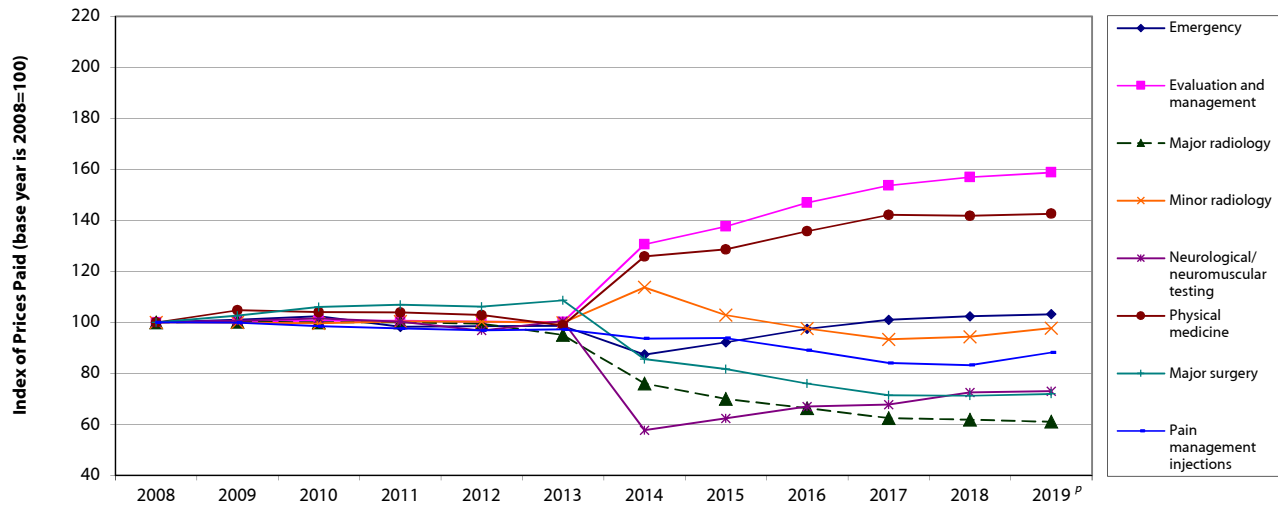
Notes:

The data for Arizona are not necessarily representative because they are missing data from a larger data source that is significant in this state. The results in Arizona are unlikely to be significantly under- or overestimated, given that the state uses a fee schedule to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in Arizona were materially different from other data sources included in this study from the same state.

Arizona publishes its fee schedule annually with effective dates of October 1 through September 30 of the following year. The Industrial Commission of Arizona reviews the fee schedule values annually with a focus each year on one of four specific groups of codes and rotates through these specific groups of codes every four years. To calculate the fee schedule values for the codes under review, the Commission surveys the workers' compensation fee schedules from the states of Colorado, Nevada, New Mexico, North Carolina, Oregon, Utah, and Washington and uses the following methodology: (a) current Arizona values between the 75th and 100th percentile of the states surveyed will not be adjusted; (b) current Arizona values over the 100th percentile of the states surveyed will be reduced to the 100th percentile; and (c) current Arizona values below the 75th percentile will be increased to the 75th percentile subject to the following: Increases shall be capped at 25 percent, unless and except as necessary to bring a current value up to the 50th percentile. In October 2013, Arizona reviewed and adjusted the fee schedule rates for evaluation and management, physical medicine, and surgery codes from 25000 to 39599. This update increased the fee schedule rates for evaluation and management and physical medicine services; the fee schedule rates for many common surgeries remained unchanged or had only small increases. The fee schedule effective October 2016 reflected a review of all codes. Effective October 1, 2017, Arizona transitioned to a resource-based relative value scale (RBRVS) based fee schedule. The impact of this fee schedule transition is examined in the section "[Discussion of Substantial Changes in Prices at Service-Type Level.](#)"

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix.](#)"

Figure C.3 California Trend in Professional Prices Paid by Service Group, 2008 to 2019



California Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	101	102	98	98	99	87	92	97	101	102	103
Evaluation and management	100	100	101	101	100	100	131	138	147	154	157	159
Major radiology	100	100	100	100	99	95	76	70	66	62	62	61
Minor radiology	100	100	100	100	100	100	114	103	98	93	94	98
Neurological/neuromuscular testing ^a	100	101	102	100	97	100	58	62	67	68	72	73
Physical medicine	100	105	104	104	103	99	126	129	136	142	142	143
Major surgery	100	103	106	107	106	109	86	82	76	71	71	72
Pain management injections	100	100	98	98	97	97	94	94	89	84	83	88

California Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	1%	1%	-4%	0%	0%	-11%	5%	6%	4%	1%	1%
Evaluation and management	0%	0%	0%	0%	0%	30%	5%	7%	5%	2%	1%
Major radiology	0%	0%	0%	-1%	-4%	-20%	-8%	-5%	-6%	-1%	-1%
Minor radiology	0%	0%	1%	0%	0%	14%	-10%	-5%	-4%	1%	4%
Neurological/neuromuscular testing ^a	1%	1%	-1%	-3%	4%	-43%	8%	7%	1%	7%	1%
Physical medicine	5%	-1%	0%	-1%	-4%	27%	2%	6%	5%	0%	1%
Major surgery	3%	3%	1%	-1%	2%	-21%	-5%	-7%	-6%	0%	1%
Pain management injections	0%	-1%	-1%	-1%	0%	-4%	0%	-5%	-6%	-1%	6%

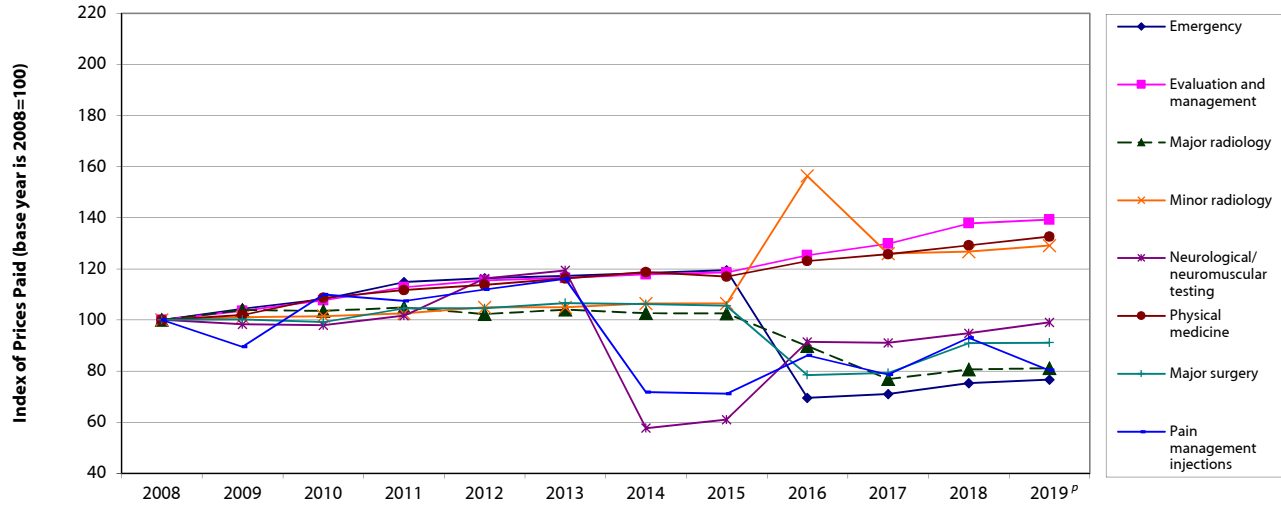
Special notation:^P We use the notation ^P to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Effective January 2014, California transitioned to an RBRVS-based fee schedule. This fee schedule change is a part of the workers' compensation reform legislation outlined in Senate Bill 863. This legislation requires the adoption of Medicare's RBRVS schedule for professional services to be phased in over four years, beginning in 2014, and to remain in effect until the Division of Workers' Compensation adopts an RBRVS schedule that allows no more than 120 percent of the aggregate fees allowed by Medicare. During the four-year transition period, the conversion factors for primary care services increased and the conversion factors for specialty services decreased. The latest fee schedule update covered in the study period in this report was in April 2019. Before the change to an RBRVS-based fee schedule, California used the Official Medical Fee Schedule (OMFS) to regulate the payment of professional services, and the maximum reimbursement rates in the OMFS remained unchanged since 2007.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Key: RBRVS: resource-based relative value scale (Medicare).

Figure C.4 Colorado Trend in Professional Prices Paid by Service Group, 2008 to 2019



Colorado Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	104	108	115	116	117	118	119	70	71	75	77
Evaluation and management	100	104	108	113	115	116	118	119	125	130	138	139
Major radiology	100	104	104	105	102	104	103	103	90	77	81	81
Minor radiology	100	101	101	103	105	105	106	106	156	126	127	129
Neurological/neuromuscular testing ^a	100	98	98	102	116	119	58	61	91	91	95	99
Physical medicine	100	102	109	112	114	116	119	117	123	126	129	133
Major surgery	100	100	99	105	105	107	106	106	78	79	91	91
Pain management injections	100	90	110	107	112	116	72	71	86	79	93	80

Colorado Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	4%	4%	6%	1%	1%	1%	1%	-42%	2%	6%	2%
Evaluation and management	4%	4%	5%	2%	1%	1%	1%	6%	4%	6%	1%
Major radiology	4%	0%	1%	-2%	2%	-1%	0%	-13%	-14%	5%	1%
Minor radiology	1%	0%	1%	2%	0%	1%	0%	47%	-19%	1%	2%
Neurological/neuromuscular testing ^a	-2%	0%	4%	14%	3%	-52%	6%	50%	0%	4%	5%
Physical medicine	2%	7%	3%	2%	2%	2%	-2%	5%	2%	3%	3%
Major surgery	0%	-1%	5%	0%	2%	0%	-1%	-26%	1%	15%	0%
Pain management injections	-10%	23%	-2%	4%	4%	-38%	-1%	21%	-9%	18%	-14%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

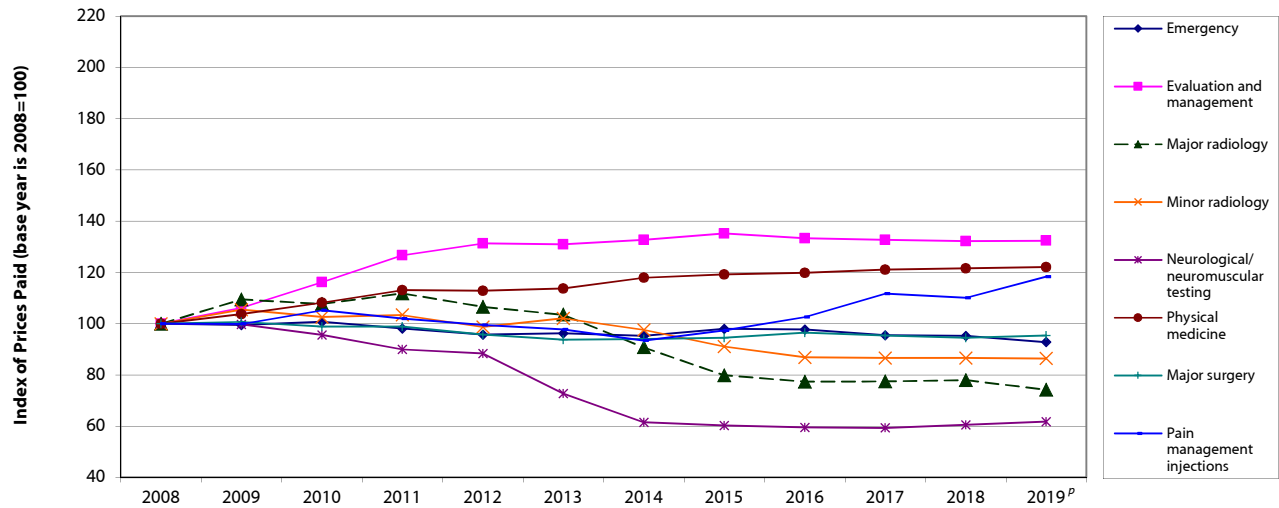
The data for Colorado are not necessarily representative because they are missing data from a larger data source that is significant in this state. The results in Colorado are unlikely to be significantly under- or overestimated, given that the state uses a fee schedule to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in Colorado were materially different from other data sources included in this study from the same state.

Colorado usually updates its fee schedule for professional services annually in January. The most recent update covered in the study period in this report was effective January 1, 2019. In January 2016, Colorado revised its fee schedule for professional services and incorporated the use of relative values from the National Physician Fee Schedule Relative Value Scale file (RBRVS) published by Medicare in January 2015. Previously, Colorado based its fee schedule levels on relative value units (RVUs) from the Relative Values for Physicians, currently published by OPTUM360[®].

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Key: RBRVS: resource-based relative value scale (Medicare).

Figure C.5 Connecticut Trend in Professional Prices Paid by Service Group, 2008 to 2019



Connecticut Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	99	101	98	96	96	95	98	98	95	95	93
Evaluation and management	100	106	116	127	131	131	133	135	133	133	132	132
Major radiology	100	109	108	112	107	103	91	80	77	77	78	74
Minor radiology	100	105	103	103	99	102	98	91	87	87	87	86
Neurological/neuromuscular testing ^a	100	100	96	90	88	73	61	60	59	59	61	62
Physical medicine	100	104	108	113	113	114	118	119	120	121	122	122
Major surgery	100	101	99	99	96	94	94	94	96	95	94	95
Pain management injections	100	100	105	102	99	98	93	97	103	112	110	118

Connecticut Annual Change in Professional Prices Paid by Service Group (%)

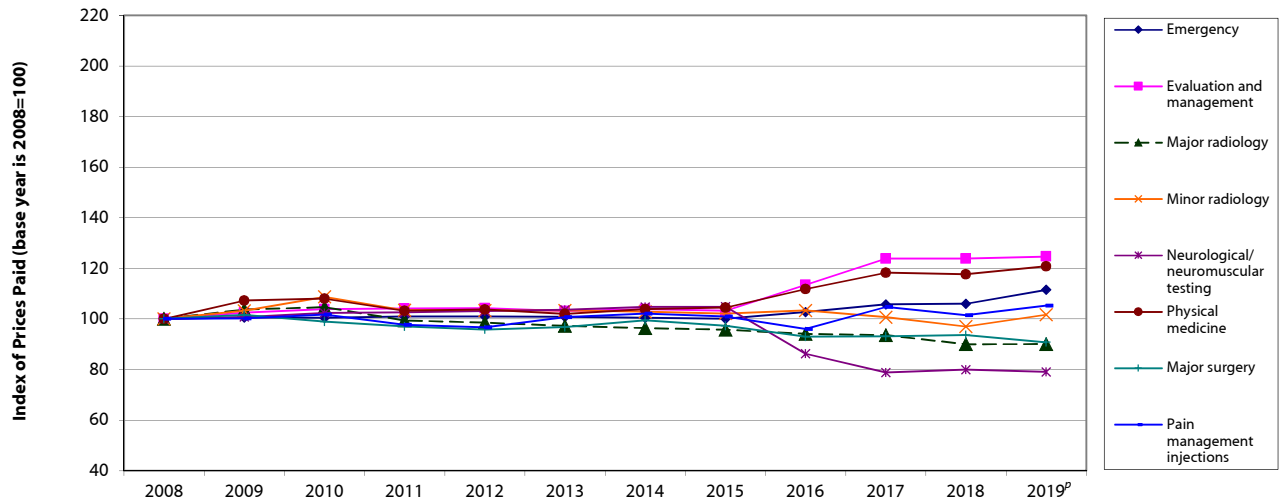
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	-1%	1%	-3%	-2%	0%	-1%	3%	0%	-2%	0%	-3%
Evaluation and management	6%	9%	9%	4%	0%	1%	2%	-1%	0%	0%	0%
Major radiology	9%	-2%	4%	-5%	-3%	-12%	-12%	-3%	0%	1%	-5%
Minor radiology	5%	-3%	1%	-5%	3%	-4%	-7%	-5%	0%	0%	0%
Neurological/neuromuscular testing ^a	0%	-4%	-6%	-2%	-18%	-16%	-2%	-1%	0%	2%	2%
Physical medicine	4%	4%	5%	0%	1%	4%	1%	1%	1%	0%	0%
Major surgery	1%	-2%	0%	-3%	-2%	0%	1%	2%	-1%	-1%	1%
Pain management injections	0%	5%	-3%	-2%	-2%	-4%	4%	5%	9%	-1%	8%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Connecticut has updated its fee schedule for professional services annually in July since 2008. The most recent update covered during the study period in this report was the 2018 Official Connecticut Practitioner Fee Schedule effective July 15, 2018.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.6 Florida Trend in Professional Prices Paid by Service Group, 2008 to 2019



Florida Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	101	100	101	101	101	100	100	103	106	106	112
Evaluation and management	100	102	104	104	104	103	104	103	113	124	124	125
Major radiology	100	104	105	99	99	97	96	96	94	94	90	90
Minor radiology	100	103	109	103	103	103	103	102	103	101	97	102
Neurological/neuromuscular testing ^a	100	101	102	103	103	104	105	105	86	79	80	79
Physical medicine	100	107	108	103	104	102	104	104	112	118	118	121
Major surgery	100	102	99	97	96	97	99	97	93	93	94	91
Pain management injections	100	100	102	98	97	101	102	101	96	105	101	105

Florida Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	1%	0%	1%	0%	0%	0%	0%	3%	3%	0%	5%
Evaluation and management	2%	1%	0%	0%	-1%	1%	-1%	10%	9%	0%	1%
Major radiology	4%	1%	-5%	-1%	-1%	-1%	-1%	-2%	0%	-4%	0%
Minor radiology	3%	5%	-5%	0%	0%	0%	-1%	1%	-3%	-4%	5%
Neurological/neuromuscular testing ^a	1%	2%	0%	0%	1%	1%	0%	-18%	-9%	1%	-1%
Physical medicine	7%	1%	-5%	1%	-2%	2%	1%	7%	6%	0%	3%
Major surgery	2%	-3%	-2%	-1%	1%	3%	-2%	-4%	0%	0%	-3%
Pain management injections	0%	2%	-4%	-1%	4%	1%	-1%	-5%	9%	-3%	4%

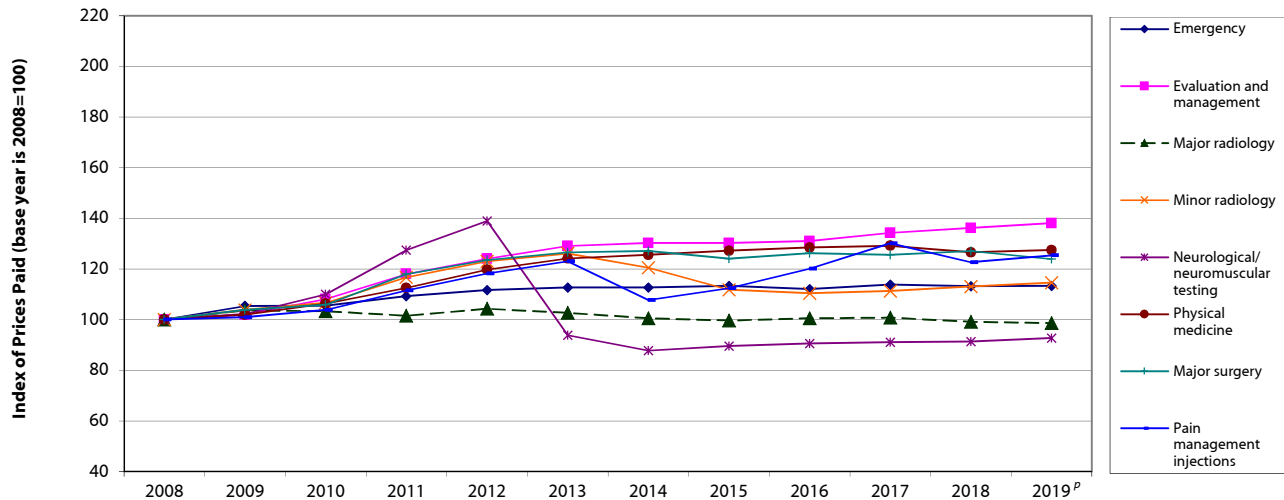
Special notation: ^p We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Florida implemented a fee schedule update effective July 1, 2016 (i.e., the 2015 edition of the Florida workers' compensation health care provider reimbursement manual). The updated fee schedule rates reflected the 2014 Medicare rates in the maximum allowable reimbursement (MAR) computation. Before this change, the fee schedule rates in Florida were set at 140 percent of the 2008 Medicare rates for surgeries and 110 percent of the 2008 Medicare rates for other professional services. Effective July 1, 2017, Florida implemented another update to its medical fee schedule for professional services (i.e., the 2016 edition of the Florida workers' compensation health care provider reimbursement manual); this most recent update covered in the study period was not expected to have a material impact on the system costs.

As shown in this figure, prices paid in Florida increased for some types of services and decreased or remained stable for others following these fee schedule updates. From 2015 to 2018, prices paid increased 20 percent for evaluation and management (primarily office visits), 13 percent for physical medicine, and 6 percent for emergency services. During the same period, prices paid decreased for major surgery (4 percent), minor radiology (5 percent), major radiology (6 percent), and neurological/neuromuscular testing services (24 percent). Prices paid for pain management injections remained fairly stable between 2015 and 2018. Some of these price changes may reflect the changes in Medicare fee schedule rates and/or coding, and others may be related to the reimbursement rules in the Florida workers' compensation fee schedule. Some results at the service group level masked offsetting trends in the prices paid for individual medical procedures.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "Discussion of Substantial Changes in Prices at Service-Type Level" and "Technical Appendix."

Figure C.7 Georgia Trend in Professional Prices Paid by Service Group, 2008 to 2019



Georgia Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	105	105	109	112	113	113	113	112	114	113	113
Evaluation and management	100	102	108	118	124	129	130	130	131	134	136	138
Major radiology	100	104	103	101	104	103	100	100	100	101	99	99
Minor radiology	100	104	107	117	123	126	120	112	110	111	113	115
Neurological/neuromuscular testing ^a	100	102	110	127	139	94	88	90	91	91	91	93
Physical medicine	100	102	106	113	120	124	125	127	128	129	126	127
Major surgery	100	104	106	118	124	127	127	124	126	126	127	124
Pain management injections	100	101	104	112	118	123	108	112	120	130	123	125

Georgia Annual Change in Professional Prices Paid by Service Group (%)

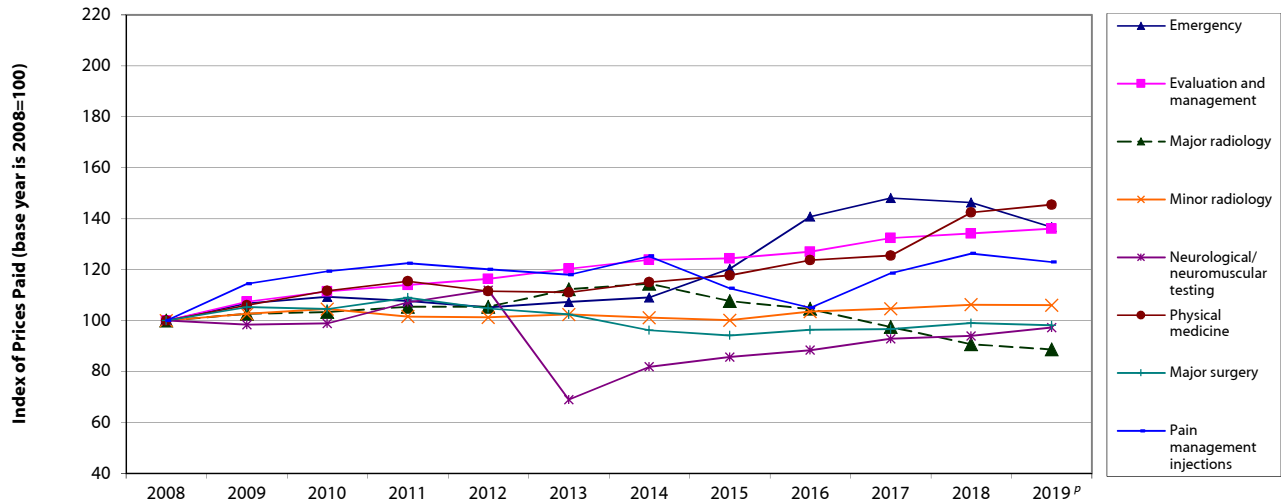
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	5%	0%	4%	2%	1%	0%	1%	-1%	2%	-1%	0%
Evaluation and management	2%	6%	9%	5%	4%	1%	0%	1%	3%	1%	1%
Major radiology	4%	0%	-2%	3%	-1%	-2%	-1%	1%	0%	-2%	-1%
Minor radiology	4%	3%	9%	5%	3%	-4%	-7%	-1%	1%	2%	1%
Neurological/neuromuscular testing ^a	2%	8%	16%	9%	-32%	-6%	2%	1%	1%	0%	2%
Physical medicine	2%	4%	6%	6%	4%	1%	1%	1%	1%	-2%	1%
Major surgery	4%	2%	12%	5%	2%	0%	-2%	2%	0%	1%	-2%
Pain management injections	1%	3%	7%	6%	4%	-12%	4%	7%	8%	-6%	2%

Special notation:^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Georgia typically updates its fee schedule for professional services annually in April. The most recent update within the study period in this report was effective April 1, 2019; the half-year price data through June 2019 in this edition reflect only two months of experience after this fee schedule update.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.8 Iowa Trend in Professional Prices Paid by Service Group, 2008 to 2019



Iowa Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	107	109	108	105	107	109	120	141	148	146	137
Evaluation and management	100	107	111	114	116	120	124	124	127	132	134	136
Major radiology	100	103	103	105	105	112	114	108	105	98	91	89
Minor radiology	100	103	105	102	101	102	101	100	104	105	106	106
Neurological/neuromuscular testing ^a	100	98	99	107	112	69	82	86	88	93	94	97
Physical medicine	100	106	112	115	112	111	115	118	124	125	142	146
Major surgery	100	105	105	109	105	102	96	94	96	97	99	98
Pain management injections	100	114	119	123	120	118	125	113	105	119	126	123

Iowa Annual Change in Professional Prices Paid by Service Group (%)

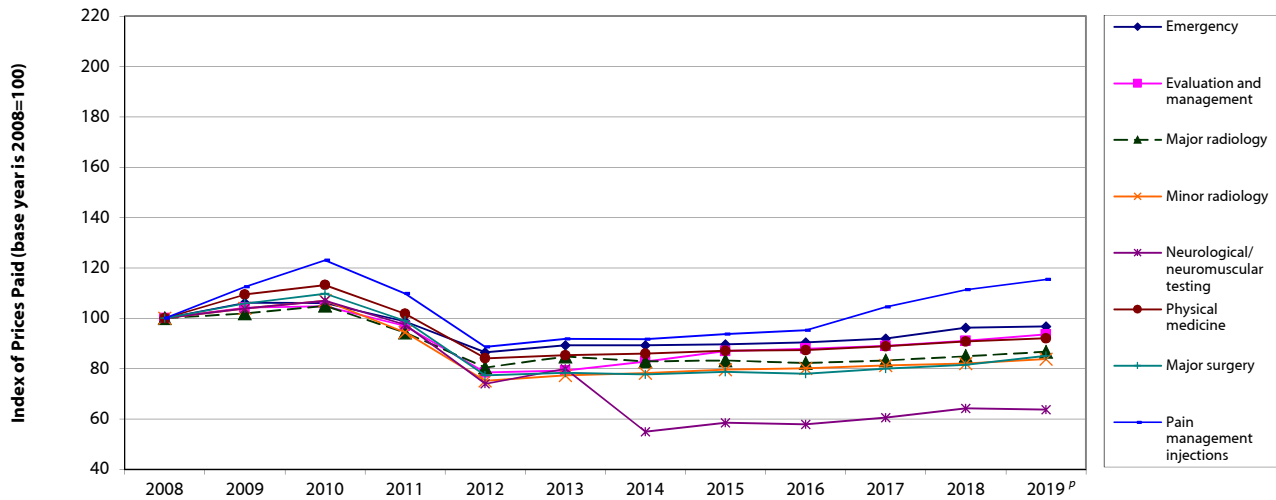
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	7%	2%	-1%	-2%	2%	2%	10%	17%	5%	-1%	-7%
Evaluation and management	7%	4%	2%	2%	3%	3%	0%	2%	4%	1%	1%
Major radiology	3%	1%	2%	0%	7%	2%	-6%	-3%	-7%	-7%	-2%
Minor radiology	3%	2%	-3%	0%	1%	-1%	-1%	3%	1%	1%	0%
Neurological/neuromuscular testing ^a	-2%	1%	8%	4%	-38%	19%	5%	3%	5%	1%	3%
Physical medicine	6%	5%	3%	-3%	0%	4%	2%	5%	1%	14%	2%
Major surgery	5%	-1%	4%	-4%	-2%	-6%	-2%	2%	0%	3%	-1%
Pain management injections	14%	4%	3%	-2%	-2%	6%	-10%	-7%	13%	7%	-3%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Note: Iowa did not have a workers' compensation fee schedule as of 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.9 Illinois Trend in Professional Prices Paid by Service Group, 2008 to 2019



Illinois Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	106	106	99	86	89	89	90	90	92	96	97
Evaluation and management	100	104	105	97	78	79	83	87	88	89	91	94
Major radiology	100	102	105	94	80	85	83	83	82	83	85	87
Minor radiology	100	104	107	94	75	77	78	80	80	81	82	84
Neurological/neuromuscular testing ^a	100	104	107	98	74	80	55	58	58	61	64	64
Physical medicine	100	109	113	102	84	85	86	87	87	89	91	92
Major surgery	100	106	110	99	77	78	78	79	78	80	82	85
Pain management injections	100	112	123	110	89	92	92	94	95	104	111	115

Illinois Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	6%	0%	-7%	-12%	3%	0%	1%	1%	2%	5%	1%
Evaluation and management	4%	1%	-7%	-19%	1%	4%	5%	1%	1%	2%	3%
Major radiology	2%	3%	-10%	-15%	5%	-2%	0%	-1%	1%	2%	2%
Minor radiology	4%	3%	-12%	-20%	3%	1%	2%	1%	1%	1%	2%
Neurological/neuromuscular testing ^a	4%	3%	-9%	-24%	8%	-31%	6%	-1%	5%	6%	-1%
Physical medicine	9%	3%	-10%	-17%	1%	1%	1%	0%	2%	2%	1%
Major surgery	6%	4%	-10%	-22%	1%	-1%	1%	-1%	3%	2%	4%
Pain management injections	12%	9%	-11%	-19%	4%	0%	2%	2%	10%	7%	4%

Special notation: ^P We use the notation ^P to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

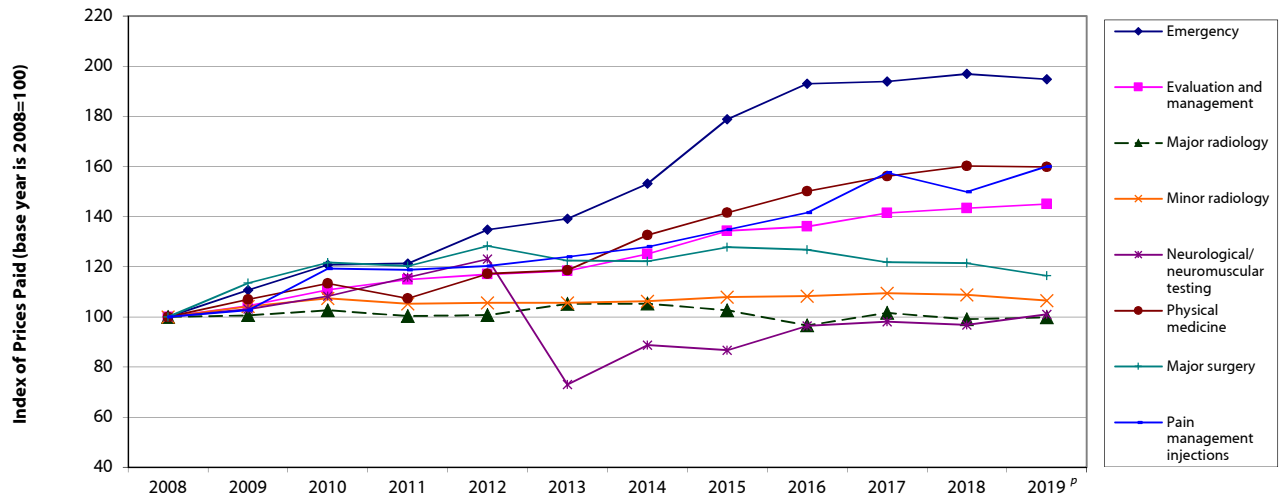
Notes:

Illinois implemented a workers' compensation fee schedule in February 2006. This workers' compensation fee schedule for professional services set different maximum reimbursement rates for the same services for each of 29 different areas of the state based on the first three digits of the zip code where the service was delivered. The 29 fee schedules ranged from a low of 115 percent above Medicare to a high of 219 percent above Medicare—a difference of 104 percentage points. This difference might create unintended incentives for providers to control revenue by moving the site of service. Prices in this study represent the aggregate state-level estimation without drilling down to the 29 geozip areas; therefore, the price trends after 2006 could be influenced by the potential behavior changes of the providers. In September 2011, Illinois enacted new legislation that introduced a 30 percent decrease in the fee schedule rates. On January 1, 2012, Illinois discontinued its use of the 29 geozip areas for physicians and other providers in favor of four county-based regions.

After further review, Illinois determined that the 30 percent decrease implemented across all services in September 2011 caused fee schedule rates for certain evaluation and management services to fall below appropriate fee schedule levels, which resulted in more limited access to medical care for workers. Effective July 16, 2014, the state adjusted its fee schedule to increase the fee schedule rates for these evaluation and management codes to a level more comparable to Medicare rates. The most recent update covered in the study period in this report was effective January 1, 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.10 Indiana Trend in Professional Prices Paid by Service Group, 2008 to 2019



Indiana Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	111	121	121	135	139	153	179	193	194	197	195
Evaluation and management	100	104	111	115	117	118	125	134	136	141	143	145
Major radiology	100	101	103	100	101	105	105	103	97	102	99	100
Minor radiology	100	104	107	105	106	106	106	108	108	109	109	106
Neurological/neuromuscular testing ^a	100	103	108	116	123	73	89	87	96	98	97	101
Physical medicine	100	107	113	107	117	119	133	142	150	156	160	160
Major surgery	100	114	122	120	128	122	122	128	127	122	121	116
Pain management injections	100	103	119	119	120	124	128	135	142	158	150	160

Indiana Annual Change in Professional Prices Paid by Service Group (%)

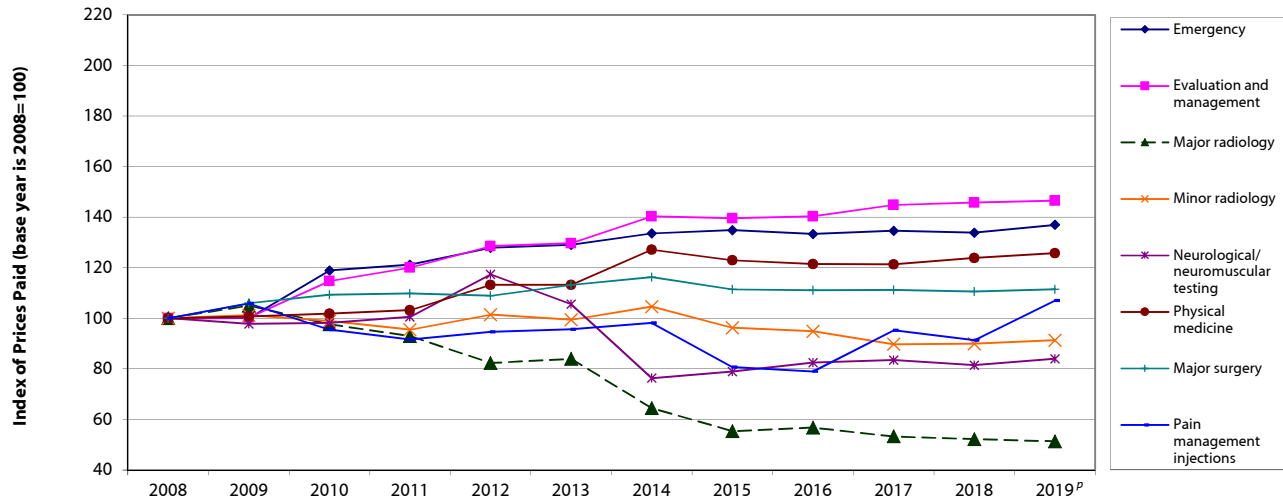
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	11%	9%	1%	11%	3%	10%	17%	8%	0%	2%	-1%
Evaluation and management	4%	6%	4%	2%	1%	6%	7%	1%	4%	1%	1%
Major radiology	1%	2%	-2%	0%	5%	0%	-3%	-6%	5%	-2%	1%
Minor radiology	4%	3%	-2%	0%	0%	1%	2%	0%	1%	-1%	-2%
Neurological/neuromuscular testing ^a	3%	5%	7%	6%	-41%	21%	-2%	11%	2%	-1%	4%
Physical medicine	7%	6%	-5%	9%	1%	12%	7%	6%	4%	3%	0%
Major surgery	14%	7%	-1%	7%	-5%	0%	5%	-1%	-4%	0%	-4%
Pain management injections	3%	16%	0%	1%	3%	3%	5%	5%	11%	-5%	7%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Note: Indiana did not have a workers' compensation fee schedule as of 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.11 Kansas Trend in Professional Prices Paid by Service Group, 2008 to 2019



Kansas Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	100	119	121	128	129	134	135	133	135	134	137
Evaluation and management	100	100	115	120	128	130	140	139	140	145	146	147
Major radiology	100	105	98	93	82	84	64	55	57	53	52	51
Minor radiology	100	101	99	96	101	99	105	96	95	90	90	91
Neurological/neuromuscular testing ^a	100	98	98	101	117	106	76	79	82	83	81	84
Physical medicine	100	101	102	103	113	113	127	123	121	121	124	126
Major surgery	100	106	109	110	109	113	116	111	111	111	111	111
Pain management injections	100	106	95	92	95	96	98	81	79	95	91	107

Kansas Annual Change in Professional Prices Paid by Service Group (%)

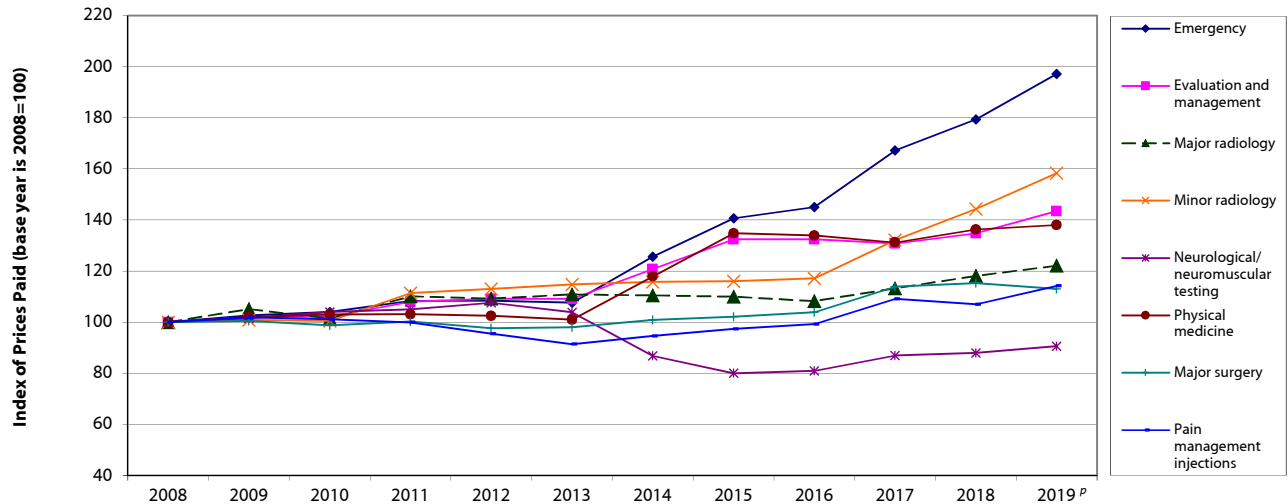
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	0%	19%	2%	6%	1%	3%	1%	-1%	1%	-1%	2%
Evaluation and management	0%	14%	5%	7%	1%	8%	-1%	1%	3%	1%	1%
Major radiology	5%	-7%	-5%	-12%	2%	-23%	-14%	3%	-6%	-2%	-2%
Minor radiology	1%	-2%	-3%	6%	-2%	5%	-8%	-1%	-5%	0%	2%
Neurological/neuromuscular testing ^a	-2%	0%	2%	17%	-10%	-28%	3%	4%	1%	-2%	3%
Physical medicine	1%	1%	1%	10%	0%	12%	-3%	-1%	0%	2%	1%
Major surgery	6%	3%	0%	-1%	4%	3%	-4%	0%	0%	-1%	1%
Pain management injections	6%	-10%	-4%	3%	1%	3%	-18%	-2%	21%	-4%	17%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Kansas typically updates its fee schedule for professional services either annually or biennially in January. The most recent update covered in the study period in this report was effective March 29, 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.12 Kentucky Trend in Professional Prices Paid by Service Group, 2008 to 2019



Kentucky Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	103	104	108	108	108	126	141	145	167	179	197
Evaluation and management	100	102	102	108	109	109	121	132	132	131	135	143
Major radiology	100	105	101	110	109	111	110	110	108	113	118	122
Minor radiology	100	101	100	111	113	115	116	116	117	132	144	158
Neurological/neuromuscular testing ^a	100	101	104	105	108	104	87	80	81	87	88	91
Physical medicine	100	102	103	103	102	101	118	135	134	131	136	138
Major surgery	100	100	99	100	98	98	101	102	104	114	115	113
Pain management injections	100	102	101	100	95	91	95	97	99	109	107	114

Kentucky Annual Change in Professional Prices Paid by Service Group (%)

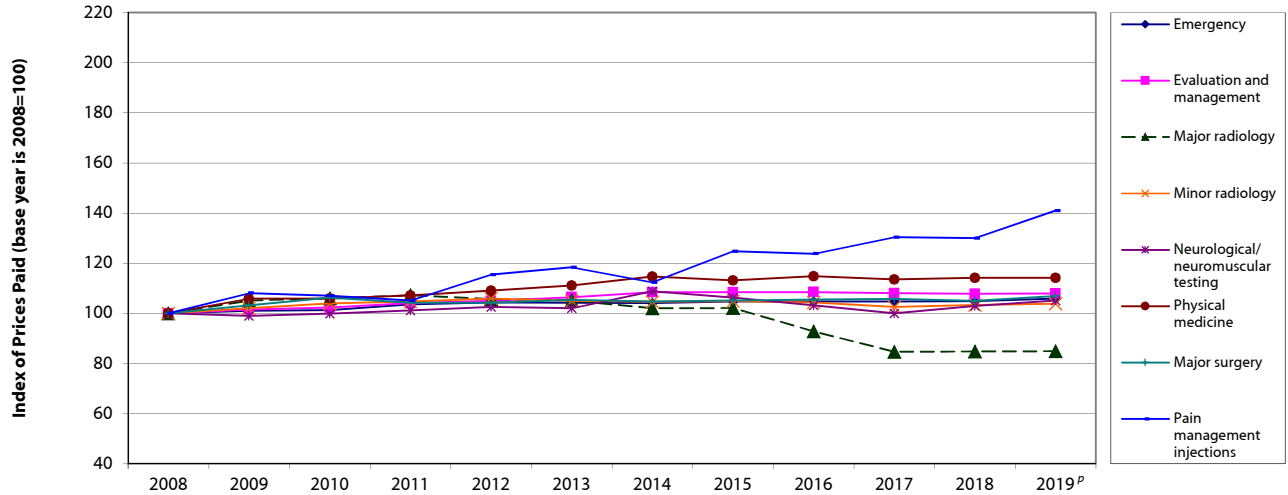
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	3%	1%	4%	0%	-1%	17%	12%	3%	15%	7%	10%
Evaluation and management	2%	0%	6%	1%	0%	11%	10%	0%	-1%	3%	6%
Major radiology	5%	-3%	9%	-1%	2%	0%	0%	-2%	5%	4%	3%
Minor radiology	1%	0%	11%	1%	1%	1%	0%	1%	13%	9%	10%
Neurological/neuromuscular testing ^a	1%	2%	1%	3%	-3%	-16%	-8%	1%	8%	1%	3%
Physical medicine	2%	1%	0%	-1%	-1%	17%	14%	-1%	-2%	4%	1%
Major surgery	0%	-2%	2%	-3%	0%	3%	1%	2%	10%	1%	-2%
Pain management injections	2%	-1%	-1%	-4%	-4%	4%	3%	2%	10%	-2%	7%

Special notation:^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Kentucky periodically updates its fee schedule for professional services, typically every two to three years. Effective June 6, 2014, Kentucky discontinued the use of relative values from Medicare's resource-based relative value scale (RBRVS) for its professional fee schedule and transitioned to using state-specific relative values based on historic data from FAIR Health commercial database values. The most recent fee schedule update covered in the study period in this report was effective July 1, 2018. Following this fee schedule update, prices paid increased for most types of professional services, ranging from 4 percent for neurological/neuromuscular testing to 20 percent for minor radiology from 2017 to 2019. For the most common services, physical medicine and office visits (evaluation and management), price growth from 2017 to 2019 was 5 percent and 10 percent, respectively. In contrast, prices paid for major surgery remained fairly stable after this fee schedule update. The average overall price for professional services increased 6 percent between 2017 and 2019 (see [Figure B.13](#)). With data through June 2019, results shown in this edition reflect a full year of experience after the July 2018 fee schedule update in this state.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.13 Louisiana Trend in Professional Prices Paid by Service Group, 2008 to 2019



Louisiana Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	101	101	103	104	104	104	105	105	105	105	106
Evaluation and management	100	102	102	104	105	106	108	108	109	108	108	108
Major radiology	100	105	106	107	106	105	102	102	93	85	85	85
Minor radiology	100	102	104	105	106	105	105	105	104	103	103	104
Neurological/neuromuscular testing ^a	100	99	100	101	103	102	109	106	103	100	103	105
Physical medicine	100	106	106	107	109	111	115	113	115	114	114	114
Major surgery	100	103	106	104	104	105	105	105	105	106	105	107
Pain management injections	100	108	107	105	115	118	112	125	124	130	130	141

Louisiana Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	1%	0%	2%	1%	0%	0%	1%	0%	0%	0%	1%
Evaluation and management	2%	1%	2%	1%	1%	2%	0%	0%	0%	0%	0%
Major radiology	5%	1%	1%	-1%	0%	-3%	0%	-9%	-9%	0%	0%
Minor radiology	2%	2%	1%	1%	-1%	0%	0%	-1%	-2%	1%	1%
Neurological/neuromuscular testing ^a	-1%	1%	1%	1%	-1%	7%	-2%	-3%	-3%	3%	2%
Physical medicine	6%	0%	1%	2%	2%	3%	-1%	1%	-1%	1%	0%
Major surgery	3%	3%	-2%	0%	1%	-1%	0%	0%	0%	-1%	2%
Pain management injections	8%	-1%	-2%	10%	2%	-5%	11%	-1%	5%	0%	8%

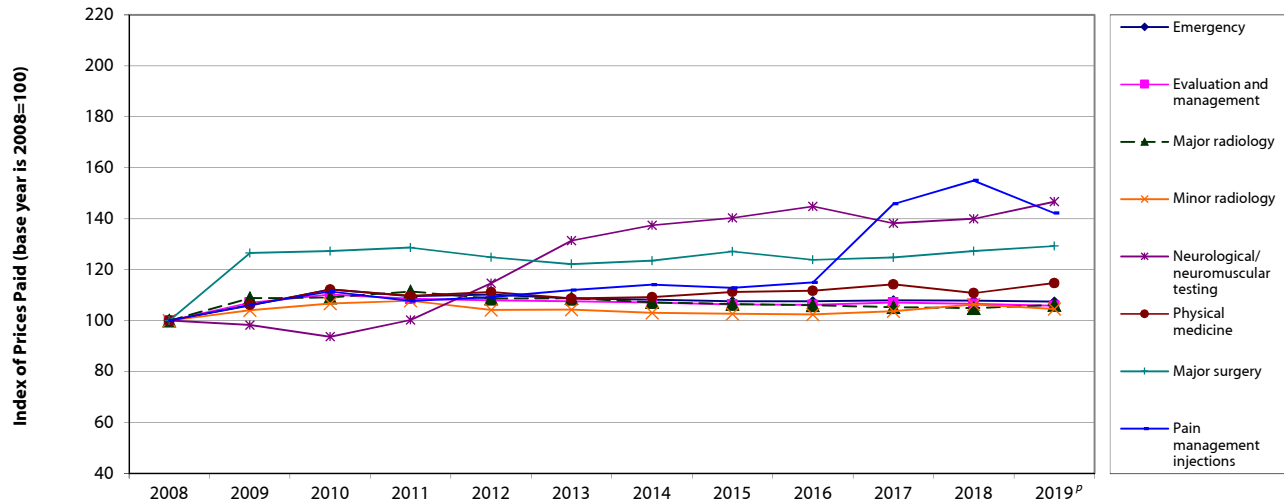
Special notation: ^P We use the notation ^P to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Louisiana's fee schedule for professional services uses the 1999 CPT list published by the American Medical Association and the maximum allowable reimbursement rates effective as of March 2001. Effective July 20, 2013, Louisiana updated its fee schedule using the 2012 CPT list. Maximum allowable reimbursement rates were added for new or revised codes; however, the fee schedule rates for the existing codes appeared to remain at the March 2001 rates. The state-specific codes relating to physical and occupational therapies were discontinued in favor of national CPT codes. Effective June 20, 2016, Louisiana made further updates to its fee schedule to account for some CPT codes that were inadvertently omitted in a February 2014 update.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Key: CPT: Current Procedural Terminology.

Figure C.14 Massachusetts Trend in Professional Prices Paid by Service Group, 2008 to 2019



Massachusetts Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	106	112	109	110	109	108	107	107	108	108	107
Evaluation and management	100	107	110	109	108	108	107	106	106	107	107	106
Major radiology	100	109	109	111	109	109	107	106	106	105	105	106
Minor radiology	100	104	107	108	104	104	103	103	102	104	106	105
Neurological/neuromuscular testing ^a	100	98	94	100	115	131	137	140	145	138	140	147
Physical medicine	100	106	112	110	111	109	109	111	112	114	111	115
Major surgery	100	127	127	129	125	122	123	127	124	125	127	129
Pain management injections	100	106	111	108	109	112	114	113	115	146	155	142

Massachusetts Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	6%	6%	-2%	1%	-1%	-1%	-1%	0%	0%	0%	0%
Evaluation and management	7%	3%	-2%	-1%	0%	-1%	-1%	0%	1%	0%	-1%
Major radiology	9%	0%	2%	-2%	0%	-1%	-1%	0%	-1%	0%	1%
Minor radiology	4%	3%	1%	-3%	0%	-1%	0%	0%	1%	3%	-2%
Neurological/neuromuscular testing ^a	-2%	-5%	7%	14%	15%	5%	2%	3%	-5%	1%	5%
Physical medicine	6%	6%	-2%	1%	-2%	0%	2%	0%	2%	-3%	4%
Major surgery	27%	1%	1%	-3%	-2%	1%	3%	-3%	1%	2%	2%
Pain management injections	6%	5%	-3%	1%	3%	2%	-1%	2%	27%	6%	-8%

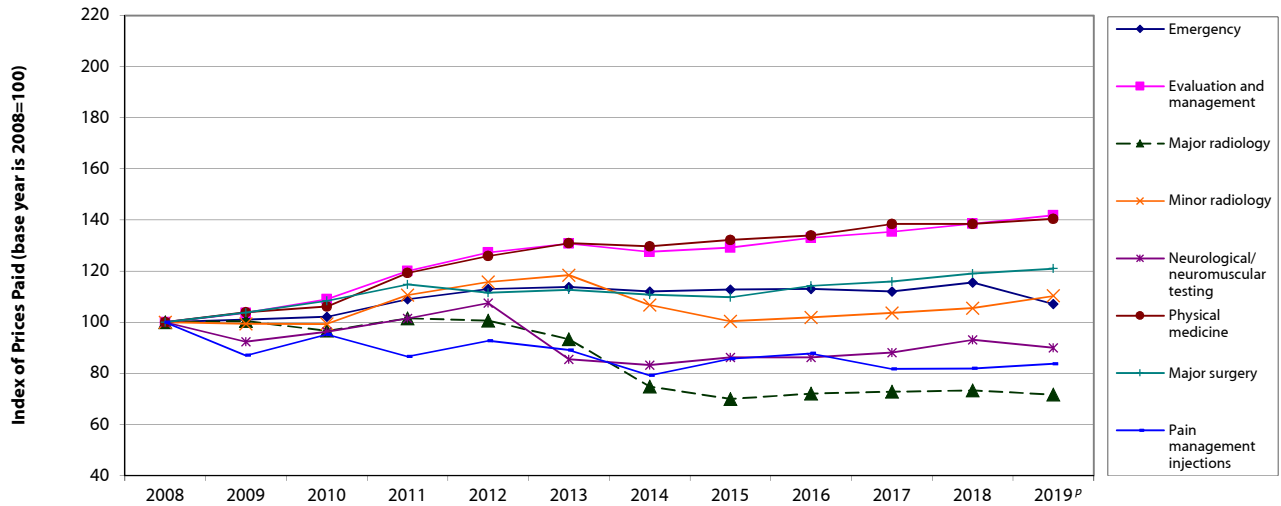
Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Massachusetts increased the fee schedule rates for many professional services, effective in April 2009. The fee schedule increases for major surgeries were especially significant; the rates for some surgeries increased to two to three times the previous rates to be more in line with the median prices paid. Prior to that, the fee schedule for professional services had not been updated since September 2004. A WCRI study showed that major surgeries were often paid above the fee schedule rates (Eccleston, 2006). That study found that for many of these surgeries, it was not uncommon for the median prices paid to be two or three times the fee schedule amount. Typically, 50–60 percent of these surgical procedures were paid above the fee schedule rate. System participants indicated that payors in the state were willing to negotiate with surgeons because workers had better outcomes and return to work was faster (Radeva, 2014b). The most recent fee schedule update within the study period in this report was effective June 26, 2019, which was essentially the same as the fee schedule effective in April 2009 with new CPT/HCPCS codes recognized but without specific fee schedule rates assigned.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Key: CPT: Current Procedural Terminology; HCPCS: Healthcare Common Procedure Coding System.

Figure C.15 Maryland Trend in Professional Prices Paid by Service Group, 2008 to 2019



Maryland Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	101	102	109	113	114	112	113	113	112	116	107
Evaluation and management	100	104	109	120	127	131	127	129	133	135	138	142
Major radiology	100	100	97	102	101	93	75	70	72	73	73	72
Minor radiology	100	99	99	111	116	118	107	100	102	104	105	110
Neurological/neuromuscular testing ^a	100	92	96	101	107	86	83	86	86	88	93	90
Physical medicine	100	104	106	119	126	131	130	132	134	138	138	140
Major surgery	100	104	108	115	111	113	111	110	114	116	119	121
Pain management injections	100	87	95	87	93	89	79	86	88	82	82	84

Maryland Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	1%	1%	7%	4%	1%	-2%	1%	0%	-1%	3%	-7%
Evaluation and management	4%	5%	10%	6%	3%	-3%	1%	3%	2%	2%	2%
Major radiology	0%	-4%	5%	-1%	-7%	-20%	-6%	3%	1%	1%	-2%
Minor radiology	-1%	0%	11%	5%	2%	-10%	-6%	1%	2%	2%	5%
Neurological/neuromuscular testing ^a	-8%	4%	5%	6%	-20%	-3%	4%	0%	2%	6%	-3%
Physical medicine	4%	2%	12%	6%	4%	-1%	2%	1%	3%	0%	1%
Major surgery	4%	4%	6%	-3%	1%	-2%	-1%	4%	2%	3%	2%
Pain management injections	-13%	9%	-9%	7%	-4%	-11%	8%	2%	-7%	0%	2%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

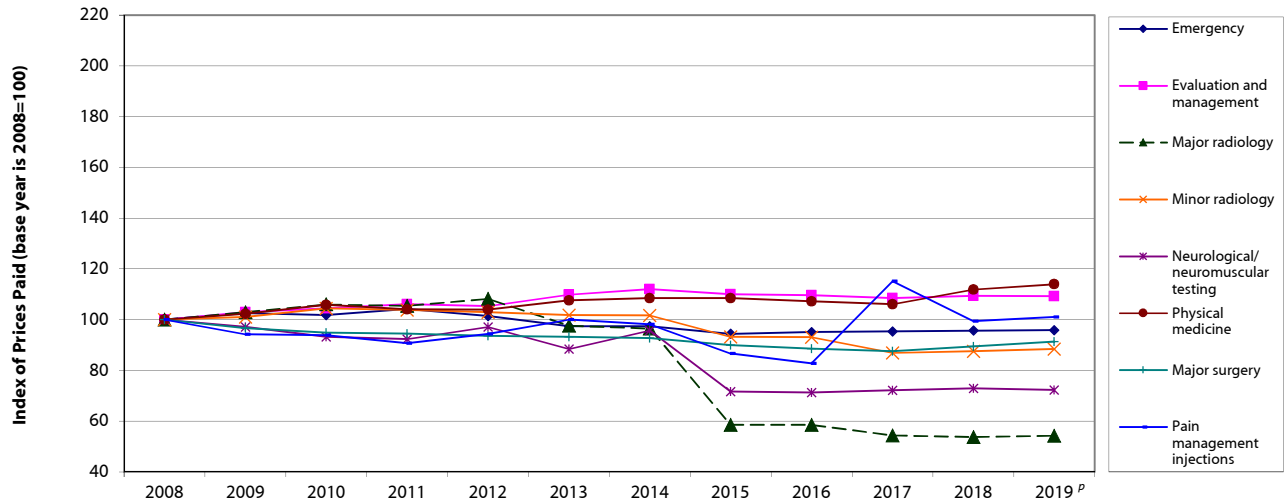
Notes:

The data for Maryland are not necessarily representative because they are missing data from a larger data source that is significant in this state. The results in Maryland are unlikely to be significantly under- or overestimated, given that the state uses a fee schedule to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in Maryland were materially different from other data sources included in this study from the same state.

Starting in March 2008, Maryland implemented annual increases to its fee schedule rates for professional services based on changes in the Medicare Economic Index. The most recent update covered during the study period in this report became effective January 1, 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.16 Michigan Trend in Professional Prices Paid by Service Group, 2008 to 2019



Michigan Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	103	102	104	101	97	97	94	95	95	96	96
Evaluation and management	100	103	104	106	105	110	112	110	110	108	109	109
Major radiology	100	103	106	105	108	98	96	59	59	54	54	54
Minor radiology	100	101	104	104	103	102	102	93	93	87	87	88
Neurological/neuromuscular testing ^a	100	97	93	92	97	88	96	72	71	72	73	72
Physical medicine	100	102	106	104	104	108	108	108	107	106	112	114
Major surgery	100	97	95	94	94	93	93	90	89	88	89	91
Pain management injections	100	94	94	91	94	100	98	87	83	115	99	101

Michigan Annual Change in Professional Prices Paid by Service Group (%)

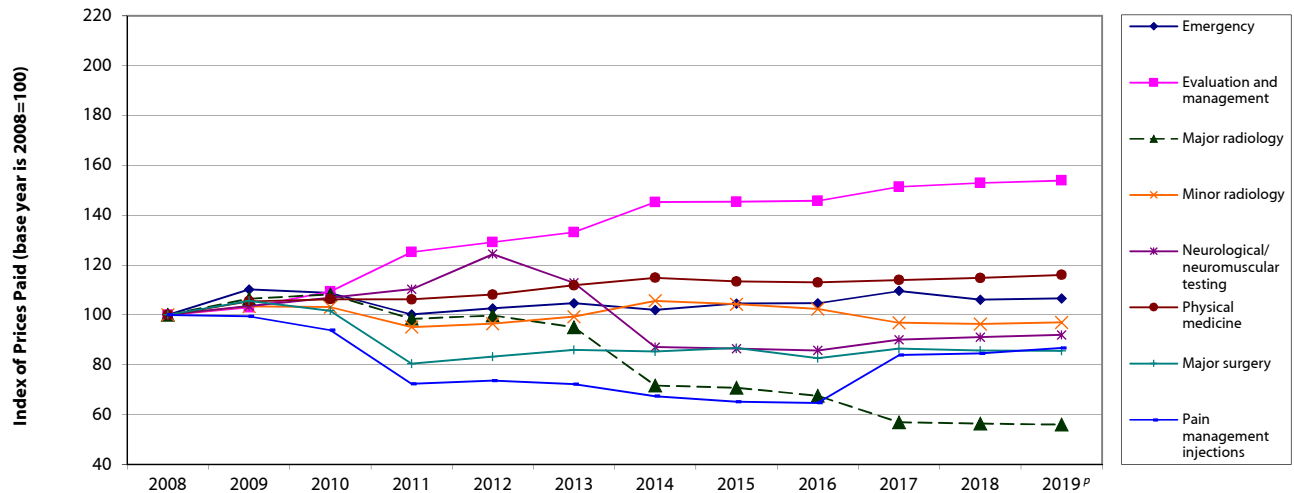
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	3%	-1%	2%	-3%	-4%	0%	-3%	1%	0%	0%	0%
Evaluation and management	3%	1%	2%	-1%	4%	2%	-2%	0%	-1%	1%	0%
Major radiology	3%	3%	-1%	3%	-10%	-1%	-39%	0%	-7%	-1%	1%
Minor radiology	1%	3%	-1%	-1%	-1%	0%	-8%	0%	-7%	1%	1%
Neurological/neuromuscular testing ^a	-3%	-4%	-1%	5%	-9%	8%	-25%	-1%	1%	1%	-1%
Physical medicine	2%	3%	-2%	0%	3%	1%	0%	-1%	-1%	6%	2%
Major surgery	-3%	-2%	0%	-1%	0%	-1%	-3%	-2%	-1%	2%	2%
Pain management injections	-6%	0%	-3%	4%	6%	-2%	-12%	-5%	39%	-14%	2%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Michigan typically updates its fee schedule for professional services annually. The most recent update covered in the study period in this report was effective January 1, 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.17 Minnesota Trend in Professional Prices Paid by Service Group, 2008 to 2019



Minnesota Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	110	109	100	103	105	102	105	105	110	106	107
Evaluation and management	100	103	109	125	129	133	145	145	146	151	153	154
Major radiology	100	106	108	98	100	95	72	71	68	57	56	56
Minor radiology	100	103	103	95	96	99	106	104	102	97	96	97
Neurological/neuromuscular testing ^a	100	104	107	110	124	113	87	86	86	90	91	92
Physical medicine	100	106	106	106	108	112	115	113	113	114	115	116
Major surgery	100	106	102	80	83	86	85	87	83	86	86	86
Pain management injections	100	99	94	72	74	72	67	65	65	84	85	87

Minnesota Annual Change in Professional Prices Paid by Service Group (%)

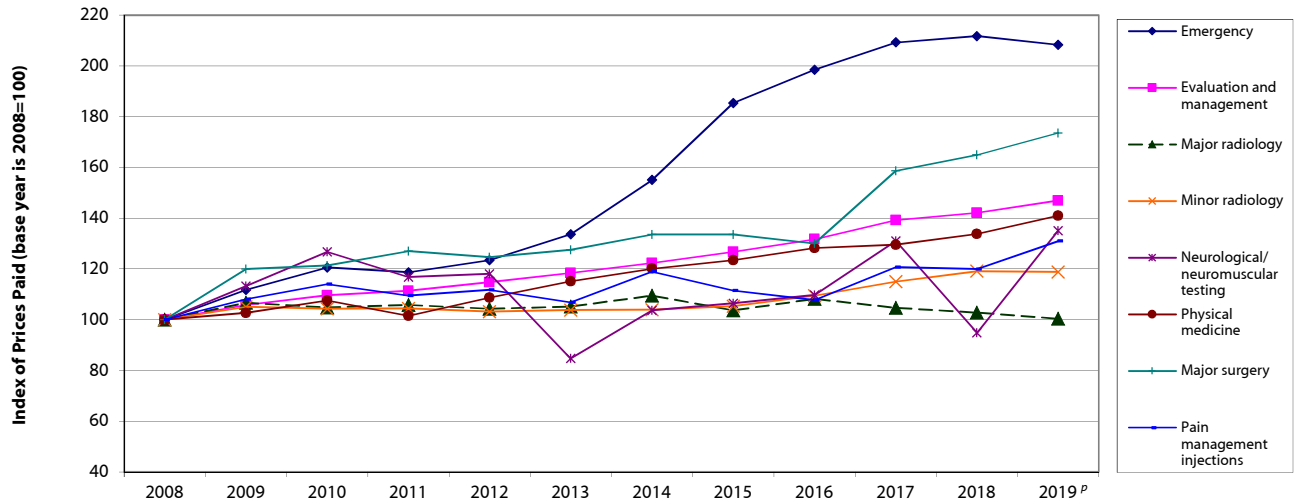
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	10%	-1%	-8%	2%	2%	-3%	3%	0%	5%	-3%	0%
Evaluation and management	3%	6%	14%	3%	3%	9%	0%	0%	4%	1%	1%
Major radiology	6%	2%	-9%	1%	-5%	-24%	-1%	-5%	-16%	-1%	-1%
Minor radiology	3%	0%	-8%	1%	3%	6%	-1%	-2%	-5%	0%	1%
Neurological/neuromuscular testing ^a	4%	3%	3%	13%	-9%	-23%	-1%	-1%	5%	1%	1%
Physical medicine	6%	1%	0%	2%	3%	3%	-1%	0%	1%	1%	1%
Major surgery	6%	-4%	-21%	4%	3%	-1%	2%	-5%	5%	-1%	0%
Pain management injections	-1%	-6%	-23%	2%	-2%	-7%	-3%	-1%	30%	1%	3%

Special notation:^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Minnesota's fee schedule for professional services from 2002 to September 2010 was based on 1998 Medicare relative value units (RVUs), with annual updates to the conversion factor. Effective October 1, 2010, Minnesota updated its fee schedule by using 2009 Medicare RVUs and decreasing the state conversion factor. The most recent update covered in the study period in this report was effective October 1, 2018, and is based on 2018 Medicare RVUs.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.18 Missouri Trend in Professional Prices Paid by Service Group, 2008 to 2019



Missouri Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	112	121	119	123	134	155	185	198	209	212	208
Evaluation and management	100	106	110	111	115	118	122	127	132	139	142	147
Major radiology	100	107	105	106	104	105	109	104	108	105	103	100
Minor radiology	100	105	104	104	103	104	104	105	110	115	119	119
Neurological/neuromuscular testing ^a	100	113	127	117	118	85	104	106	110	131	95	135
Physical medicine	100	103	108	102	109	115	120	123	128	130	134	141
Major surgery	100	120	121	127	125	127	133	133	130	159	165	174
Pain management injections	100	108	114	109	112	107	119	111	108	121	120	131

Missouri Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	12%	8%	-2%	4%	8%	16%	20%	7%	5%	1%	-2%
Evaluation and management	6%	4%	2%	3%	3%	3%	4%	4%	6%	2%	3%
Major radiology	7%	-2%	1%	-1%	1%	4%	-5%	4%	-3%	-2%	-2%
Minor radiology	5%	-1%	0%	-1%	1%	0%	1%	4%	5%	4%	0%
Neurological/neuromuscular testing ^a	13%	12%	-8%	1%	-28%	22%	3%	3%	19%	-28%	42%
Physical medicine	3%	5%	-6%	7%	6%	4%	3%	4%	1%	3%	5%
Major surgery	20%	1%	5%	-2%	2%	5%	0%	-3%	22%	4%	5%
Pain management injections	8%	5%	-4%	2%	-4%	11%	-6%	-3%	12%	-1%	9%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

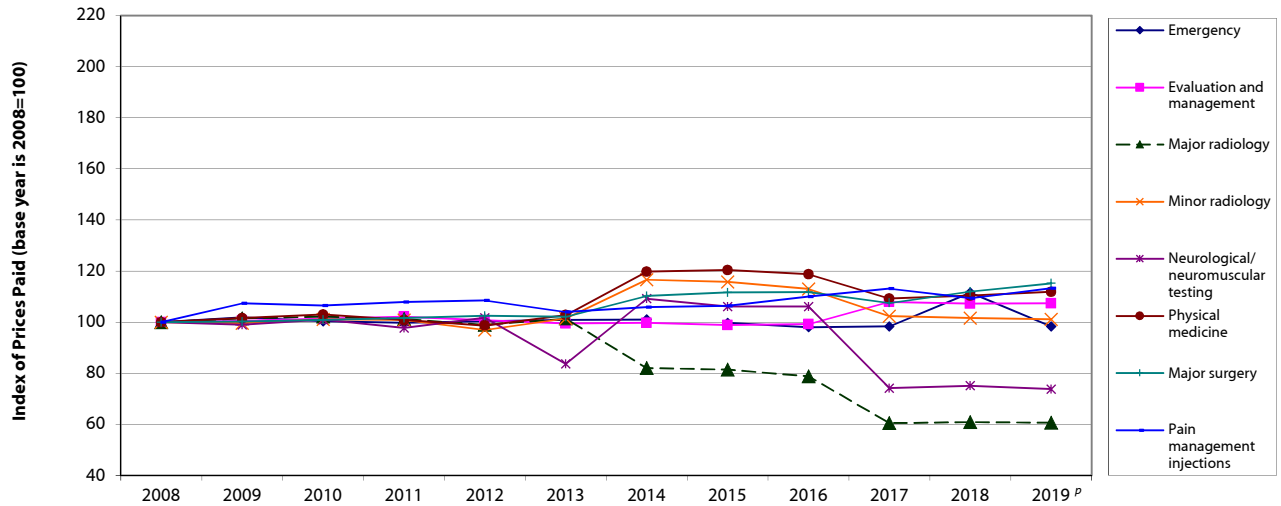
Notes:

The data for Missouri are not necessarily representative because the state is missing data from a larger data source that is significant in the state. To the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to under- or overestimations in the results.

Missouri did not have a workers' compensation fee schedule as of 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.19 Mississippi Trend in Professional Prices Paid by Service Group, 2008 to 2019



Mississippi Trend in Professional Prices Paid by Service Group, 2002 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	102	100	100	100	101	101	100	98	98	112	98
Evaluation and management	100	101	101	102	101	99	100	99	99	108	107	107
Major radiology	100	101	102	101	99	101	82	81	79	60	61	61
Minor radiology	100	100	101	101	97	101	117	116	113	102	102	101
Neurological/neuromuscular testing ^a	100	99	101	98	102	84	109	106	106	74	75	74
Physical medicine	100	102	103	101	99	103	120	120	119	109	110	112
Major surgery	100	100	101	102	103	102	110	112	112	108	112	115
Pain management injections	100	107	107	108	108	104	106	106	110	113	109	113

Mississippi Annual Change in Professional Prices Paid by Service Group (%)

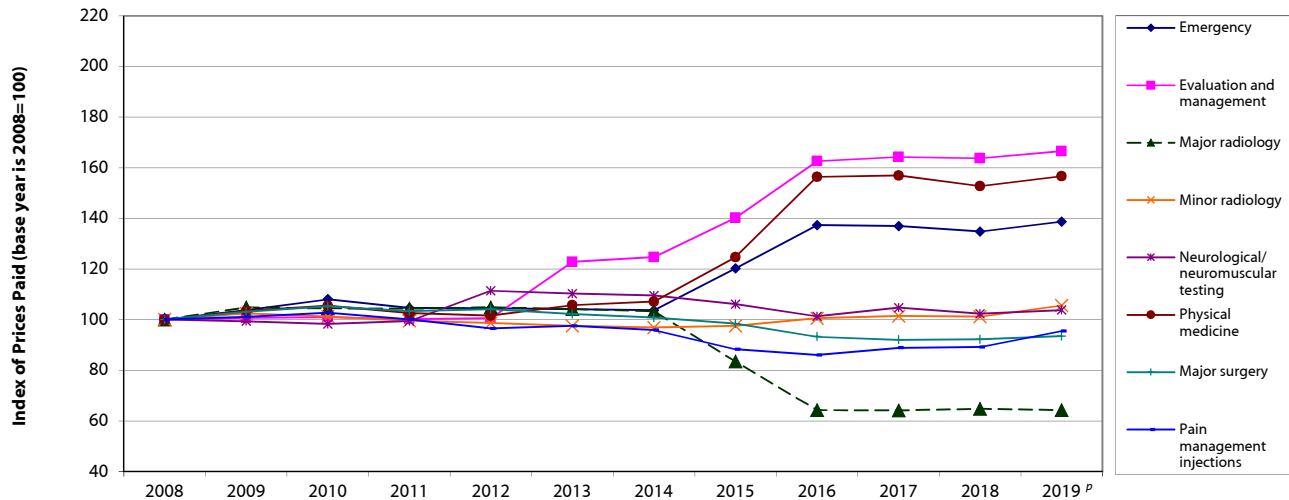
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	2%	-2%	-1%	1%	0%	0%	-1%	-2%	0%	13%	-12%
Evaluation and management	1%	1%	1%	-1%	-1%	0%	-1%	0%	9%	-1%	0%
Major radiology	1%	1%	-1%	-2%	2%	-19%	-1%	-3%	-23%	1%	0%
Minor radiology	0%	1%	0%	-4%	5%	15%	-1%	-2%	-9%	-1%	0%
Neurological/neuromuscular testing ^a	-1%	2%	-3%	4%	-18%	30%	-3%	0%	-30%	1%	-2%
Physical medicine	2%	1%	-2%	-2%	4%	16%	1%	-1%	-8%	1%	1%
Major surgery	0%	1%	1%	1%	0%	8%	1%	0%	-4%	4%	3%
Pain management injections	7%	-1%	1%	1%	-4%	2%	0%	3%	3%	-3%	4%

Special notation:^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Mississippi updates its fee schedule for professional services periodically every few years. The most recent fee schedule update within the study period in this report occurred on June 15, 2019. Data in this report include prices through June 30, 2019, primarily reflecting experience before the fee schedule update effective June 15, 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.20 North Carolina Trend in Professional Prices Paid by Service Group, 2008 to 2019



North Carolina Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	104	108	105	104	104	104	120	137	137	135	139
Evaluation and management	100	101	101	100	101	123	125	140	163	164	164	167
Major radiology	100	105	104	104	105	104	103	83	64	64	65	64
Minor radiology	100	102	101	99	99	97	97	98	101	101	101	106
Neurological/neuromuscular testing ^a	100	99	98	99	111	110	110	106	101	105	102	104
Physical medicine	100	103	105	103	102	106	107	125	156	157	153	157
Major surgery	100	103	105	103	104	102	101	98	93	92	92	93
Pain management injections	100	101	103	100	96	98	96	88	86	89	89	95

North Carolina Annual Change in Professional Prices Paid by Service Group (%)

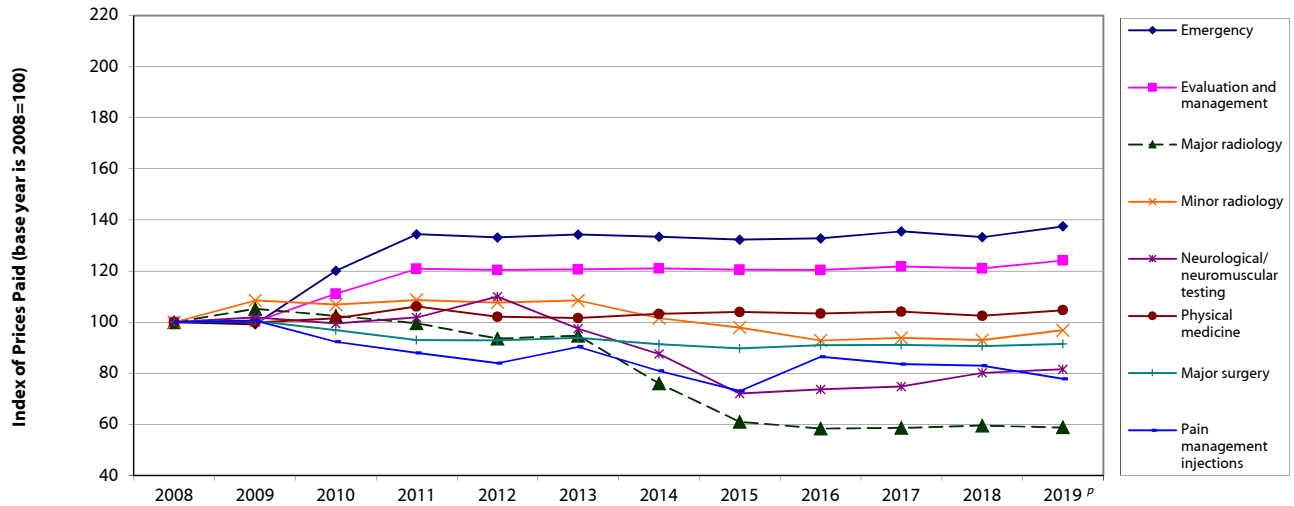
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	4%	4%	-3%	0%	0%	0%	16%	14%	0%	-2%	3%
Evaluation and management	1%	0%	-1%	0%	22%	1%	12%	16%	1%	0%	2%
Major radiology	5%	0%	0%	0%	-1%	-1%	-19%	-23%	0%	1%	-1%
Minor radiology	2%	-1%	-2%	-1%	-1%	-1%	1%	3%	1%	0%	4%
Neurological/neuromuscular testing ^a	-1%	-1%	1%	12%	-1%	-1%	-3%	-4%	3%	-2%	1%
Physical medicine	3%	2%	-3%	-1%	4%	1%	16%	25%	0%	-3%	3%
Major surgery	3%	2%	-2%	1%	-2%	-1%	-2%	-5%	-1%	0%	1%
Pain management injections	1%	2%	-3%	-4%	1%	-2%	-8%	-3%	3%	0%	7%

Special notation:^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Maximum reimbursement amounts in the North Carolina fee schedule for professional services are based on those adopted by the North Carolina Industrial Commission effective January 1996, which was based on the 1995 Medicare values. North Carolina updates its fee schedule annually in January to account for new and discontinued Current Procedural Terminology (CPT) codes published by the American Medical Association. In 2013, the fee schedule rates for office visits increased in North Carolina. Effective July 1, 2015, North Carolina implemented new fee schedule rates, which incorporate the 2015 Medicare rates with the revised service-type specific multipliers, ranging between 140 and 195 percent of Medicare. Before this change, the fee schedule rates for most types of professional services in North Carolina were set at 158 percent of the 1995 Medicare values. Starting in 2016, and each year thereafter, North Carolina publishes a fee schedule table that is effective January 1. The most recent update covered during the study period in this report became effective January 1, 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.21 Nebraska Trend in Professional Prices Paid by Service Group, 2008 to 2019



Nebraska Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	99	120	134	133	134	133	132	133	136	133	137
Evaluation and management	100	100	111	121	120	121	121	120	120	122	121	124
Major radiology	100	105	102	100	94	95	76	61	58	59	60	59
Minor radiology	100	108	107	109	108	108	102	98	93	94	93	97
Neurological/neuromuscular testing ^a	100	102	99	102	110	97	88	72	74	75	80	81
Physical medicine	100	100	102	106	102	102	103	104	103	104	102	105
Major surgery	100	100	97	93	93	94	91	90	91	91	91	91
Pain management injections	100	101	92	88	84	90	81	73	86	84	83	78

Nebraska Annual Change in Professional Prices Paid by Service Group (%)

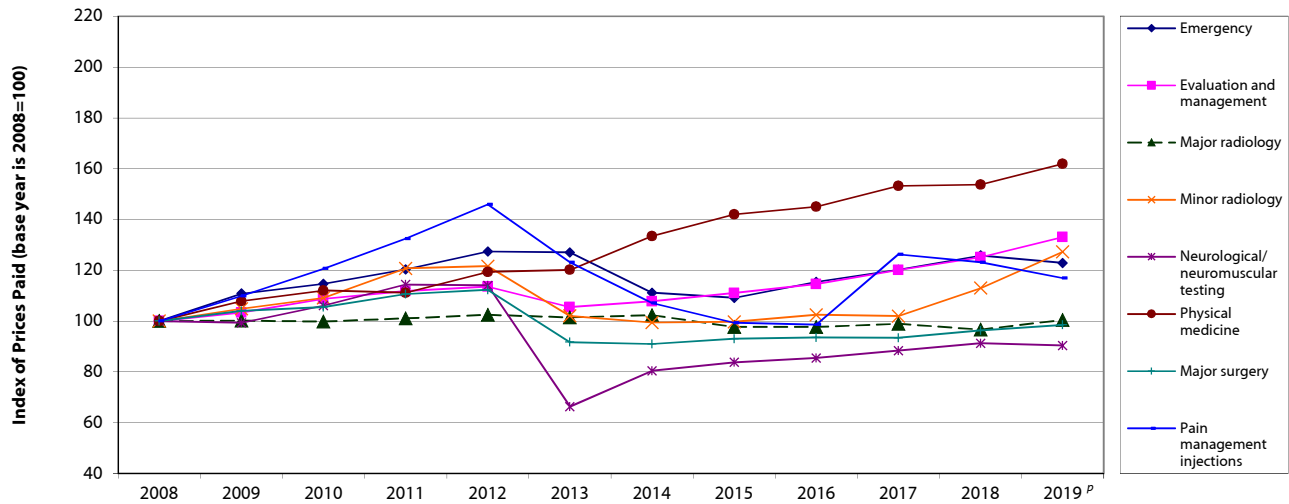
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	-1%	21%	12%	-1%	1%	-1%	-1%	0%	2%	-2%	3%
Evaluation and management	0%	11%	9%	0%	0%	0%	0%	0%	1%	-1%	3%
Major radiology	5%	-3%	-3%	-6%	1%	-20%	-20%	-4%	1%	1%	-1%
Minor radiology	8%	-2%	2%	-1%	1%	-6%	-4%	-5%	1%	-1%	4%
Neurological/neuromuscular testing ^a	2%	-2%	2%	8%	-11%	-10%	-18%	2%	2%	7%	2%
Physical medicine	0%	2%	5%	-4%	-1%	2%	1%	-1%	1%	-2%	2%
Major surgery	0%	-4%	-4%	0%	1%	-3%	-2%	1%	0%	-1%	1%
Pain management injections	1%	-8%	-5%	-5%	8%	-10%	-10%	18%	-3%	-1%	-6%

Special notation: ^P We use the notation ^p to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Nebraska has historically updated its fee schedule for professional services annually or biennially in June since 2008. The most recent update covered in the study period in this report was effective January 1, 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.22 New Jersey Trend in Professional Prices Paid by Service Group, 2008 to 2019



New Jersey Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	111	115	120	127	127	111	109	115	120	126	123
Evaluation and management	100	103	109	112	114	105	108	111	115	120	125	133
Major radiology	100	100	100	101	102	102	102	98	98	99	97	100
Minor radiology	100	105	109	121	122	102	99	100	102	102	113	127
Neurological/neuromuscular testing ^a	100	99	106	114	114	66	80	84	85	88	91	90
Physical medicine	100	108	112	111	119	120	133	142	145	153	154	162
Major surgery	100	104	105	111	112	92	91	93	94	93	96	98
Pain management injections	100	110	121	132	146	123	107	99	99	126	123	117

New Jersey Annual Change in Professional Prices Paid by Service Group (%)

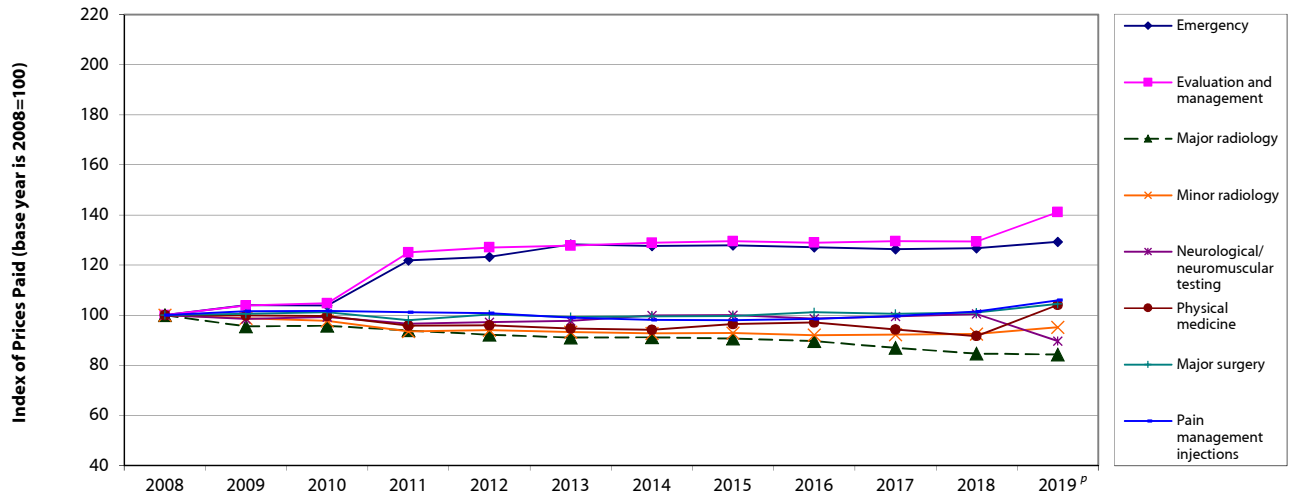
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	11%	3%	5%	6%	0%	-12%	-2%	6%	4%	5%	-2%
Evaluation and management	3%	5%	3%	2%	-7%	2%	3%	3%	5%	4%	6%
Major radiology	0%	0%	1%	1%	-1%	1%	-5%	0%	1%	-2%	4%
Minor radiology	5%	4%	11%	1%	-16%	-3%	0%	3%	-1%	11%	13%
Neurological/neuromuscular testing ^a	-1%	7%	8%	0%	-42%	21%	4%	2%	3%	3%	-1%
Physical medicine	8%	4%	-1%	7%	1%	11%	6%	2%	6%	0%	5%
Major surgery	4%	1%	5%	1%	-18%	-1%	2%	1%	0%	3%	2%
Pain management injections	10%	10%	10%	10%	-16%	-13%	-7%	-1%	28%	-2%	-5%

Special notation:^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: New Jersey did not have a workers' compensation fee schedule as of 2019. Note that in 2013, New Jersey experienced decreases in prices paid for multiple types of professional services. More prevalent network participation and bigger discounts in the negotiated prices under network agreements were the main factors underlying this unusual trend among the states with no fee schedules.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.23 New York Trend in Professional Prices Paid by Service Group, 2008 to 2019



New York Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	104	104	122	123	128	128	128	127	126	127	129
Evaluation and management	100	104	105	125	127	128	129	129	129	129	129	141
Major radiology	100	95	96	94	92	91	91	91	90	87	85	84
Minor radiology	100	99	98	93	94	93	93	93	92	92	92	95
Neurological/neuromuscular testing ^a	100	98	99	97	97	98	100	100	99	100	100	90
Physical medicine	100	100	100	96	96	95	94	96	97	94	92	104
Major surgery	100	101	101	98	100	99	99	100	101	100	101	104
Pain management injections	100	101	102	101	101	99	98	98	98	100	101	106

New York Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	4%	0%	17%	1%	4%	-1%	0%	-1%	-1%	0%	2%
Evaluation and management	4%	1%	19%	2%	1%	1%	0%	0%	0%	0%	9%
Major radiology	-5%	0%	-2%	-2%	-1%	0%	-1%	-1%	-3%	-3%	0%
Minor radiology	-1%	-1%	-4%	1%	-1%	0%	0%	-1%	0%	0%	3%
Neurological/neuromuscular testing ^a	-2%	1%	-3%	1%	0%	2%	0%	-1%	1%	1%	-11%
Physical medicine	0%	0%	-4%	0%	-1%	-1%	2%	1%	-3%	-3%	14%
Major surgery	1%	1%	-3%	2%	-1%	0%	0%	2%	-1%	1%	3%
Pain management injections	1%	0%	0%	0%	-2%	-1%	0%	0%	1%	2%	5%

Special notation:^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

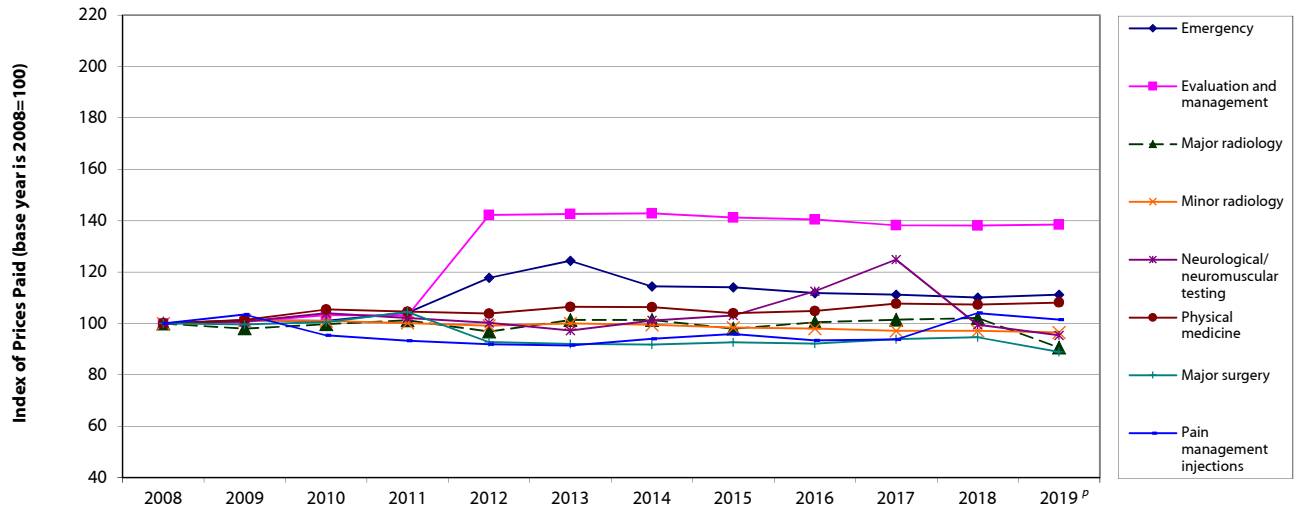
Notes:

The data for New York are not necessarily representative because they are missing data from a larger data source that is significant in this state. The results in New York are unlikely to be significantly under- or overestimated, given that the state uses a fee schedule to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in New York were materially different from other data sources included in this study from the same state.

New York periodically updates its fee schedule for professional services; however, the maximum allowable reimbursement rates for most services covered in this report did not change from 2002 to November 2010. Effective December 1, 2010, the fee schedule rates in New York increased for evaluation and management services and emergency services. Effective April 1, 2019, New York implemented a fee schedule change, aiming to raise medical fee schedule rates, increase medical provider participation in the workers' compensation system, and improve workers' access to timely, quality medical care. The half-year price data through June 2019 in this report reflect only two months of experience under the new fee schedule. From 2018 to June 2019, prices increased 9 percent for evaluation and management (primarily office visits) and 14 percent for physical medicine. Price growth in half-year 2019 were also seen in minor radiology, major surgery, and pain management injections, with smaller magnitudes ranging between 3 to 5 percent. Prices paid for major radiology and emergency services changed little, and prices paid for neurological/neuromuscular testing decreased between 2018 and 2019 (as of June). The average overall price for professional services increased 7 percent from 2018 to June 2019 (see Figure B.24). The next edition of this report will examine the price trends with 14 months of experience after the April 2019 fee schedule change.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "Discussion of Substantial Changes in Prices at Service-Type Level" and "Technical Appendix."

Figure C.24 Oklahoma Trend in Professional Prices Paid by Service Group, 2008 to 2019



Oklahoma Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	101	101	104	118	124	114	114	112	111	110	111
Evaluation and management	100	101	103	103	142	143	143	141	140	138	138	138
Major radiology	100	98	100	101	97	101	101	98	100	101	102	91
Minor radiology	100	101	101	100	99	100	99	98	98	97	97	97
Neurological/neuromuscular testing ^a	100	101	104	102	100	97	101	103	113	125	100	95
Physical medicine	100	101	105	105	104	106	106	104	105	108	107	108
Major surgery	100	100	100	105	93	92	92	93	92	94	95	89
Pain management injections	100	104	95	93	92	91	94	96	93	94	104	102

Oklahoma Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	1%	0%	3%	13%	6%	-8%	0%	-2%	-1%	-1%	1%
Evaluation and management	1%	3%	0%	38%	0%	0%	-1%	-1%	-2%	0%	0%
Major radiology	-2%	2%	2%	-4%	5%	0%	-3%	3%	1%	1%	-11%
Minor radiology	1%	0%	-1%	-1%	1%	-1%	-1%	0%	-1%	0%	-1%
Neurological/neuromuscular testing ^a	1%	3%	-2%	-2%	-3%	4%	2%	9%	11%	-20%	-4%
Physical medicine	1%	4%	-1%	-1%	2%	0%	-2%	1%	3%	0%	1%
Major surgery	0%	1%	4%	-11%	-1%	0%	1%	0%	2%	1%	-6%
Pain management injections	4%	-8%	-2%	-2%	0%	3%	2%	-3%	0%	11%	-2%

Special notation:^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

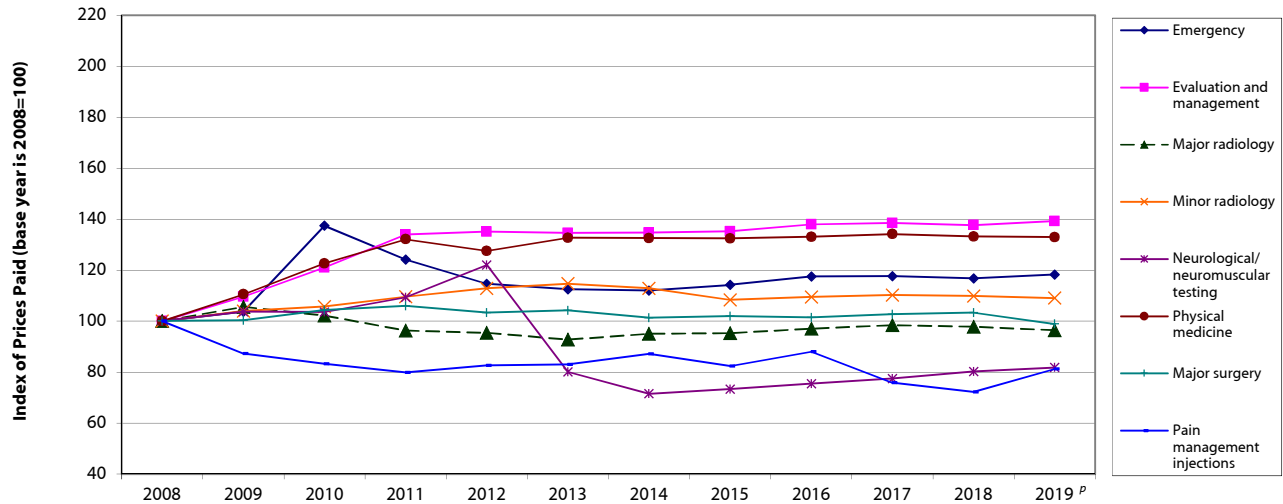
Notes:

The data for Oklahoma are not necessarily representative because they are missing data from a larger data source that is significant in this state. The results in Oklahoma are unlikely to be significantly under- or overestimated, given that the state uses a fee schedule to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in Oklahoma were materially different from other data sources included in this study from the same state.

Oklahoma regularly updated its fee schedule for professional services over the study period. The most recent version of fee schedule within the study period in this report was effective June 1, 2018, which was essentially the same as the fee schedule effective in January 2012. Note that the fee schedule rates for office visits increased materially in 2012. For the most frequently billed office visits for low to moderate severity for established patients (Current Procedural Terminology [CPT] 99213), the fee schedule rate increased 51 percent in that year.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.25 Oregon Trend in Professional Prices Paid by Service Group, 2008 to 2019



Oregon Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^p
Emergency	100	104	137	124	115	113	112	114	117	118	117	118
Evaluation and management	100	110	121	134	135	135	135	135	138	138	138	139
Major radiology	100	106	102	96	95	93	95	95	97	98	98	96
Minor radiology	100	104	106	110	113	115	113	108	109	110	110	109
Neurological/neuromuscular testing ^a	100	104	104	109	122	80	72	73	75	77	80	82
Physical medicine	100	111	123	132	128	133	133	132	133	134	133	133
Major surgery	100	100	104	106	103	104	101	102	101	103	103	99
Pain management injections	100	87	83	80	83	83	87	82	88	76	72	81

Oregon Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^p
Emergency	4%	32%	-10%	-8%	-2%	0%	2%	3%	0%	-1%	1%
Evaluation and management	10%	10%	11%	1%	0%	0%	0%	2%	0%	-1%	1%
Major radiology	6%	-3%	-6%	-1%	-3%	2%	0%	2%	1%	-1%	-1%
Minor radiology	4%	2%	4%	3%	2%	-2%	-4%	1%	1%	0%	-1%
Neurological/neuromuscular testing ^a	4%	0%	6%	12%	-34%	-11%	3%	3%	3%	4%	2%
Physical medicine	11%	11%	8%	-3%	4%	0%	0%	1%	1%	-1%	0%
Major surgery	0%	4%	2%	-3%	1%	-3%	1%	-1%	1%	1%	-4%
Pain management injections	-13%	-5%	-4%	3%	1%	5%	-5%	7%	-14%	-5%	13%

Special notation:^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

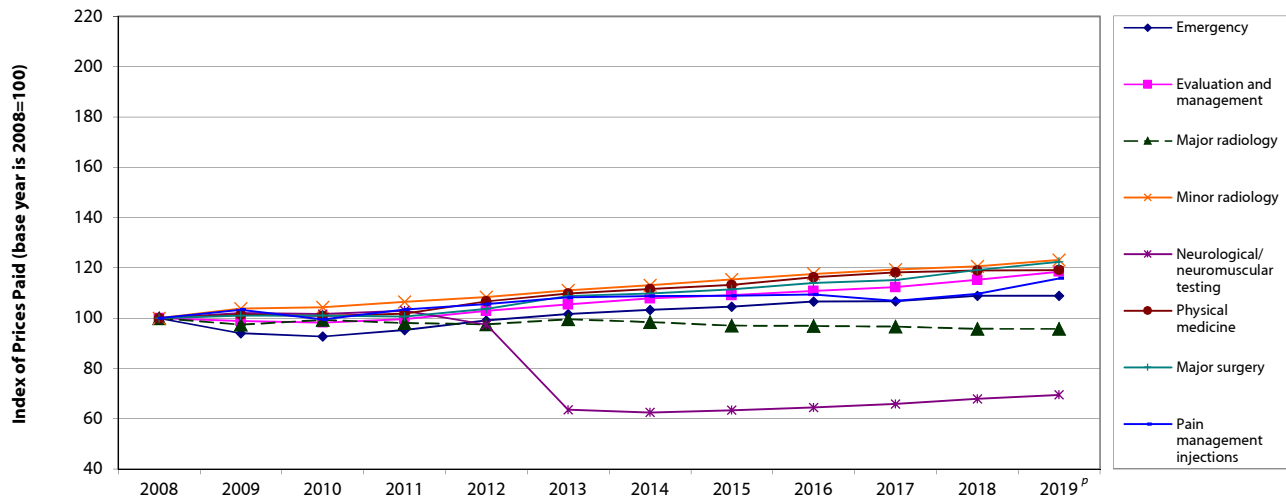
Notes:

The data for Oregon are not necessarily representative because they are missing data from a larger data source that is significant in this state. The results in Oregon are unlikely to be significantly under- or overestimated, given that the state uses a fee schedule to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in Oregon were materially different from other data sources included in this study from the same state.

In July 2010, Oregon moved away from referencing the federal resource-based relative value scale (RBRVS) values in its fee schedule regulation. Instead, the state established the maximum allowable payment (MAP) amounts published by the Oregon Workers' Compensation Division to make it easier for payors and providers to find the correct fee schedule MAP. The underlying values of the Oregon MAP amounts reported in Appendix B of the Oregon Medical Fee and Payment Rules (Oregon Administrative Rules, Chapter 436, Division 009) are based on Medicare relative value unit (RVU) values. Oregon typically updates its fee schedule annually. The most recent update covered in the study period in this report was effective April 1, 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.26 Pennsylvania Trend in Professional Prices Paid by Service Group, 2008 to 2019



Professional Services

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	94	93	95	99	102	103	105	107	107	109	109
Evaluation and management	100	99	98	100	103	105	108	109	111	112	115	119
Major radiology	100	97	99	98	98	100	98	97	97	97	96	96
Minor radiology	100	104	104	106	108	111	113	115	118	119	121	123
Neurological/neuromuscular testing ^a	100	102	102	103	97	64	62	63	64	66	68	69
Physical medicine	100	101	101	102	107	110	112	113	116	118	119	119
Major surgery	100	101	101	101	104	109	110	111	114	115	119	122
Pain management injections	100	103	99	103	106	108	109	109	109	109	110	116

Professional Services

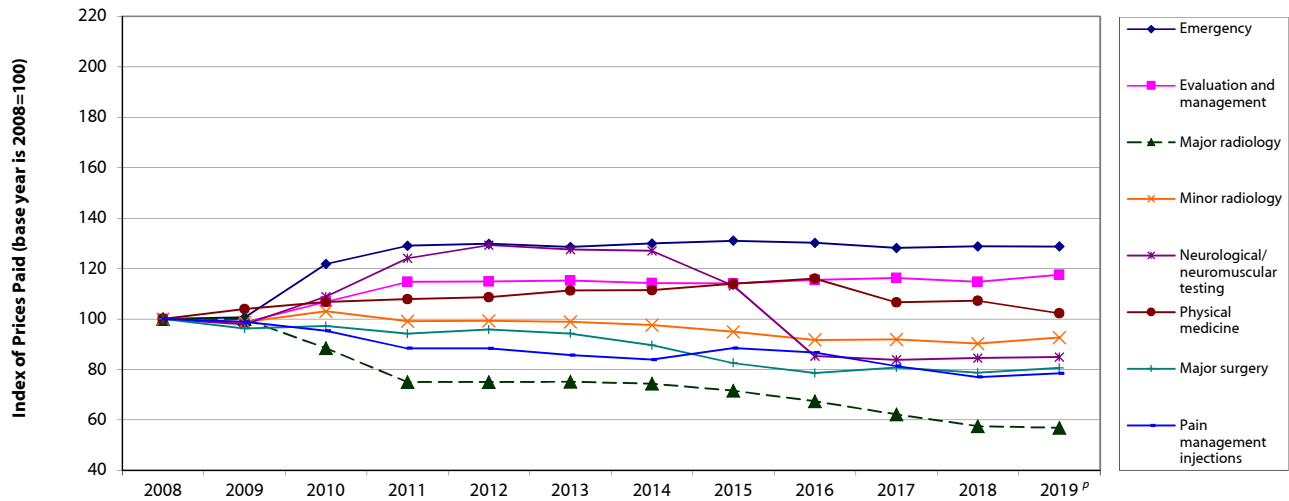
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	-6%	-1%	3%	4%	2%	2%	1%	2%	0%	2%	0%
Evaluation and management	-1%	-1%	1%	3%	3%	2%	1%	2%	1%	3%	3%
Major radiology	-3%	2%	-1%	0%	2%	-1%	-1%	0%	0%	-1%	0%
Minor radiology	4%	0%	2%	2%	3%	2%	2%	2%	1%	1%	2%
Neurological/neuromuscular testing ^a	2%	0%	1%	-5%	-35%	-2%	1%	2%	2%	3%	2%
Physical medicine	1%	-1%	1%	5%	3%	2%	1%	3%	2%	1%	0%
Major surgery	1%	0%	0%	3%	5%	1%	1%	2%	1%	4%	3%
Pain management injections	3%	-4%	4%	2%	2%	1%	0%	1%	-2%	3%	6%

Special notation: ^P We use the notation ^P to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Pennsylvania updates its fee schedule for professional services annually, based on the percentage change in the statewide average weekly wage. For 2019, this percentage change was 2.3 percent and applies to all services rendered on or after January 1, 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.27 South Carolina Trend in Professional Prices Paid by Service Group, 2008 to 2019



South Carolina Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	101	122	129	130	129	130	131	130	128	129	129
Evaluation and management	100	99	107	115	115	115	114	114	115	116	115	118
Major radiology	100	100	88	75	75	75	74	72	67	62	58	57
Minor radiology	100	99	103	99	99	99	98	95	92	92	90	93
Neurological/neuromuscular testing ^a	100	98	109	124	129	128	127	113	85	84	84	85
Physical medicine	100	104	107	108	109	111	111	114	116	107	107	102
Major surgery	100	96	97	94	96	94	90	83	79	81	79	81
Pain management injections	100	99	95	88	88	86	84	88	87	81	77	78

South Carolina Annual Change in Professional Prices Paid by Service Group (%)

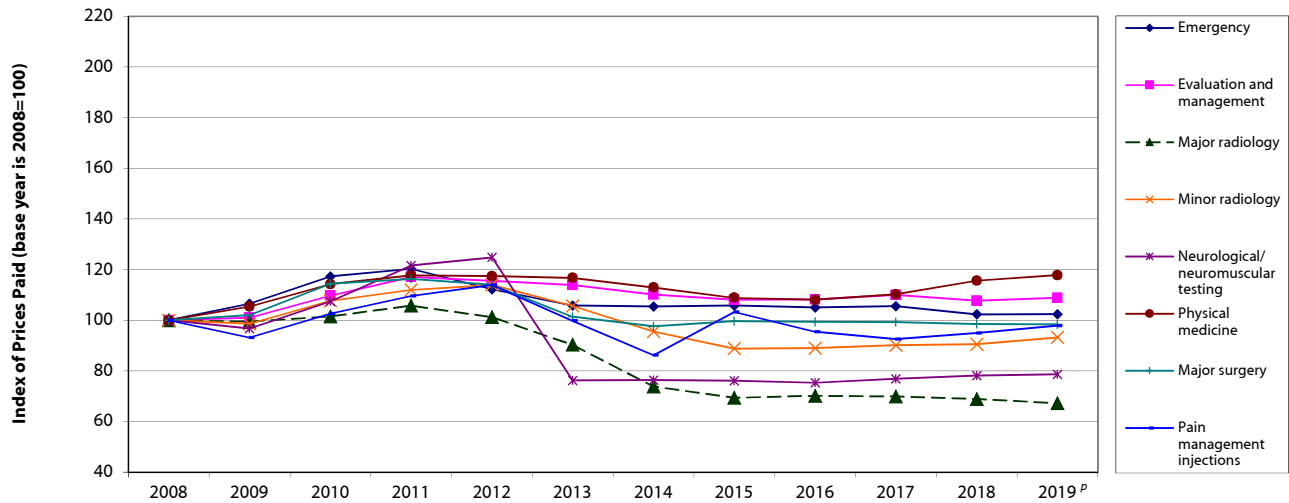
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	1%	21%	6%	1%	-1%	1%	1%	-1%	-2%	0%	0%
Evaluation and management	-1%	8%	7%	0%	0%	-1%	0%	1%	1%	-1%	2%
Major radiology	0%	-12%	-15%	0%	0%	-1%	-4%	-6%	-8%	-7%	-1%
Minor radiology	-1%	4%	-4%	0%	0%	-1%	-3%	-3%	0%	-2%	3%
Neurological/neuromuscular testing ^a	-2%	11%	14%	4%	-1%	0%	-11%	-25%	-2%	1%	0%
Physical medicine	4%	3%	1%	1%	3%	0%	2%	2%	-8%	1%	-5%
Major surgery	-4%	1%	-3%	2%	-2%	-5%	-8%	-5%	3%	-3%	2%
Pain management injections	-1%	-3%	-7%	0%	-3%	-2%	5%	-2%	-6%	-5%	2%

Special notation:^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: South Carolina's fee schedule for professional services remained unchanged (after an update in January 2003) until 2009. Effective July 1, 2010, South Carolina had another update to its fee schedule, which increased the fee schedule rates for many professional services (evaluation and management, emergency, etc.) and decreased the rates for others (pain management injections, radiology services, etc.). The most recent update within the study period in this report was effective April 1, 2019; the half-year price data through June 2019 in this edition reflect only two months of experience after this fee schedule update.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.28 Tennessee Trend in Professional Prices Paid by Service Group, 2008 to 2019



Tennessee Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	106	117	120	112	106	105	106	105	105	102	102
Evaluation and management	100	101	110	117	115	114	110	108	108	110	108	109
Major radiology	100	99	101	106	101	90	74	69	70	70	69	67
Minor radiology	100	99	108	112	114	106	95	89	89	90	91	93
Neurological/neuromuscular testing ^a	100	97	107	122	125	76	76	76	75	77	78	79
Physical medicine	100	105	114	118	117	117	113	109	108	110	116	118
Major surgery	100	102	114	116	114	101	98	100	99	99	98	98
Pain management injections	100	93	103	110	114	100	86	103	95	93	95	98

Tennessee Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	6%	10%	3%	-7%	-6%	0%	0%	-1%	0%	-3%	0%
Evaluation and management	1%	9%	7%	-1%	-1%	-3%	-2%	0%	2%	-2%	1%
Major radiology	-1%	2%	4%	-4%	-11%	-18%	-6%	1%	0%	-1%	-2%
Minor radiology	-1%	9%	4%	2%	-7%	-10%	-7%	0%	1%	0%	3%
Neurological/neuromuscular testing ^a	-3%	11%	13%	3%	-39%	0%	0%	-1%	2%	2%	1%
Physical medicine	5%	8%	3%	0%	-1%	-3%	-4%	-1%	2%	5%	2%
Major surgery	2%	12%	2%	-2%	-11%	-4%	2%	0%	0%	-1%	0%
Pain management injections	-7%	10%	7%	4%	-12%	-14%	20%	-8%	-3%	3%	3%

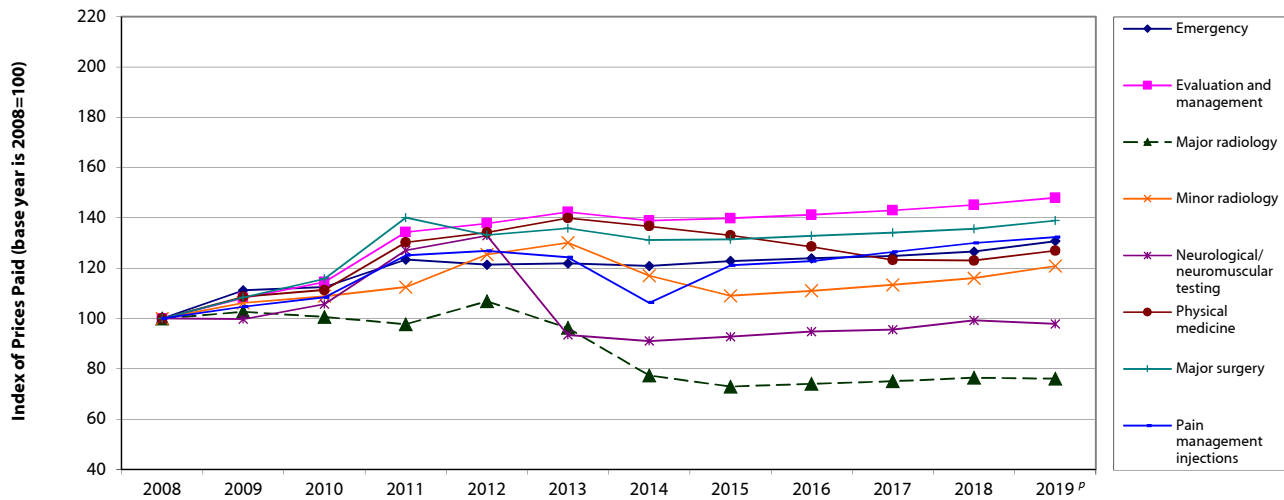
Special notation: ^P We use the notation ^P to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Note: Tennessee implemented an RBRVS-based fee schedule in July 2005 and had regular updates in the following years. For instance, the fee schedule rates decreased across service groups in 2013. The most recent update covered in the study period in this report was effective April 1, 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Key: RBRVS: resource-based relative value scale (Medicare).

Figure C.29 Texas Trend in Professional Prices Paid by Service Group, 2008 to 2019



Texas Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	111	113	123	121	122	121	123	124	125	127	131
Evaluation and management	100	108	114	134	138	142	139	140	141	143	145	148
Major radiology	100	103	101	98	107	96	77	73	74	75	76	76
Minor radiology	100	106	109	112	125	130	117	109	111	113	116	121
Neurological/neuromuscular testing ^a	100	100	106	127	133	93	91	93	95	96	99	98
Physical medicine	100	109	111	130	134	140	137	133	129	123	123	127
Major surgery	100	108	116	140	133	136	131	131	133	134	136	139
Pain management injections	100	105	108	125	127	124	106	121	123	126	130	132

Texas Annual Change in Professional Prices Paid by Service Group (%)

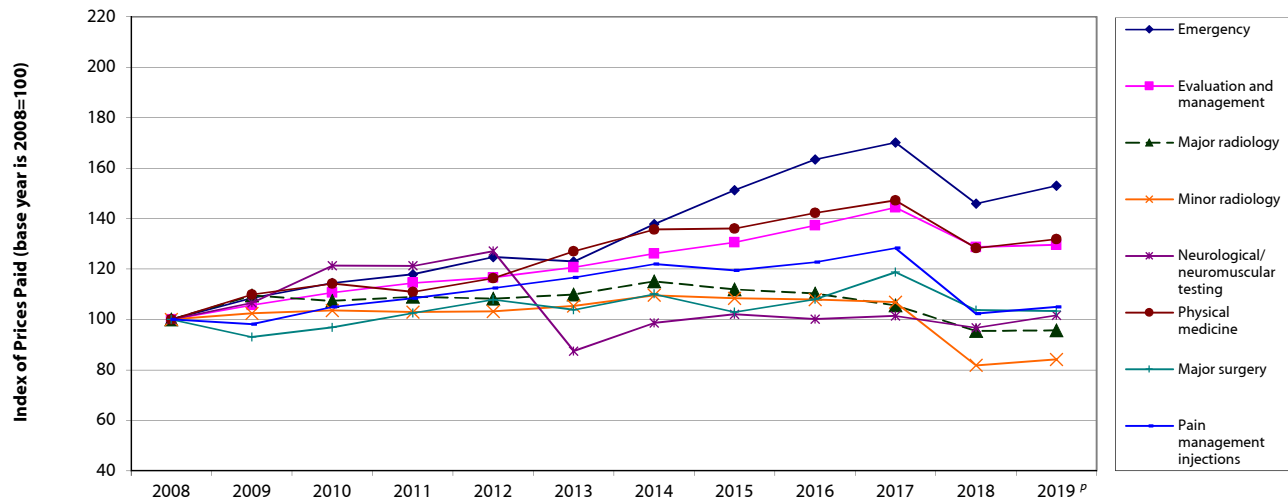
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	11%	1%	10%	-2%	0%	-1%	2%	1%	1%	1%	3%
Evaluation and management	8%	6%	17%	3%	3%	-2%	1%	1%	1%	1%	2%
Major radiology	3%	-2%	-3%	9%	-10%	-20%	-6%	2%	1%	2%	0%
Minor radiology	6%	2%	3%	12%	4%	-10%	-7%	2%	2%	2%	4%
Neurological/neuromuscular testing ^a	0%	6%	20%	5%	-30%	-3%	2%	2%	1%	4%	-1%
Physical medicine	9%	2%	17%	3%	4%	-2%	-3%	-3%	-4%	0%	3%
Major surgery	8%	7%	21%	-5%	2%	-3%	0%	1%	1%	1%	2%
Pain management injections	5%	3%	15%	1%	-2%	-14%	14%	1%	3%	3%	2%

Special notation:^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: In March 2008, Texas increased fee schedule rates for professional services, especially for surgeries, and allowed annual increases based on changes in the Medicare Economic Index. In 2011, the fee schedule rates in Texas increased for most professional services following the Medicare updates. The most recent update covered in the study period in this report was effective April 1, 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.30 Virginia Trend in Professional Prices Paid by Service Group, 2008 to 2019^P



Virginia Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	108	114	118	125	123	138	151	163	170	146	153
Evaluation and management	100	106	111	115	117	121	126	131	137	144	129	130
Major radiology	100	110	107	109	108	110	115	112	110	106	95	96
Minor radiology	100	102	104	103	103	105	110	108	108	107	82	84
Neurological/neuromuscular testing ^a	100	107	121	121	127	87	99	102	100	101	97	102
Physical medicine	100	110	114	111	116	127	136	136	142	147	128	132
Major surgery	100	93	97	103	108	104	110	103	108	119	104	103
Pain management injections	100	98	105	108	112	117	122	119	123	128	102	105

Virginia Annual Change in Professional Prices Paid by Service Group (%)

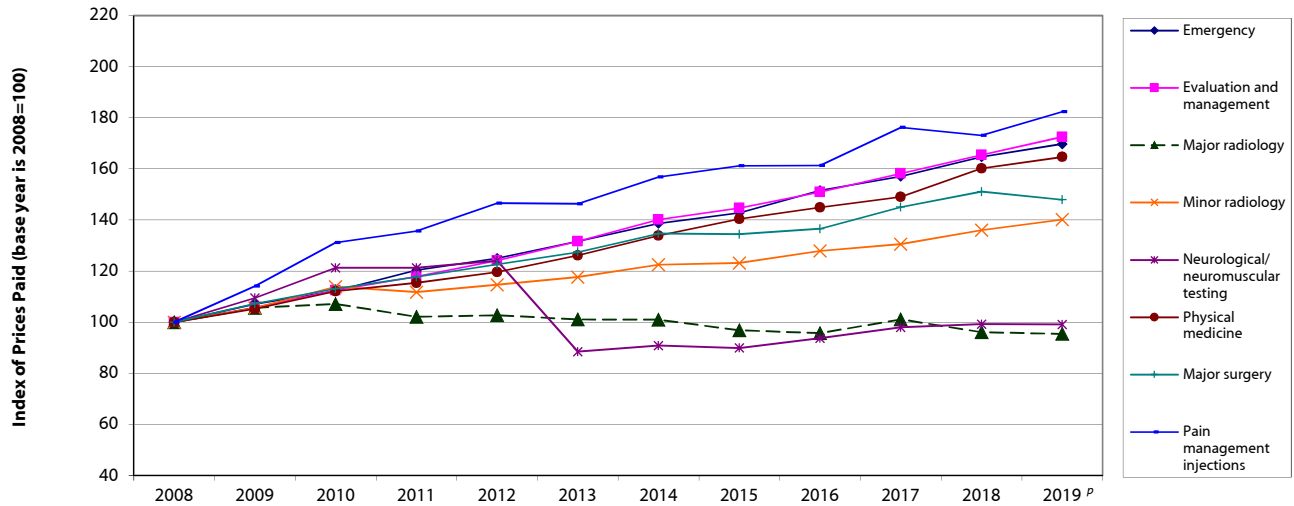
Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	8%	5%	3%	6%	-1%	12%	10%	8%	4%	-14%	5%
Evaluation and management	6%	5%	3%	2%	3%	5%	4%	5%	5%	-11%	1%
Major radiology	10%	-2%	2%	-1%	2%	5%	-3%	-2%	-4%	-10%	0%
Minor radiology	2%	1%	-1%	0%	2%	4%	-1%	-1%	-1%	-23%	3%
Neurological/neuromuscular testing ^a	7%	14%	0%	5%	-31%	13%	3%	-2%	1%	-5%	5%
Physical medicine	10%	4%	-3%	5%	9%	7%	0%	5%	4%	-13%	3%
Major surgery	-7%	4%	6%	5%	-4%	6%	-7%	5%	10%	-13%	0%
Pain management injections	-2%	7%	3%	4%	4%	5%	-2%	3%	5%	-20%	3%

Special notation:^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes: Virginia adopted its first workers' compensation fee schedule for medical professional services effective January 1, 2018. As this figure shows, prices paid for all types of professional services in Virginia decreased from 2017 to 2018, following this policy change. The average overall price for professional services decreased 13 percent in 2018 (see [Figure B.31](#)). With data through June 2019, results shown in this edition reflect the impact of the first 18 months of the fee schedule adoption in this state.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Figure C.31 Wisconsin Trend in Professional Prices Paid by Service Group, 2008 to 2019



Wisconsin Trend in Professional Prices Paid by Service Group, 2008 to 2019

Professional Services	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Emergency	100	107	112	120	125	132	139	143	152	157	165	170
Evaluation and management	100	106	112	118	124	132	140	145	151	158	165	172
Major radiology	100	106	107	102	103	101	101	97	96	101	96	95
Minor radiology	100	106	114	112	115	118	123	123	128	130	136	140
Neurological/neuromuscular testing ^a	100	110	121	121	124	88	91	90	94	98	99	99
Physical medicine	100	105	112	115	120	126	134	140	145	149	160	165
Major surgery	100	107	113	118	123	127	135	134	136	145	151	148
Pain management injections	100	114	131	136	147	146	157	161	161	176	173	182

Wisconsin Annual Change in Professional Prices Paid by Service Group (%)

Professional Services	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019 ^P
Emergency	7%	5%	7%	4%	5%	5%	3%	6%	4%	5%	3%
Evaluation and management	6%	6%	5%	5%	6%	6%	3%	4%	5%	5%	4%
Major radiology	6%	1%	-5%	1%	-2%	0%	-4%	-1%	6%	-5%	-1%
Minor radiology	6%	8%	-2%	3%	3%	4%	0%	4%	2%	4%	3%
Neurological/neuromuscular testing ^a	10%	11%	0%	2%	-29%	3%	-1%	4%	5%	1%	0%
Physical medicine	5%	6%	3%	4%	5%	6%	5%	3%	3%	7%	3%
Major surgery	7%	6%	4%	4%	4%	6%	0%	2%	6%	4%	-2%
Pain management injections	14%	15%	3%	8%	0%	7%	3%	0%	9%	-2%	5%

Special notation: ^P We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Note: Wisconsin did not have a conventional workers' compensation fee schedule as of 2019.

^a Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

Table D.1 Trends of Consumer Price Index for Medical Care (CPI-M, Professional Services) and Producer Price Index for Health Care Services (PPI, Physician Care)

CPI-M, Professional Services, 2008 to 2019, for Urban Wage Earners and Clerical Workers, Not Seasonally Adjusted

	Annual Growth Rate (percentage change)											Average Annual Percentage Change
	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019	
CPI-M for professional services, nationwide	3%	3%	2%	2%	2%	1%	2%	3%	1%	1%	1%	1.9%
<i>By region</i>												
CPI-M, Northeast	2%	2%	2%	1%	2%	1%	3%	3%	2%	1%	3%	2.0%
CPI-M, Midwest	4%	3%	2%	2%	2%	2%	1%	4%	2%	0%	1%	2.3%
CPI-M, South	3%	4%	3%	2%	2%	1%	1%	2%	0%	1%	1%	1.6%
CPI-M, West	3%	2%	2%	2%	2%	2%	2%	4%	1%	1%	0%	1.9%

Source: U.S. Bureau of Labor Statistics, not seasonally adjusted. Consumer Price Index - Urban Wage Earners and Clerical Workers, Series ID CWUR0000SEMC located at <http://www.bls.gov/cpi>.

PPI, Commodity for Health Care Services, Physician Care, 2009 to 2019, Not Seasonally Adjusted

	Annual Growth Rate (percentage change)										Average Annual Percentage Change
	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019	
PPI - commodity for physician care, nationwide	3%	2%	1%	0%	1%	-1%	0%	1%	1%	1%	0.9%

Source: U.S. Bureau of Labor Statistics, not seasonally adjusted. Producer Price Index - commodity for physician care, Series ID WPU511101 located at <http://www.bls.gov/ppi>.

Table D.2 Medicare Physician Fee Schedule Geographic Practice Cost Indices (GPCIs), April 2019

Locality Name ^a	PW GPCI	PE GPCI	MP GPCI
Alabama	1.000	0.890	0.492
Alaska	1.500	1.117	0.708
Arizona	1.000	0.971	0.834
Arkansas	1.000	0.872	0.576
Bakersfield, CA	1.020	1.074	0.618
Chico, CA	1.020	1.074	0.562
El Centro, CA	1.020	1.074	0.570
Fresno, CA	1.020	1.074	0.562
Hanford-Corcoran, CA	1.021	1.074	0.562
Los Angeles-Long Beach-Anaheim (Los Angeles Cnty), CA	1.046	1.177	0.694
Los Angeles-Long Beach-Anaheim (Orange Cnty), CA	1.046	1.177	0.694
Madera, CA	1.020	1.074	0.562
Merced, CA	1.020	1.074	0.562
Modesto, CA	1.020	1.074	0.562
Napa, CA	1.055	1.256	0.458
Oxnard-Thousand Oaks-Ventura, CA	1.024	1.176	0.673
Redding, CA	1.020	1.074	0.562
Riverside-San Bernardino-Ontario, CA	1.021	1.074	0.753
Sacramento-Roseville-Arden-Arcade, CA	1.027	1.092	0.562
Salinas, CA	1.026	1.101	0.562
San Diego-Carlsbad, CA	1.023	1.116	0.570
San Francisco-Oakland-Hayward (Alameda/Contra Costa Cnty), CA	1.075	1.325	0.421
San Francisco-Oakland-Hayward (Marin Cnty), CA	1.065	1.291	0.458
San Francisco-Oakland-Hayward (San Francisco Cnty), CA	1.075	1.325	0.421
San Francisco-Oakland-Hayward (San Mateo Cnty), CA	1.075	1.325	0.421
San Jose-Sunnyvale-Santa Clara (San Benito Cnty), CA	1.052	1.214	0.562
San Jose-Sunnyvale-Santa Clara (Santa Clara Cnty), CA	1.083	1.354	0.388
San Luis Obispo-Paso Robles-Arroyo Grande, CA	1.020	1.084	0.562
Santa Cruz-Watsonville, CA	1.030	1.161	0.562
Santa Maria-Santa Barbara, CA	1.032	1.126	0.562
Santa Rosa, CA	1.024	1.130	0.562
Stockton-Lodi, CA	1.020	1.074	0.562
Vallejo-Fairfield, CA	1.055	1.256	0.458
Visalia-Porterville, CA	1.020	1.074	0.562
Yuba City, CA	1.020	1.074	0.562
Rest of California, CA	1.020	1.074	0.562
Colorado	1.000	1.018	1.042
Connecticut	1.021	1.112	1.255
DC + MD/VA Suburbs	1.045	1.205	1.261
Delaware	1.007	1.019	1.119
Fort Lauderdale, FL	1.000	1.012	1.797
Miami, FL	1.000	1.029	2.566
Rest of Florida	1.000	0.952	1.358
Atlanta, GA	1.000	0.997	1.088
Rest of Georgia	1.000	0.899	1.073

continued

Table D.2 Medicare Physician Fee Schedule Geographic Practice Cost Indices (GPCIs), April 2019 (continued)

Locality Name ^a	PW GPCI	PE GPCI	MP GPCI
Hawaii/Guam	1.001	1.146	0.614
Idaho	1.000	0.902	0.512
Chicago, IL	1.008	1.034	1.925
East St. Louis, IL	1.000	0.936	1.785
Suburban Chicago, IL	1.009	1.053	1.565
Rest of Illinois	1.000	0.919	1.208
Indiana	1.000	0.919	0.379
Iowa	1.000	0.907	0.423
Kansas	1.000	0.911	0.615
Kentucky	1.000	0.880	0.819
New Orleans, LA	1.000	0.966	1.273
Rest of Louisiana	1.000	0.887	1.199
Southern Maine	1.000	1.007	0.670
Rest of Maine	1.000	0.922	0.670
Baltimore/Surr. Cntys, MD	1.023	1.095	1.295
Rest of Maryland	1.009	1.033	1.082
Metropolitan Boston	1.033	1.179	1.061
Rest of Massachusetts	1.020	1.067	1.061
Detroit, MI	1.000	0.989	1.691
Rest of Michigan	1.000	0.919	1.018
Minnesota	1.000	1.011	0.362
Mississippi	1.000	0.870	0.370
Metropolitan Kansas City, MO	1.000	0.963	1.073
Metropolitan St Louis, MO	1.000	0.959	1.053
Rest of Missouri	1.000	0.863	0.993
Montana	1.000	1.000	1.631
Nebraska	1.000	0.910	0.318
Nevada	1.002	1.017	0.909
New Hampshire	1.000	1.045	1.050
Northern NJ	1.041	1.180	0.938
Rest of New Jersey	1.024	1.123	0.938
New Mexico	1.000	0.921	1.247
Manhattan, NY	1.052	1.180	1.615
NYC Suburbs/Long Island, NY	1.041	1.205	2.149
Poughkpsie/N NYC Suburbs, NY	1.016	1.070	1.313
Queens, NY	1.052	1.200	2.121
Rest of New York	1.000	0.950	0.595
North Carolina	1.000	0.931	0.695
North Dakota	1.000	1.000	0.540
Ohio	1.000	0.917	1.005
Oklahoma	1.000	0.891	0.954
Portland, OR	1.010	1.054	0.783
Rest of Oregon	1.000	0.967	0.783
Metropolitan Philadelphia, PA	1.022	1.074	1.379
Rest of Pennsylvania	1.000	0.936	1.033

continued

Table D.2 Medicare Physician Fee Schedule Geographic Practice Cost Indices (GPCIs), April 2019 (continued)

Locality Name ^a	PW GPCI	PE GPCI	MP GPCI
Puerto Rico	1.000	1.007	0.990
Rhode Island	1.027	1.050	0.999
South Carolina	1.000	0.912	0.553
South Dakota	1.000	1.000	0.389
Tennessee	1.000	0.901	0.526
Austin, TX	1.000	1.021	0.747
Beaumont, TX	1.000	0.924	0.839
Brazoria, TX	1.020	0.997	0.839
Dallas, TX	1.012	1.014	0.768
Fort Worth, TX	1.007	0.986	0.747
Galveston, TX	1.020	1.011	0.839
Houston, TX	1.020	1.012	0.936
Rest of Texas	1.000	0.938	0.796
Utah	1.000	0.927	1.165
Vermont	1.000	1.015	0.595
Virginia	1.000	0.986	0.908
Virgin Islands	1.000	1.007	0.990
Seattle (King Cnty), WA	1.027	1.146	0.931
Rest of Washington	1.000	1.011	0.902
West Virginia	1.000	0.857	1.296
Wisconsin	1.000	0.957	0.347
Wyoming	1.000	1.000	0.880

Notes:

The national physician fee schedule (PFS) specifies a set of allowable procedures and is used to determine the Medicare payment to the medical professional for each service. Each procedure is assessed to be composed of a combination of three components or inputs: (1) physician work (wages), (2) practice-related expenses (including staff wages; office rent; cost of contracted services, such as accounting, legal, and advertising; and expenses relating to equipment and supplies), and (3) costs related to malpractice insurance coverage. The blend of these underlying components is evaluated and relative value units (RVUs) are assigned to each component for each service at the national level.

The Medicare PFS payment amounts are further adjusted to account for the variation in practice costs from area to area using geographic practice cost indices (GPCIs). Paralleling the RVU structure, GPCIs are split into three parts: physician work (PW), practice expense (PE), and malpractice insurance (MP). The GPCI values reflect the estimated component cost in a specified locality divided by the national average component cost. GPCIs greater than 1.000 indicate that a locality has costs estimated to be above the national average, while GPCIs of less than 1.000 point toward practice costs that fall below the national average.

Medicare fee schedule payment amounts for services are monetized by multiplying the RVU for each component by the GPCI for that component and then applying a conversion factor.

^a Developed and implemented in 1997, the Centers for Medicare & Medicaid Services currently calculates GPCIs for 112 separate geographic areas, referred to as *Medicare payment localities*, for use with the physician fee schedule. Localities in the states covered in this study are indicated above in bold typeface.

Key: CMS: Centers for Medicare & Medicaid Services; GPCI: geographic practice cost index; MP: malpractice insurance; PE: practice expense; PFS: physician fee schedule; PW: physician wages; RVU: relative value unit.

Source: Centers for Medicare & Medicaid Services. April 2019. Physician Fee Schedule - PFS Relative Value Files, RVU19B.zip, CY2019 GPCIs located at <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/PFS-Relative-Value-Files-Items/RVU19B.html>.

STATISTICAL APPENDIX

This statistical appendix for the 12th edition of the MPI-WC provides the following supplemental figures and tables:

- [Table SA.1](#) provides longer-term trends of prices paid for overall professional services as well as by each service group from 2002 to 2019 for the 25 states covered in the earlier editions of this study series.
- [Table SA.2](#) shows changes in prices paid for overall professional services as well as by each service group in the five additional states introduced since the 10th edition—Alabama, Delaware, Nevada, New Hampshire, and New Mexico—for a shorter period from 2013 to 2019, when sufficient data were available in these states.

Table SA.1 Trends in Professional Prices Paid by Service Group across 25 Study States, 2002 to 2019

Arkansas																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	104	104	105	106	108	107	110	112	119	119	117	111	109	110	111	110	112
<i>Price indices by service group</i>																		
Emergency	100	103	105	104	103	113	119	117	122	125	123	122	120	120	119	119	118	118
Evaluation and management	100	101	103	103	104	113	115	116	125	132	134	135	132	132	132	133	133	134
Major radiology	100	104	105	104	110	108	106	109	81	81	84	79	65	58	59	58	58	56
Minor radiology	100	102	102	101	103	103	104	107	109	110	109	111	102	96	95	95	95	97
Neurological/ neuromuscular testing	100	112	126	131	134	119	120	116	138	149	152	94	90	97	98	100	101	100
Physical medicine	100	110	109	112	111	113	109	116	120	127	128	133	129	125	128	127	127	131
Major surgery	100	97	95	94	96	93	93	92	96	104	100	101	98	97	97	98	96	98
Pain management injections	100	98	100	109	114	82	83	89	97	106	105	104	84	91	95	99	96	95
Arizona																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	101	103	105	108	111	109	112	119	119	119	122	133	133	139	141	145	143
<i>Price indices by service group</i>																		
Emergency	100	101	103	115	117	121	119	125	149	155	151	151	159	164	173	167	146	140
Evaluation and management	100	100	102	110	115	121	121	124	138	140	140	142	168	171	189	196	217	218
Major radiology	100	102	117	121	115	117	101	99	98	99	98	100	99	102	100	100	96	95
Minor radiology	100	100	105	105	102	101	96	96	96	84	83	84	85	89	92	96	97	99
Neurological/ neuromuscular testing	100	91	93	87	87	90	104	106	117	117	119	125	107	72	73	79	81	81
Physical medicine	100	107	109	113	127	124	122	130	140	139	141	143	165	166	171	177	190	185
Major surgery	100	99	97	95	93	98	97	99	101	101	100	102	104	103	104	100	89	88
Pain management injections	100	112	106	101	105	104	102	107	108	113	112	120	121	125	135	143	121	118
California																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	100	97	99	97	100	102	104	105	105	104	104	112	113	116	118	119	120
<i>Price indices by service group</i>																		
Emergency	100	100	95	95	94	94	98	99	101	96	97	97	86	91	96	99	101	101
Evaluation and management	100	101	100	100	99	112	115	116	116	116	116	115	151	159	169	177	181	183
Major radiology	100	101	97	97	96	96	95	95	95	95	95	90	72	67	63	59	59	58
Minor radiology	100	100	94	94	93	93	91	91	90	91	91	91	103	93	89	85	86	89
Neurological/ neuromuscular testing	100	88	83	79	76	74	84	84	85	84	81	84	48	52	56	57	61	61
Physical medicine	100	103	96	103	102	102	104	109	108	108	107	103	131	134	141	148	148	148
Major surgery	100	99	104	106	102	103	103	105	109	110	109	112	88	84	78	73	73	74
Pain management injections	100	102	100	100	101	102	102	102	101	100	99	99	96	96	91	86	85	90

continued

Table SA.1 Trends in Professional Prices Paid by Service Group across 25 Study States, 2002 to 2019 (continued)

Connecticut																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	101	102	103	103	104	104	108	110	112	111	109	109	109	109	109	109	109
<i>Price indices by service group</i>																		
Emergency	100	102	104	106	99	96	93	93	94	91	89	90	89	91	91	89	89	86
Evaluation and management	100	102	106	108	108	114	121	128	140	153	158	158	160	163	161	160	159	160
Major radiology	100	109	113	115	115	109	114	124	122	127	121	118	103	91	88	88	89	84
Minor radiology	100	97	97	97	93	95	96	102	99	100	95	98	94	88	84	83	83	83
Neurological/ neuromuscular testing	100	101	98	98	101	98	100	99	95	90	88	72	61	60	59	59	60	62
Physical medicine	100	99	100	103	102	103	101	105	109	114	114	115	119	120	121	122	123	123
Major surgery	100	100	99	100	99	100	99	99	98	98	94	93	93	93	95	94	93	94
Pain management injections	100	95	96	100	98	102	98	98	103	100	97	96	91	95	100	109	108	116
Florida																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	100	115	123	123	121	118	123	123	120	120	119	121	120	125	131	130	131
<i>Price indices by service group</i>																		
Emergency	100	101	121	123	124	123	129	130	130	130	130	130	130	129	132	137	137	144
Evaluation and management	100	104	155	162	160	158	164	168	170	171	171	169	170	169	186	203	203	204
Major radiology	100	98	103	104	103	103	99	103	104	99	98	97	96	95	93	93	89	90
Minor radiology	100	101	112	114	115	115	110	114	120	114	114	114	113	112	114	111	107	112
Neurological/ neuromuscular testing	100	101	150	152	145	139	153	154	156	157	157	158	160	160	132	120	122	121
Physical medicine	100	97	100	119	124	122	113	121	122	116	117	115	117	118	126	133	133	136
Major surgery	100	99	98	102	98	94	90	92	89	87	86	87	90	88	84	84	84	82
Pain management injections	100	96	132	137	138	136	125	125	127	122	120	126	127	126	120	131	127	131
Georgia																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	101	100	101	104	107	108	110	115	124	131	131	131	131	132	134	133	133
<i>Price indices by service group</i>																		
Emergency	100	101	102	75	67	74	83	87	87	91	93	93	93	94	93	94	94	94
Evaluation and management	100	100	101	117	127	137	143	145	154	168	177	184	186	186	187	192	194	197
Major radiology	100	99	98	100	104	104	99	102	102	100	103	101	99	98	99	99	98	97
Minor radiology	100	100	99	91	90	90	90	93	96	105	111	114	108	101	99	100	102	103
Neurological/ neuromuscular testing	100	100	102	85	87	90	91	93	100	116	127	86	80	82	83	83	83	85
Physical medicine	100	98	93	104	108	112	110	112	117	123	131	136	138	139	141	142	139	140
Major surgery	100	104	105	96	95	95	96	100	102	113	119	122	122	119	121	121	122	119
Pain management injections	100	102	103	95	99	95	86	87	89	96	102	106	93	97	103	112	106	108

continued

Table SA.1 Trends in Professional Prices Paid by Service Group across 25 Study States, 2002 to 2019 (continued)

Illinois	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019^P
<i>Overall price index</i>	100	105	111	120	118	123	126	134	138	125	100	102	102	104	104	106	108	111
<i>Price indices by service group</i>																		
Emergency	100	108	109	111	108	111	110	117	117	109	96	99	99	99	100	102	106	107
Evaluation and management	100	107	113	120	118	124	126	131	132	122	99	100	104	110	111	112	115	118
Major radiology	100	103	108	113	109	107	109	111	115	103	88	93	91	91	90	91	93	95
Minor radiology	100	103	106	109	93	97	99	103	106	93	74	76	77	79	79	80	81	83
Neurological/ neuromuscular testing	100	96	105	111	106	114	122	126	130	119	90	97	67	71	70	74	78	77
Physical medicine	100	105	109	117	116	121	119	130	134	121	100	101	102	103	103	105	108	109
Major surgery	100	107	115	130	132	141	148	157	163	147	115	116	115	117	116	119	121	126
Pain management injections	100	101	110	120	115	120	122	137	150	134	108	112	112	114	116	127	136	141
Indiana																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019^P
<i>Overall price index</i>	100	103	105	106	109	113	116	124	132	131	138	133	141	149	152	155	157	156
<i>Price indices by service group</i>																		
Emergency	100	103	109	112	115	119	115	127	139	140	155	160	176	206	222	223	226	224
Evaluation and management	100	103	109	116	124	129	131	137	146	151	154	156	164	177	179	186	189	191
Major radiology	100	102	100	97	93	97	93	94	96	94	94	98	98	96	90	95	92	93
Minor radiology	100	102	104	108	110	115	117	122	125	123	123	123	124	126	126	128	127	124
Neurological/ neuromuscular testing	100	105	105	107	118	123	125	129	136	145	154	91	111	109	121	123	121	126
Physical medicine	100	99	103	103	105	109	113	121	128	121	132	134	150	160	169	176	181	180
Major surgery	100	107	106	105	108	112	117	133	142	140	150	143	143	149	148	142	142	136
Pain management injections	100	106	110	116	124	123	131	135	156	156	158	163	168	177	186	207	197	210
Iowa																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019^P
<i>Overall price index</i>	100	105	107	108	110	114	115	121	124	128	126	123	125	125	128	130	137	138
<i>Price indices by service group</i>																		
Emergency	100	109	114	117	125	126	142	152	155	153	150	153	155	171	200	211	208	194
Evaluation and management	100	107	111	113	117	123	135	145	150	153	157	162	167	167	171	178	181	183
Major radiology	100	103	104	103	103	106	101	104	105	107	107	114	116	109	106	99	92	90
Minor radiology	100	102	106	107	106	109	110	112	115	111	111	112	111	110	113	115	116	116
Neurological/ neuromuscular testing	100	101	104	111	110	127	126	124	124	135	141	87	103	108	111	117	118	122
Physical medicine	100	109	108	111	113	114	117	124	131	135	130	130	135	138	145	147	167	170
Major surgery	100	101	103	104	105	106	100	105	104	109	105	102	96	94	96	96	99	98
Pain management injections	100	102	108	112	111	117	115	132	138	142	139	136	145	130	121	137	146	142

continued

Table SA.1 Trends in Professional Prices Paid by Service Group across 25 Study States, 2002 to 2019 (continued)

Louisiana																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	101	100	100	101	101	102	106	107	107	108	109	111	111	110	109	109	110
<i>Price indices by service group</i>																		
Emergency	100	102	102	102	101	102	102	103	103	105	106	106	106	107	107	107	107	108
Evaluation and management	100	101	100	102	103	105	106	108	109	111	112	113	115	115	115	115	114	115
Major radiology	100	100	102	100	98	97	96	101	102	103	102	101	98	98	89	82	82	82
Minor radiology	100	100	98	98	97	97	97	99	101	102	103	102	102	102	101	100	100	101
Neurological/ neuromuscular testing	100	97	97	99	98	96	103	102	102	104	105	105	112	109	106	103	106	108
Physical medicine	100	101	99	100	100	101	101	107	107	108	110	112	116	114	116	115	115	115
Major surgery	100	101	98	98	104	102	102	105	108	106	106	108	107	107	108	108	107	109
Pain management injections	100	106	110	112	114	117	125	136	134	132	145	149	141	156	155	164	163	177
Maryland																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	100	98	102	106	106	109	112	115	125	130	130	126	127	130	133	135	137
<i>Price indices by service group</i>																		
Emergency	100	98	92	74	72	72	82	83	84	90	93	94	92	93	93	92	95	88
Evaluation and management	100	99	107	126	126	126	133	138	145	160	170	175	170	172	178	181	185	189
Major radiology	100	99	96	92	91	92	88	88	85	89	89	82	66	62	63	64	64	63
Minor radiology	100	98	96	95	94	94	98	97	97	108	113	116	104	98	99	101	103	108
Neurological/ neuromuscular testing	100	92	99	103	103	106	113	105	109	115	122	97	94	98	98	100	105	102
Physical medicine	100	105	112	136	140	139	137	143	146	164	173	180	178	181	184	190	190	193
Major surgery	100	100	79	59	70	71	76	79	82	87	85	86	84	84	87	88	91	92
Pain management injections	100	97	94	93	91	94	78	68	75	68	73	70	62	67	69	64	64	65
Massachusetts																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	112	113	121	118	123	123	139	141	141	141	140	141	142	141	143	143	145
<i>Price indices by service group</i>																		
Emergency	100	134	138	138	139	141	140	149	158	154	155	153	152	151	151	152	151	151
Evaluation and management	100	130	133	141	143	144	144	154	158	156	155	154	154	153	152	154	153	152
Major radiology	100	107	112	115	114	116	114	124	124	127	123	124	122	121	120	120	119	121
Minor radiology	100	105	108	109	109	114	111	116	119	120	116	116	115	114	114	115	118	117
Neurological/ neuromuscular testing	100	99	112	128	131	129	134	132	126	134	154	176	184	188	194	185	188	197
Physical medicine	100	100	108	113	112	113	112	119	126	123	125	122	122	125	125	128	124	129
Major surgery	100	115	106	117	106	119	122	154	155	156	152	148	150	155	151	152	155	157
Pain management injections	100	80	83	90	86	91	89	94	99	96	97	100	101	100	102	130	138	126

continued

Table SA.1 Trends in Professional Prices Paid by Service Group across 25 Study States, 2002 to 2019 (continued)

Michigan																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	104	108	112	113	114	120	121	123	122	123	124	125	118	117	116	119	121
<i>Price indices by service group</i>																		
Emergency	100	99	99	102	102	104	114	117	116	118	115	111	111	107	108	108	109	109
Evaluation and management	100	109	114	119	121	123	133	137	139	141	140	146	149	146	146	144	145	145
Major radiology	100	95	98	100	102	104	104	107	110	109	112	101	100	61	61	56	56	56
Minor radiology	100	97	99	100	102	103	105	106	109	109	108	106	106	97	97	91	91	92
Neurological/neuromuscular testing	100	94	110	113	117	113	128	124	119	118	124	113	122	91	91	92	93	92
Physical medicine	100	106	112	118	117	118	124	127	131	129	129	133	135	135	133	132	139	141
Major surgery	100	104	100	100	102	104	106	103	101	100	100	99	99	96	94	93	95	97
Pain management injections	100	105	112	115	101	98	92	87	86	84	87	92	90	80	76	106	92	93
Minnesota																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	104	106	107	108	110	111	117	118	115	118	120	121	121	119	121	122	123
<i>Price indices by service group</i>																		
Emergency	100	103	105	106	107	108	112	124	122	112	115	117	114	117	117	123	119	120
Evaluation and management	100	104	107	110	110	112	115	118	125	143	148	153	166	166	167	173	175	176
Major radiology	100	103	103	105	105	103	103	109	111	101	102	98	74	73	69	58	58	58
Minor radiology	100	103	104	106	108	111	113	117	116	107	109	112	119	118	115	109	109	109
Neurological/neuromuscular testing	100	100	100	99	97	99	105	109	112	116	130	118	91	91	90	94	96	96
Physical medicine	100	103	105	106	109	112	113	119	120	120	122	126	129	128	127	128	129	131
Major surgery	100	109	108	109	110	109	111	117	112	89	92	95	94	96	91	96	95	95
Pain management injections	100	110	122	131	130	135	140	139	131	101	103	101	94	91	91	117	118	121
Missouri																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	101	104	107	107	111	114	125	129	128	130	131	138	140	144	155	157	165
<i>Price indices by service group</i>																		
Emergency	100	105	110	114	116	121	124	138	149	147	153	165	192	229	245	259	262	257
Evaluation and management	100	104	110	118	126	133	139	147	152	154	159	164	170	176	183	193	197	204
Major radiology	100	98	100	101	97	98	92	98	96	97	96	97	101	95	100	96	94	92
Minor radiology	100	103	105	107	109	112	117	123	122	122	121	121	122	123	128	135	139	139
Neurological/neuromuscular testing	100	98	110	108	109	113	120	136	152	140	142	102	125	128	132	157	114	162
Physical medicine	100	98	99	104	105	108	113	116	122	115	123	130	136	140	145	147	151	160
Major surgery	100	103	106	103	98	103	104	125	126	132	130	133	139	139	135	165	172	181
Pain management injections	100	94	97	104	111	118	122	132	139	134	137	131	145	136	132	148	146	160

continued

Table SA.1 Trends in Professional Prices Paid by Service Group across 25 Study States, 2002 to 2019 (continued)

New Jersey																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	107	109	115	114	116	117	123	127	132	135	118	121	124	127	131	134	139
<i>Price indices by service group</i>																		
Emergency	100	109	118	125	126	128	139	154	159	167	177	176	154	152	160	167	175	171
Evaluation and management	100	104	107	112	115	120	123	127	134	138	140	130	133	137	141	148	154	164
Major radiology	100	100	103	103	96	95	94	94	93	95	96	95	96	91	91	93	90	94
Minor radiology	100	99	99	100	96	99	105	110	115	127	128	107	104	105	108	107	119	134
Neurological/ neuromuscular testing	100	105	108	108	107	99	109	109	116	125	125	73	88	92	93	97	100	99
Physical medicine	100	102	100	103	103	109	103	111	116	115	123	124	138	147	150	158	159	167
Major surgery	100	116	117	129	128	128	130	135	137	144	146	119	119	121	122	122	125	128
Pain management injections	100	114	127	132	131	135	130	143	157	173	190	160	140	129	128	164	160	152
New York																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	101	101	102	101	102	102	102	102	103	104	103	103	104	105	103	102	109
<i>Price indices by service group</i>																		
Emergency	100	101	104	105	104	103	100	104	104	122	123	128	127	128	127	126	126	129
Evaluation and management	100	101	101	102	103	103	99	103	103	123	125	126	127	128	127	128	128	139
Major radiology	100	100	100	99	101	102	104	100	100	98	96	95	95	95	94	91	88	88
Minor radiology	100	100	100	101	101	101	102	100	99	95	95	95	94	94	93	94	94	97
Neurological/ neuromuscular testing	100	100	103	100	99	100	108	107	108	105	105	106	108	108	107	108	109	97
Physical medicine	100	101	102	102	102	103	102	102	102	98	98	97	96	99	99	96	94	106
Major surgery	100	100	100	102	101	101	100	100	101	98	100	99	99	99	101	100	101	104
Pain management injections	100	100	103	104	108	109	108	110	110	110	109	107	106	106	107	108	110	115
North Carolina																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	102	101	101	100	99	99	101	103	101	102	107	107	113	126	126	125	127
<i>Price indices by service group</i>																		
Emergency	100	101	101	98	99	98	96	100	104	101	101	100	100	116	132	132	130	134
Evaluation and management	100	101	101	101	101	102	101	102	102	102	102	125	126	142	165	167	166	169
Major radiology	100	101	100	102	102	103	100	105	104	104	105	104	103	83	64	64	65	64
Minor radiology	100	101	100	100	99	99	98	101	100	98	97	96	95	96	99	100	100	104
Neurological/ neuromuscular testing	100	101	102	100	100	100	105	104	103	104	117	115	115	111	106	110	107	109
Physical medicine	100	100	99	100	99	99	100	103	105	102	101	106	107	124	156	157	153	156
Major surgery	100	105	104	104	98	95	94	97	99	97	98	96	95	93	88	87	87	88
Pain management injections	100	100	95	98	94	92	90	91	92	90	87	87	86	79	77	80	80	86

continued

Table SA.1 Trends in Professional Prices Paid by Service Group across 25 Study States, 2002 to 2019 (continued)

Oklahoma																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	103	105	104	100	98	96	97	99	100	104	105	105	104	104	105	105	103
<i>Price indices by service group</i>																		
Emergency	100	101	100	107	97	99	97	98	98	101	114	121	111	111	108	108	107	108
Evaluation and management	100	108	110	114	112	111	118	119	122	122	168	169	169	167	166	163	163	164
Major radiology	100	103	103	102	90	89	80	78	80	81	77	81	81	78	80	81	82	72
Minor radiology	100	100	100	100	91	90	89	90	90	89	88	89	88	87	87	86	86	86
Neurological/ neuromuscular testing	100	94	97	84	78	81	85	85	88	87	85	83	86	87	95	106	84	81
Physical medicine	100	100	104	105	113	107	105	106	111	110	109	112	111	109	110	113	112	113
Major surgery	100	106	107	105	92	88	84	83	84	87	77	77	77	77	77	78	79	74
Pain management injections	100	97	96	97	159	159	162	168	155	151	149	148	152	155	151	152	169	165
Pennsylvania																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	104	106	109	112	115	118	118	118	118	122	122	124	125	128	130	132	134
<i>Price indices by service group</i>																		
Emergency	100	101	103	109	111	125	131	123	122	125	130	133	135	137	140	140	143	143
Evaluation and management	100	103	105	109	112	116	121	119	119	120	124	128	130	132	134	136	139	143
Major radiology	100	103	105	104	103	105	105	102	104	103	102	104	103	102	101	101	100	100
Minor radiology	100	103	106	109	110	113	114	118	119	121	123	126	129	131	134	136	137	140
Neurological/ neuromuscular testing	100	101	107	104	106	110	118	120	120	121	115	75	74	75	76	77	80	82
Physical medicine	100	104	108	113	117	116	116	118	117	118	124	127	130	131	135	137	138	138
Major surgery	100	107	104	107	111	119	123	124	124	124	127	134	135	137	140	142	147	150
Pain management injections	100	99	102	106	106	100	101	104	100	104	107	109	110	110	110	108	111	117
South Carolina																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	104	103	104	104	104	101	101	105	106	107	108	107	106	105	101	100	100
<i>Price indices by service group</i>																		
Emergency	100	89	90	89	86	88	85	86	104	110	111	110	111	112	111	110	110	110
Evaluation and management	100	112	114	116	116	117	116	114	124	133	133	134	133	132	134	135	133	136
Major radiology	100	95	96	96	95	96	94	94	83	71	71	71	70	67	63	58	54	53
Minor radiology	100	93	93	93	93	94	91	90	94	90	91	90	89	87	84	84	82	85
Neurological/ neuromuscular testing	100	98	95	97	95	97	100	98	109	125	130	128	128	114	86	84	85	85
Physical medicine	100	104	102	104	103	101	96	100	103	104	104	107	107	110	112	102	103	98
Major surgery	100	104	100	98	100	101	100	96	97	94	96	94	90	83	79	81	79	81
Pain management injections	100	122	120	122	115	117	114	113	109	101	101	98	96	101	99	93	88	90

continued

Table SA.1 Trends in Professional Prices Paid by Service Group across 25 Study States, 2002 to 2019 (continued)

Tennessee																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	102	104	101	97	98	92	94	103	107	106	98	93	91	91	92	93	94
<i>Price indices by service group</i>																		
Emergency	100	105	108	101	87	95	90	96	106	109	101	96	95	96	95	95	92	93
Evaluation and management	100	106	110	122	134	142	137	139	150	161	158	156	151	148	148	151	148	149
Major radiology	100	98	99	104	105	110	100	100	102	106	102	91	74	70	70	70	69	67
Minor radiology	100	101	103	93	71	71	65	64	70	73	74	69	62	58	58	59	59	61
Neurological/ neuromuscular testing	100	102	106	99	89	86	80	78	86	98	100	61	61	61	61	62	63	63
Physical medicine	100	101	101	98	89	87	83	87	95	98	97	97	94	90	90	91	96	98
Major surgery	100	102	104	90	86	87	78	80	90	91	89	79	76	78	78	78	77	77
Pain management injections	100	103	114	108	96	84	71	66	72	77	81	71	61	73	67	65	67	69
Texas																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	94	93	95	93	91	96	103	107	125	127	127	122	121	120	119	120	123
<i>Price indices by service group</i>																		
Emergency	100	100	105	106	107	115	123	137	138	152	149	150	149	151	152	153	156	161
Evaluation and management	100	113	139	142	142	149	154	167	177	207	213	220	214	216	218	221	224	228
Major radiology	100	91	78	78	77	66	72	74	73	71	77	70	56	53	54	54	55	55
Minor radiology	100	87	68	69	68	69	73	78	79	82	92	95	85	80	81	83	85	88
Neurological/ neuromuscular testing	100	92	102	98	98	93	102	102	108	130	136	95	93	95	97	97	101	100
Physical medicine	100	98	100	100	96	91	94	102	105	123	126	132	129	125	121	116	116	120
Major surgery	100	76	58	62	60	59	67	73	78	94	89	91	88	88	89	90	91	93
Pain management injections	100	109	123	106	98	91	97	101	105	121	123	120	103	117	119	122	126	128
Virginia																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
<i>Overall price index</i>	100	103	105	107	110	114	115	120	125	127	132	132	139	139	144	151	132	134
<i>Price indices by service group</i>																		
Emergency	100	103	103	111	118	120	127	137	145	149	158	156	175	191	207	215	185	194
Evaluation and management	100	104	107	113	122	132	140	148	155	161	164	169	177	183	193	203	181	182
Major radiology	100	98	100	100	101	103	103	113	111	113	112	114	119	116	114	109	99	99
Minor radiology	100	100	99	99	100	106	109	112	113	112	113	115	120	118	118	117	89	92
Neurological/ neuromuscular testing	100	102	102	105	108	101	98	104	118	118	124	85	96	100	98	99	94	99
Physical medicine	100	106	107	112	115	115	114	125	130	127	133	145	155	155	162	168	146	150
Major surgery	100	104	107	100	101	107	107	99	103	109	115	111	117	110	115	127	111	110
Pain management injections	100	104	102	104	106	110	102	100	107	111	115	119	125	122	126	131	105	107

continued

Table SA.1 Trends in Professional Prices Paid by Service Group across 25 Study States, 2002 to 2019 (continued)

Wisconsin																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^p
<i>Overall price index</i>	100	106	111	114	119	125	130	138	147	151	156	158	166	169	173	181	188	191
<i>Price indices by service group</i>																		
Emergency	100	108	114	117	122	129	137	147	154	165	172	181	190	196	208	216	226	233
Evaluation and management	100	106	110	115	122	129	136	143	152	160	168	178	190	196	205	215	224	234
Major radiology	100	105	107	109	106	106	106	112	114	109	109	107	107	103	102	107	102	101
Minor radiology	100	103	106	108	114	118	121	128	138	136	139	143	149	149	155	158	165	170
Neurological/neuromuscular testing	100	105	109	116	121	138	149	163	181	181	185	132	135	134	140	146	148	148
Physical medicine	100	106	111	112	115	120	125	131	140	144	149	157	167	175	181	186	200	205
Major surgery	100	107	115	118	125	131	136	146	154	160	166	173	183	182	185	197	205	201
Pain management injections	100	101	104	110	123	130	141	161	185	192	207	207	222	228	228	249	244	258

Special notation: ^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

This table provides longer-term trends of prices paid for overall professional services as well as by each service group from 2002 to 2019 for the 25 states covered in the earlier editions of this study series.

AZ, MD, MO, NY, OK: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. The results in AZ, MD, NY, and OK are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services, and it is unlikely that the prices paid for the missing data source in each state were materially different from other data sources included in this study from the same state. For MO, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

Prices paid for neurological/neuromuscular testing services in most study states decreased starting in 2013. This general trend is related to a fundamental change implemented by the Centers for Medicare & Medicaid Services in the coding system for nerve conduction studies, which are the most commonly billed procedures in the neurological/neuromuscular testing service group. For more details, see "[Discussion of Substantial Changes in Prices at Service-Type Level](#)" and "[Technical Appendix](#)."

**Table SA.2 Trends in Professional Prices Paid by Service Group for the Additional Five Study States
Included in MPI-WC, 12th Edition, 2013 to 2019**

Alabama							
	2013	2014	2015	2016	2017	2018	2019^P
<i>Overall price index</i>	100	101	102	103	104	105	107
<i>Price indices by service group</i>							
Emergency	100	101	102	101	99	101	106
Evaluation and management	100	101	103	103	105	107	108
Major radiology	100	101	100	99	99	101	102
Minor radiology	100	102	104	103	104	105	107
Neurological/ neuromuscular testing	100	81	80	81	81	82	82
Physical medicine	100	99	100	102	103	104	107
Major surgery	100	106	106	105	107	108	109
Pain management injections	100	95	99	101	113	111	115
Delaware							
	2013	2014	2015	2016	2017	2018	2019^P
<i>Overall price index</i>	100	102	77	71	62	62	64
<i>Price indices by service group</i>							
Emergency	100	104	89	85	70	69	68
Evaluation and management	100	99	90	85	76	76	79
Major radiology	100	98	64	64	57	58	58
Minor radiology	100	89	49	46	42	44	44
Neurological/ neuromuscular testing	100	117	83	78	65	65	64
Physical medicine	100	99	82	76	69	69	70
Major surgery	100	110	69	62	51	50	52
Pain management injections	100	101	61	57	47	47	45
Nevada							
	2013	2014	2015	2016	2017	2018	2019^P
<i>Overall price index</i>	100	102	105	107	108	111	115
<i>Price indices by service group</i>							
Emergency	100	102	105	106	112	116	118
Evaluation and management	100	101	102	104	108	109	110
Major radiology	100	100	102	108	112	113	116
Minor radiology	100	102	105	106	107	110	113
Neurological/ neuromuscular testing	100	97	102	105	107	105	114
Physical medicine	100	102	108	109	107	113	117
Major surgery	100	101	102	104	105	110	113
Pain management injections	100	114	120	131	154	151	157

continued

Table SA.2 Trends in Professional Prices Paid by Service Group for the Additional Five Study States Included in MPI-WC, 12th Edition, 2013 to 2019 (continued)

New Hampshire							
	2013	2014	2015	2016	2017	2018	2019^p
<i>Overall price index</i>	100	102	105	104	104	100	100
<i>Price indices by service group</i>							
Emergency	100	110	125	128	129	129	125
Evaluation and management	100	104	105	108	111	113	116
Major radiology	100	100	102	100	100	93	93
Minor radiology	100	103	99	98	98	104	104
Neurological/ neuromuscular testing	100	136	129	130	133	147	148
Physical medicine	100	103	103	108	111	115	119
Major surgery	100	98	106	95	94	—	—
Pain management injections	100	101	89	91	90	95	93
New Mexico							
	2013	2014	2015	2016	2017	2018	2019^p
<i>Overall price index</i>	100	100	103	105	108	109	111
<i>Price indices by service group</i>							
Emergency	100	106	113	115	116	113	114
Evaluation and management	100	103	106	109	116	117	120
Major radiology	100	102	99	97	97	97	98
Minor radiology	100	102	103	101	105	105	105
Neurological/ neuromuscular testing	100	54	59	63	67	68	70
Physical medicine	100	100	104	108	109	111	113
Major surgery	100	102	105	105	104	104	107
Pain management injections	100	99	100	122	135	112	126

Special notation: ^p We use the notation *p* to indicate that the 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

Notes:

In the latest three editions we introduced five additional states: Alabama, Delaware, Nevada, New Hampshire, and New Mexico. These states were excluded from the trend analysis from 2008 to 2019 in this report because of insufficient sample sizes in earlier years. This table provides changes in prices paid for overall professional services as well as by each service group in these five states for a shorter period from 2013 to 2019, when sufficient data were available. The price series in each state was indexed to calendar year 2013 as the base and reflects the marketbasket based on the 2013–2014 medical transaction data without using the chained-index method. Note that the trend numbers for surgery in New Hampshire in 2018 and 2019 were not shown because the cell sizes were too small to support a meaningful trend analysis; this issue did not affect the interstate comparison results in any material way.

Delaware transitioned to Medicare-based fee schedules for professional services effective January 31, 2015. According to House Bill 373, the objective of the fee schedule design and subsequent annual updates was to reduce medical expenses by 33 percent by January 31, 2017, over three consecutive annual reductions. For the analysis of the impact of this policy change on prices paid, refer to the WCRI studies *Evaluation of the 2015 and 2016 Fee Schedule Changes in Delaware* (Fomenko, Yang, and Liu, 2017) and *Evaluation of the 2015, 2016, and 2017 Fee Schedule Changes in Delaware* (Fomenko and Liu, 2017).

TECHNICAL APPENDIX

This “Technical Appendix” for the MPI-WC contains two major sections: the first section, “Study Scope,” lays out the conceptual structure of the WCRI medical price index and describes the covered providers and services. The second section, “Data and Methods,” discusses the representativeness of the data, creation of the price indices, data cleaning methods, and regression analysis of aggregate price levels and growth rates.

STUDY SCOPE

The WCRI MPI-WC focuses on professional services provided by physicians, chiropractors, and physical or occupational therapists to workers with workers’ compensation claims. Professional services typically make up 44 percent of total workers’ compensation medical expenditures in workers’ compensation in a given state (Belton et al., 2019). The rest include payments for hospital inpatient and outpatient services, ambulatory surgery centers, and pharmaceuticals and supplies. The price indices are computed for the most common groups of medical professional services: emergency, evaluation and management, physical medicine, both major and minor radiology, neurological and neuromuscular testing, major surgery, and pain management injections. Together, these eight groups typically comprise 84 percent of total medical payments for professional services across states (Belton et al., 2019). [Table TA.1](#) provides a brief description of these service groups. Detailed definitions of the specific CPT codes included under each group can be found in [Table TA.2](#).

This study reports prices paid for each of the eight types of services provided by any nonhospital provider; it does not break out specific provider types (such as physicians, chiropractors, and physical/occupational therapists). Thirty-six states are included in this study: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Wisconsin. We provide snapshots of interstate comparisons on prices paid for professional services in the two most recent study years, 2018 and 2019.¹ Also, we monitor price trends from calendar year 2008 through June 2019.²

DATA AND METHODS

THE DATA

The data in this MPI-WC study are from the medical transaction information in WCRI’s DBE database. In this study, we pooled the medical transaction data from the study states together to establish the marketbasket and the frequency weights on services in the marketbasket. After that, for each individual study state, we obtained prices for each marketbasket service and constructed price indices using the marketbasket weights.

In this study, prices were collected for services rendered from 2008 through June 2019 in the study states. We obtained the actual amount paid for each medical bill line item for each of the services included in the

¹ 2019 numbers are preliminary results based on half-year price data through June 30, 2019.

² Five study states (Alabama, Delaware, Nevada, New Hampshire, and New Mexico) were excluded from the trend analysis because of insufficient sample sizes in earlier years. The “Statistical Appendix” [Table SA.2](#) shows price changes in these five states for a shorter period from 2013 to 2019, when sufficient data were available.

marketbasket. The DBE database included approximately 37 to 76 percent of the workers' compensation claims across most of the study states.³ The data are from several large insurers, self-insurers, state funds, and third-party administrators in the 36 states. In most study states, our data are reasonably representative of the state systems; however, in a few states the data may not be necessarily representative because they are missing data from a larger data source that is significant in the state. These states include Arizona, Colorado, Maryland, Missouri, New York, Oklahoma, and Oregon, as noted throughout the figures and tables. The results for Arizona, Colorado, Maryland, New York, Oklahoma, and Oregon are unlikely to be significantly under- or overestimated, given that these states use fee schedules to regulate the payment for professional services; therefore, it is unlikely that the prices for the missing data source were materially different from other data sources included in this study from the same state. For Missouri, to the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

CREATING THE PRICE INDICES

SELECTING THE MARKETBASKET

The price index is the weighted average of prices paid for a collection of the most common medical services provided to workers with injuries. This collection is called a marketbasket. See [Table TA.2](#) for a list of CPT codes in the marketbasket. In selecting the marketbasket services, we used eight service groups to characterize the professional services. Each of these groups represents a price index component. We reviewed the top procedure codes ranked by frequency for each of these groups. We then sequentially chose codes within each service group until the majority of expenditures in each service group were represented by the selected codes. [Table TA.4](#) shows that the marketbasket codes captured at least 90 percent of total expenditures for emergency services, evaluation and management, major radiology, and physical medicine. For minor radiology, neurological/neuromuscular testing, and pain management injections, codes in the marketbasket represented 76 to 79 percent of total expenditures. The only exception is major surgery, where the codes in the marketbasket captured 44 percent of total expenditures. Service groups with lower representation by the marketbasket have a broader list of codes in each of them, and adding additional codes added only a small percentage of payments each time. Also, the analysis of additional procedures would not be supported by the observed number of services in smaller states.

In the major surgery service group, we used two sets of codes to represent arthroscopic shoulder surgeries, depending on the billing rules followed in the state. One set included CPT code 29826, while the other did not. CPT 29826 is used for reporting shoulder arthroscopy; decompression of subacromial space with partial acromioplasty, with or without coracoacromial release. The *CPT 2012* book changed it from a standalone code to an add-on code. However, not every state followed this change. About half of the study states followed this coding change and reimbursed CPT 29826 only as a non-primary or add-on procedure. For these states, the marketbasket consisting of primary surgical procedures did not include CPT 29826. For the remaining study states that still reimbursed CPT 29826 as a primary surgical procedure, CPT 29826 was included in the marketbasket. See [Table TA.3](#) for the list of arthroscopic shoulder surgery codes with and without 29826.

We used a single marketbasket of procedure codes across all states to hold utilization constant so that we are able to report pure price changes across states and provide more meaningful interstate comparisons. However, the marketbasket may represent a smaller percentage of the total expenditures in some states when

³ In Colorado, New York, and Oregon, the data represented a lower percentage of the population of claims in each state because our sample is missing data from a larger data source that is significant in each state.

state-specific codes are used. In most cases, we have been able to map these unique codes to the standard codes in the marketbasket, though some state-specific codes do not have a standard alternative. In states where this was common, the marketbasket may represent a smaller percentage of the total dollars spent. Also, if a state had very different utilization patterns from what is seen overall in the marketbasket states, the results for that state could be less representative. In this edition, we continued to use the marketbasket established in the ninth edition of this annual study, which was based on the 2013–2014 medical transaction data from 31 study states. We examined the representativeness of the marketbasket across the 31 study states for the 2013–2014 time period ([Table TA.5a](#)), and across all the 36 study states for the two most recent years covered in this report ([Table TA.5b](#)). [Table TA.5a](#) illustrates that the procedures in the marketbasket represent the majority of the total expenditures for the 31 study states for most service groups. For emergency procedures, the marketbasket captures 87 percent or more of total expenditures in all states except Florida.⁴ For evaluation and management procedures, the marketbasket represents 91 percent or more of total expenditures in all states. For major radiology services, the marketbasket represents 86 percent or more of total expenditures in all states. For physical medicine services, the analyzed procedures capture 79 percent or more of total expenditures in all states. The selected procedures account for 67 to 83 percent of total expenditures for minor radiology services and 69 to 86 percent of total expenditures for pain management injection services across study states. The analysis covers at least 51 percent of total expenditures for neurological/neuromuscular testing services in all states. The only exception is major surgery—the procedures in the marketbasket represent 33 to 51 percent of total expenditures in all study states. Lower representation by the marketbasket in this service group was mainly due to a broader list of surgical procedures, and adding additional codes added only a small percentage of payments each time. [Table TA.5b](#) shows that the 2013–2014 marketbasket is still representative of the utilization patterns for the 36 study states in the 2018–2019 time period.

The data underlying this entire study series cover a long time span from 2002 to 2019. To account for potential changes in the utilization patterns over this long period, three marketbaskets were established. Each marketbasket is based on the medical transaction data covering a 24-month period. The most recent marketbasket is based on data in 2013 and 2014, and is used to compute the price indices from 2014 to 2019 (see the beginning of this section for a detailed description of this marketbasket). The other two marketbaskets were employed for the earlier years: the 2008–2009 based marketbasket was used for computing the price indices from 2009 to 2013, and the 2005–2006 based marketbasket was used for calculating the price indices from 2002 to 2008. Then, we used a standard chained-index method to chain the price indices across all years based on the three marketbaskets together. In this way, we maintained continuity of the price index across different editions of this study series and, meanwhile, adjusted for potential changes in utilization patterns over a long period. The chained-index method we employed in this report is commonly used in creating price index trends. For example, the trends in the CPI-M, published by the BLS, rely on essentially the same chained-index approach.⁵ In this study, we used calendar years 2009 and 2013 as the two transitioning years between the three series of price indices. The price indices in the latest series from 2014 to 2019 were chained back to the base year 2002 of the earliest series via the transitioning years 2009 and 2013 (see the following formula):

⁴ For emergency services, the marketbasket captures 70 percent of total expenditures in Florida. CPT code S9088 captures nearly 30 percent of total expenditures. CPT S9088 is an add-on code to report services provided in an urgent care center (listed in addition to the code for service). The Florida workers' compensation fee schedule rate for this code is *by report*.

⁵ For more information on concepts, statistical procedures, and estimation methods used by the BLS to compile the Chained CPI-U, refer to *Introducing the Chained Consumer Price Index* (Cage, Greenlees, and Jackman, 2003).

$$I_s^{yr} = \frac{P_s^{yr}}{P_s^{13}} \times \frac{P_s^{13}}{P_s^{09}} \times \frac{P_s^{09}}{P_s^{02}}$$

where I_s^{yr} is the price-trend index for a year in the latest series for a state s (2014 to 2019),
 P_s^{yr} is the price in a year in the latest series based on the 2013–2014 marketbasket for a state s ,
 P_s^{13} is the price in 2013 based on the 2013–2014 marketbasket for a state s ,
 P_s^{13} is the price in 2013 based on the 2008–2009 marketbasket for a state s ,
 P_s^{09} is the price in 2009 based on the 2008–2009 marketbasket for a state s ,
 P_s^{09} is the price in 2009 based on the 2005–2006 marketbasket for a state s , and
 P_s^{02} is the price in 2002 based on the 2005–2006 marketbasket for a state s .

The price indices in the later series from 2009 to 2013 were chained back to the base year 2002 of the earliest series via the transitioning year 2009 (see the following formula):

$$I_s^{yr} = \frac{P_s^{yr}}{P_s^{09}} \times \frac{P_s^{09}}{P_s^{02}}$$

where I_s^{yr} is the price-trend index for a year in the later series for a state s (2009 to 2013),
 P_s^{yr} is the price in a year in the later series based on the 2008–2009 marketbasket for a state s ,
 P_s^{09} is the price in 2009 based on the 2008–2009 marketbasket for a state s ,
 P_s^{09} is the price in 2009 based on the 2005–2006 marketbasket for a state s , and
 P_s^{02} is the price in 2002 based on the 2005–2006 marketbasket for a state s .

In this 12th edition of this annual study series, we focus the analysis and presentations of medical price indices on a 12-year time span from 2008 to 2019. In the “Statistical Appendix,” we also provide supplemental information on price trends during a longer-term period from 2002 to 2019 for the 25 states covered in the earlier editions of this study series (see [Table SA.1](#)).

COMPUTING THE PRICE INDEX

A key feature of the price index is to isolate the changes in price from the changes in utilization, which requires holding utilization constant across the states. To accomplish this, we created two sets of weights. The procedure-level frequency weight for a marketbasket code was used to average procedure-level prices to the service group level. It was calculated as the total number of services with the code divided by the total number of services across all marketbasket codes within the service group. The frequency weight for a service group, which was used to further aggregate service group prices to the overall state level, was computed as the percentage of the total number of services associated with this service group divided by the total number of all professional services.⁶ The frequency weights at the service group level were not restricted to services captured

⁶ Note that in this study we compute the price index (MPI-WC) based on frequency weights. This approach is mathematically equivalent to the one used by the BLS in the computation of the CPI. The BLS measures the CPI as the weighted average of changes in prices for goods between two time periods, where the weight for a good is an expenditure share. This is equivalent to a calculation of the expenditure on a fixed marketbasket of goods in any given time period relative to a “base” period, where the same basket of goods (defined by physical quantities or frequency weights) is

by the marketbasket. Even though the marketbasket captures the majority of services for most service groups, the major surgery marketbasket codes represent a smaller fraction of all professional services within the group. Therefore, by computing service group weights for all professional services within each service group, the service group weights reflect the relative frequency of services associated with each service group as it was observed in the data.

The procedure-level frequency weight can be expressed as the following:

$$v_{ij} = \frac{NS_{ij}}{\sum_{j=1}^{M_i} NS_{ij}}$$

where v_{ij} is the procedure-level frequency weight for procedure j in service group i ,
 NS_{ij} is the number of services for procedure j in the marketbasket for service group i , and
 M_i is the total number of procedures in the marketbasket for service group i .

The frequency weight for a service group can be expressed as the following:

$$w_i = \frac{\sum_{j=1}^{M'_i} NS'_{ij}}{\sum_{i=1}^8 \sum_{j=1}^{M'_i} NS'_{ij}}$$

where w_i is the frequency weight for service group i ,
 NS'_{ij} is the number of services for procedure j observed in the data for service group i ,
 M'_i is the total number of procedures observed in the data for service group i , and
 $i = 1 \dots 8$ and 8 is the total number of service groups.

Because we selected the marketbasket from the pooled dataset of 31 states, one may be concerned that the distribution of service frequencies in relatively larger states (such as California and Texas) might dominate the whole distribution in the pooled data, and as a result, the marketbasket may be less representative of other states. To prevent this, we adjusted for the differences in claim shares across the states in the pooled data. To make sure that each state has essentially the same influence, the adjustment factor was applied when selecting the marketbasket and computing the frequency weights based on the mix of services in the state-pooled data.

Based on the established marketbasket, we computed unit prices and price indices using the following steps:

1. Compute the price for each procedure code in the marketbasket by averaging amounts paid for individual procedures using all occurrences with an identical procedure code.

purchased in both time periods, but where prices reflect actual prices in the two time periods. We follow the latter approach in this study.

2. Aggregate prices across marketbasket codes to the service group level using the procedure-level frequency weights.
3. Aggregate prices across service groups to the overall level using the service group level frequency weights.
4. For interstate comparisons, calculate price indices against the prices in the median study state at both service group and overall state levels for each state.
5. For trends, calculate price indices in the later years against the prices in calendar year 2008.

Step 2 can be expressed as the following:

$$P_{is} = \sum_{j=1}^{A_i} v_{ij} * P_{ijs}$$

where P_{is} is the aggregated price for service group i in a state s ,

P_{ijs} is the estimated price for procedure j in service group i in a state s ,

v_{ij} is the procedure-level frequency weight for procedure j in service group i , and

$j = 1 \dots A_i$ and A_i is the total number of procedures in service group i .

Step 3 can be expressed as the following:

$$P_s = \sum_{i=1}^8 w_i * P_{is}$$

where P_s is the aggregate price for overall professional services in a state s ,

P_{is} is the aggregate price for service group i in a state s ,

w_i is the service group level frequency weight for service group i , and

$i = 1 \dots 8$ and 8 is the total number of service groups.

Steps 4 and 5 can be expressed as the following:

$$I_s = \frac{P_s}{P^{mdn}}$$

$$I_s^{yr} = \frac{P_s^{yr}}{P_s^{08}}$$

where I_s is the price index for a state s ,

I_s^{yr} is the price-trend index for a year yr from 2008 to 2019 and a state s ,

P_s is the price (either for a service group or overall) in a state s ,

P^{mdn} is the price (either for a service group or overall) in the median study state,

P_s^{yr} is the price (either for a service group or overall) in a year yr from 2008 to 2019 in a state s ,

P_s^{08} is the price (either for a service group or overall) in 2008 in a state s .

DATA CLEANING

Over the years, WCRI has developed algorithms to adjust for known limitations in the data. Some of these limitations include outlier payments for individual services, lines representing multiple services, and missing procedure modifier information. To maintain continuity for capturing prices paid for nerve conduction studies facing the fundamental coding change in 2013, we also implemented a visit-level approach that combines all payments associated with nerve conduction studies under a single visit-level measure.

TRIMMING OUTLIER VALUES

A small proportion of the lines in the data had unusually large or small values in medical payments. Also due to a skewed distribution of medical payments, these extreme values contributed disproportionately to the average. In particular, since distribution of payments is bounded at zero, the distribution is skewed to the right, and large positive values are not offset by large negative values. To mitigate the influence of the extreme values on the average medical payments and ensure meaningful results, we applied a price data cleaning technique to trim the outlier values at both extremes of the distribution of the paid amounts across all services with the same procedure code.

To remove outliers for marketbasket services associated with all service groups, except major surgery, pain management injections, and minor and major radiology, we excluded 5 percent of the services at the lower and upper end of the price distribution for each procedure, year, and state. The data cleaning methods for minor and major radiology, major surgery, and pain management injections are described in the subsections “Identifying Modified Services for Radiology,” “Identifying Modified Services for Surgery,” and “Identifying Modified Services for Pain Management Injections.”

MULTIPLE UNITS OF SERVICE

Some physical medicine modalities and procedures may be billed in multiple units. For example, therapeutic exercise (CPT 97110) is normally billed for every 15 minutes of treatment. Sometimes there were no accurate indications of how many units of service were provided. Hence, it was necessary to adjust the data for these multiple unit billings.

To identify the multiple units of service, we first looked at the units of service field provided in each data source file. If the units of service field was populated with a value greater than one (default value), we treated that number as the number of services for which the payments were paid in a given line. The number of services provided by data sources, however, is not always accurate and is sometimes missing. For physical medicine procedures (which are commonly billed in multiple units) where the units of service field was missing or equal to one, we did a further check on multiple units of service using prevailing prices. The *prevailing price*, by definition, is one or more of the most frequently paid prices for each procedure code picked from a data source within a calendar year. Once prevailing prices for each procedure code were picked, we then checked line items with that procedure against the respective prevailing prices. If the paid amount in a line item was a whole multiple of any of the prevailing prices for this procedure, we assumed that line indicated that multiple of services at that prevailing price, and the number of services was reset to the whole multiple. We performed the units of service adjustment for each procedure code in each year for each data source.

IDENTIFYING MODIFIED SERVICES FOR RADIOLOGY

Major and minor radiology procedure codes often have modifiers to distinguish the technical component (e.g., using the radiology machine/devices) from the professional component (e.g., reviewing the results) of the whole

procedure. The professional component is typically identified with the modifier code 26, and the technical component is usually identified with the modifier code 27. For the same procedure, these components are paid at different levels—usually 20 to 30 percent of the price for the whole procedure is paid for the professional component, and 70 to 80 percent of the price for the whole procedure is paid for the technical component. However, the modifier codes are missing for many services in the data. Without a modifier, a paid amount can be for one of the following three things: the professional component, the technical component, or the whole procedure.

In this study, we developed an algorithm to identify radiology services that are billed and paid as the professional component separately from those billed and paid as the whole procedure. First, for each radiology procedure in the marketbasket, we captured the services that had only a single service billed in a day. These services accounted for more than 95 percent of all the services for each procedure, indicating that the vast majority of the radiology services in the data are likely one of the following two types of services: (1) professional components that were billed by nonhospital providers, or (2) whole procedures that were billed by nonhospital providers. In the first case, the radiology services were likely done in a hospital setting and the technical components paired with the professional components of these services were billed by hospitals. Note that hospital-billed services are beyond the scope of this study and they are subject to different fee schedule regulations than the services billed by nonhospital providers. In the second case, both the professional and the technical components of the radiology services were provided and billed by nonhospital providers.

Second, we estimated a threshold of the maximum price for the professional component for each radiology procedure code in a state and identified all the payments below this threshold as prices paid for the professional component. Since the professional component of radiology services is commonly reimbursed at 20 to 30 percent of the fee schedule rate for the whole procedure, and to accommodate the potential deviation of the actual prices paid from the fee schedule rates, the threshold of the maximum price for the professional component was computed as 1.4 times the professional-component fee schedule rate for a particular procedure in a fee schedule state.⁷ For non-fee schedule states, since a fee schedule rate was not available, we relied on the price distribution observed in the services with modifier code 26 specified, and captured the amount paid at the 90th percentile of this distribution for each procedure code. We then multiplied this amount paid by 1.4 to arrive at the threshold of the maximum price for the professional component for a particular procedure in a non-fee schedule state.⁸ Payments below the threshold of the maximum price for the professional component were identified as prices paid for the professional component, and payments above this threshold were classified as prices paid for the whole procedure.

To trim outliers, we excluded 5 percent of the services at the lower and upper ends of the price distribution of the professional component for each procedure, state, and year; we applied the same data trimming method to the price distributions for the whole procedures as well. The average price paid for the professional component and the average price paid for the whole procedure for each marketbasket radiology procedure in

⁷ This method takes into consideration potential negotiated prices for the professional component above the fee schedule rate and the potential negotiated prices for the whole procedure below the fee schedule rate. Using the multiplier of 1.4 allows an up to 40 percent mark-up above the fee schedule rate to be paid for the professional component, and will not result in the whole-procedure prices being misidentified as the professional-component prices, even if the actual prices paid for the whole procedure reflected a 50 percent discount of the fee schedule rate.

⁸ We also applied the multiplier of 1.4 to compute the threshold of the maximum price for the professional component in non-fee schedule study states, as prices paid in non-fee schedule states often exhibit large variation. This multiplier allows the actual prices paid for the professional component to be up to 40 percent higher than the 90th percentile of the price distribution for services with the professional-component modifier specified. We also did a sensitivity analysis using an alternative multiplier of 1.2 to make sure that the classification of the whole-procedure prices is not sensitive to the choice of multiplier value. The results proved to be not sensitive to the choice between 1.2 and 1.4 for a multiplier value. We chose the multiplier of 1.4 to have consistency between the methods used for fee schedule and non-fee schedule states.

a state was computed based on the final trimmed distributions. Note that the relative frequency of the professional component and the whole procedure for each marketbasket code was held constant across states and years when computing the average price at the service group level for radiology services.

IDENTIFYING MODIFIED SERVICES FOR SURGERY

Surgical procedures also have a set of commonly used modifiers to identify modified or reduced payments. In particular, in the case of multiple surgical procedures performed at the same operative session, modifiers indicate which surgical procedure was primary. Additional or non-primary surgical procedures are commonly reimbursed at about 50 percent of the full rate—the rate at which the same procedure is reimbursed when performed as primary by a primary surgeon.⁹ Also, modifiers are used to identify payments for services of a primary surgeon versus an assistant surgeon. Services of an assistant surgeon are typically reimbursed at about 15–25 percent of the full rate. Unfortunately, the modifiers are not always consistently and accurately reported in the data, and they are often missing. Because of the incompleteness of the modifiers, we focus on the prices paid for services of a primary surgeon performing the primary surgery procedure only.

In this study, we used an algorithm to isolate the payments to the primary surgeon for the primary procedure. This algorithm has two steps: (1) capture the most expensive surgical service (i.e., primary surgery) on a surgery day, and (2) further remove remaining reduced payments and unusually high values. The following are more detailed discussions of each step.

First, following payment rules establishing discounted rates for secondary procedures and services of assistant surgeons, we considered all surgical services provided on a surgery day and kept the one with the highest payment. This approach removed reduced payments for non-primary surgical services and payments for assistant surgeon services. After restricting distribution of actual payments to include only the highest payment on the surgery day, some number of misclassified facility payments (or unusually high values) and modified payments (or values around 15–25 percent or 50 percent of the full rate) still appeared in the price distribution, motivating additional trimming. Incomplete billing information, especially missing payments for the primary surgery for the primary surgeon services, was likely to result in discounted payments to remain in the price distribution prior to the second step.

Second, we removed the remaining reduced payments as well as the unusually high values. The developed trimming method relied on the estimated threshold of the maximum price for modified services for each surgical procedure code in a state and eliminated all payments below this threshold as modified payments. Since non-primary surgical procedures are commonly reimbursed at about 50 percent of the full rate, and services of an assistant surgeon are typically reimbursed at about 15–25 percent of the full rate, the threshold of the maximum price for modified services was computed as 50 percent of the full fee schedule rate for a particular procedure in a fee schedule state. For non-fee schedule states, since a fee schedule rate was not available, we relied on a typical price observed for the primary procedure performed by a primary surgeon, which was computed in the earlier step, by keeping the most expensive procedure for each operative session. Hence, in order to compute the maximum price for modified services for each surgical procedure in a state without a fee schedule, the threshold was defined as 50 percent of the median of the paid price for primary procedures as identified after the first step.

To address the issue of misclassified facility payments, the trimming technique restricted the final price distribution by eliminating surgical procedures with payments above 2.5 times the full fee schedule rate for a

⁹ The discount rates for reduced payments are based on state fee schedule regulations.

particular procedure for a fee schedule state.¹⁰ In non-fee schedule states, we relied on the typical price observed for the primary procedure performed by a primary surgeon as identified in the first step. Hence, to exclude misclassified facility payments for each surgical procedure in a state without a fee schedule, prices above 2.5 times the median price for primary procedures were dropped from the analysis. The average price paid for each marketbasket surgical procedure in a state was computed based on the final trimmed distribution of prices paid to the primary surgeon performing the primary procedure.

IDENTIFYING MODIFIED SERVICES FOR PAIN MANAGEMENT INJECTIONS

It is also common to have multiple pain management injection procedures during a single visit, and some of the multiple procedures can be subject to a reduced payment rule. In some cases, the multiple procedure codes (CPT codes) billed during a visit are multiple levels of the same procedure where the single level and each additional level are recorded under different CPT codes. Typically, billing multiple units is not allowed under single-level procedure codes. However, billing for multiple services associated with procedure codes identified as “each additional level” is common and requires the modifier code 59. In this case, a reduced payment rule for multiple procedures will apply. It is also possible to have different multiple pain management injection procedures during a single visit, which are also likely to be subject to a reduced payment rule for secondary procedures. Similar to the methods applied to surgical procedures, to isolate full prices paid for the pain management injection procedures in the marketbasket, we focused on the prices paid for a primary pain management injection procedure during a visit, since it is not subject to a reduced payment rule. To isolate the payments for the primary procedure, we considered all pain management injections administered during a single visit and kept the one with the highest payment. To remove outliers for pain management injection procedures, we excluded 5 percent of the primary services at the lower end of the price distribution and 10 percent at the upper end of the price distribution for each procedure, year, and state.¹¹

APPLYING A VISIT-LEVEL APPROACH TO NERVE CONDUCTION STUDIES

In 2013, CMS implemented a fundamental change in the coding for nerve conduction studies. Previous procedure codes for sensory conduction studies, motor conduction studies with or without an F-wave test, or H-reflex tests were deleted (i.e., CPT codes 95900, 95903, 95904, 95934, and 95936). These were replaced with the code couplets in [Table TA.6](#). This code change affected the most commonly billed procedures in the neurological/neuromuscular testing service group. Under the new coding system, a single nerve conduction study includes a sensory nerve conduction test, a motor nerve conduction test with or without an F-wave test, or an H-reflex test. Essentially, the new coding system combines various types of nerve conduction studies (i.e., a sensory nerve conduction test, a motor nerve conduction test with or without an F-wave test, or an H-reflex test) and assigns a specific code depending on the number of multiple separate nerve conduction tests performed during a visit. To determine which code to use, only the number of the separate tests should be added, and, when multiple sites on the same nerve are stimulated or recorded, each type of nerve conduction study is counted only once. The old approach did not have this clear rule limiting the number of multiple nerve

¹⁰ Fee schedule rates for facility services associated with common surgeries are substantially greater than the fee schedule amounts for the relevant professional services of surgeons. In particular, in 2009, the Texas fee schedule rate for facility services related to common shoulder arthroscopy (ambulatory payment classification [APC] 42 or CPT 29826) was \$6,472, while the fee schedule rate for surgeon’s services was \$1,143 (see Coomer and Liu, 2010, and Coomer, 2010). In Tennessee, the facility rate associated with common shoulder arthroscopy was \$4,679 versus \$1,668 for the relevant professional services.

¹¹ A larger percentage of services were removed from the upper end of the price distribution to exclude misclassified facility payments.

conduction studies, making interpretation of the number of multiple services ambiguous. Since under the old rule the number of multiple services included both testing multiple sites on a single nerve and multiple separate studies, a direct crosswalk at the CPT level to the new coding system is impossible. To maintain continuity, for nerve conduction studies, we implemented a visit-level approach that combines all payments associated with nerve conduction studies under a single visit-level measure. The other four procedures included in the marketbasket for neurological/neuromuscular testing services follow the standard procedure-level method for price computation (see [Table TA.2](#)). Note that because of this visit-level approach, some of the observed changes in the prices paid for neurological/neuromuscular testing services may also reflect changes in utilization and/or billing patterns of nerve conduction studies.

Table TA.1 Brief Marketbasket Service Group Definitions

Service Group	Definition
Professional services	Professional services in this study refer to medical professional services that are billed by physicians, physical therapists/occupational therapists, and chiropractors. Medical professional services in this study include eight types of services: evaluation and management, physical medicine, minor radiology, major radiology, major surgery, pain management injections, neurological/neuromuscular testing, and emergency services. Note that medical professional services include both professional and technical components of diagnostic tests for applicable services among the eight service types. Medical professional services provided in a hospital setting but billed by physicians, physical therapists/occupational therapists, and chiropractors are included in this study. Medical professional services billed by hospitals are excluded.
Emergency	The services in this group include emergency department visits for patients with various levels of severity and office services provided on an emergency basis. See Table TA.2 for a detailed description of all service codes included in this group.
Evaluation and management	The services in this group are primarily new and established patient office visits. These consist of office visits that require at least two of three parts: a problem focused history, a problem focused examination, and straightforward medical decision making of various complexities. See Table TA.2 for a detailed description of all service codes included in this group.
Major radiology	The services in this group mostly include magnetic resonance imaging (MRI) and computed tomography (CT) scans of various areas, including, but not limited to, spinal canal and contents, cervical, lumbar, and any joint of the upper or lower extremity. See Table TA.2 for a detailed description of all service codes included in this group.
Minor radiology	The services in this group mostly include radiologic exams (X rays or ultrasounds) involving at least two views of various areas of the body, including, but not limited to, the spine, lumbosacral, shoulder, and wrist. See Table TA.2 for a detailed description of all service codes included in this group.
Neurological/neuromuscular testing	The services in this group include neurological and neuromuscular testing. They are largely made up of sensory and motor nerve conduction studies but also include range of motion tests and application of neurostimulators. These services may be billed by physicians as well as by chiropractors and physical therapists. See Table TA.2 for a detailed description of all service codes included in this group.
Physical medicine	The services in this group include physical medicine procedures, modalities, therapeutic activities and manual therapy techniques involving one or more areas, electric stimulation, and work hardening/conditioning, as well as chiropractic care and manipulations. These services may be provided by physical therapists and occupational therapists as well as chiropractors. Physical medicine codes may be billed by physicians, chiropractors, or physical therapists and occupational therapists. See Table TA.2 for a detailed description of all service codes included in this group.
Major surgery	The services in this group include invasive surgical procedures, as opposed to surgical treatments and pain management injections (which are also included in the surgery section of the Current Procedural Terminology [CPT] manual). The most frequent surgeries in this service group include, but are not limited to, arthroscopic surgeries of the shoulder or knee, laminectomies, laminotomies, discectomies, carpal tunnel surgeries, neuroplasty, and hernia repair. See Table TA.2 for a detailed description of all service codes included in this group.
Pain management injections	The services in this group include injection procedures that are commonly used for pain management, such as epidural or steroid injections on nerve roots and muscles for lumbar, sacral, cervical, or thoracic areas. See Table TA.2 for a detailed description of all service codes included in this group.

Table TA.2 Marketbasket Services

Service Group	% of Services	CPT Code	Description
Emergency			
1	47.8%	99283	Emergency department visit, moderate severity
2	32.2%	99284	Emergency department visit, high severity, urgent evaluation
3	10.5%	99285	Emergency department visit, high severity, immediate significant threat
4	8.0%	99282	Emergency department visit, low-moderate severity
5	1.6%	99281	Emergency department visit, self-limited/minor
Evaluation and management			
6	42.3%	99213	Established patient office visit, low-moderate severity, 15 minutes
7	21.9%	99214	Established patient office visit, moderate-high severity, 25 minutes
8	10.7%	99203	New patient office visit, moderate severity, 30 minutes
9	7.4%	99204	New patient office visit, moderate-high severity, 45 minutes
10	7.4%	99212	Established patient office visit, self-limited/minor, 10 minutes
11	2.7%	99202	New patient office visit, low-moderate severity, 20 minutes
12	2.1%	99215	Established patient office visit, moderate-high severity, 40 minutes
13	1.2%	99243	Office consultation, new/established patient, moderate severity, 40 minutes
14	1.2%	99232	Subsequent hospital care, minor complication, 25 minutes
15	1.1%	99244	Office consultation, new/established patient, moderate-high severity, 60 minutes
16	0.9%	99205	New patient office visit, moderate-high severity, 60 minutes
17	0.7%	99211	Established patient office visit, no physician necessary, 5 minutes
18	0.5%	99245	Office consultation, new/established patient, moderate-high severity, 80 minutes
Major radiology			
19	21.1%	73221	MRI, any joint of upper extremity, without contrast material
20	19.1%	73721	MRI, any joint of lower extremity, without contrast material
21	16.6%	72148	MRI, spinal canal and contents, lumbar, without contrast material
22	10.3%	70450	Computed tomography, head or brain, without contrast material
23	8.1%	72141	MRI, spinal canal and contents, cervical, without contrast material
24	5.3%	72125	Computed tomography, cervical spine, without contrast material
25	4.0%	73222	MRI, any joint of upper extremity, with contrast material
26	2.7%	72131	Computed tomography, lumbar spine, without contrast material
27	2.4%	72158	MRI, spinal canal and contents, without then with contrast material, lumbar
28	2.3%	74177	Computed tomography, abdomen and pelvis, with contrast material
29	2.2%	73700	Computed tomography, lower extremity, without contrast material
30	2.1%	73718	MRI, lower extremity, other than joint, without contrast material
31	2.1%	72146	MRI, spinal canal and contents, thoracic, without contrast material
32	1.8%	73218	MRI, upper extremity, other than joint, without contrast material
Minor radiology			
33	10.7%	73030	Radiologic exam, shoulder, complete, minimum of two views
34	7.7%	73140	Radiologic exam, finger(s), minimum of two views
35	7.6%	72100	Radiologic exam, spine, lumbosacral, two or three views
36	7.6%	73610	Radiologic exam, ankle, complete, minimum of three views
37	7.3%	73130	Radiologic exam, hand, minimum of three views
38	7.3%	73110	Radiologic exam, wrist, complete, minimum of three views
39	7.2%	73630	Radiologic exam, foot, complete, minimum of three views
40	5.0%	73562	Radiologic exam, knee, three views
41	3.9%	73560	Radiologic exam, knee, one or two views
42	3.5%	76942	Ultrasonic guidance for needle placement, imaging supervision and interpretation
43	3.4%	72040	Radiologic exam, spine, cervical, two or three views
44	3.3%	72110	Radiologic exam, spine, lumbosacral, minimum of four views
45	3.0%	73080	Radiologic exam, elbow, complete, minimum of three views
46	3.0%	73564	Radiologic exam, knee, complete, four or more views
47	2.9%	71020 ^a	Radiologic exam, chest, two views, frontal and lateral
48	2.1%	71010 ^a	Radiologic exam, chest, single view, frontal
49	2.1%	73590	Radiologic exam, tibia and fibula, two views
50	2.0%	73510 ^a	Radiologic exam, hip, unilateral, complete, minimum of two views
51	1.8%	73070	Radiologic exam, elbow, two views
52	1.8%	72170	Radiologic exam, pelvis, one or two views
53	1.7%	73100	Radiologic exam, wrist, two views
54	1.7%	72050	Radiologic exam, spine, cervical, minimum of four views
55	1.6%	73090	Radiologic exam, forearm, two views
56	1.5%	72070	Radiologic exam, spine, thoracic, two views

continued

Table TA.2 Marketbasket Services (continued)

Service Group	% of Services	CPT Code	Description
Neurological/neuromuscular testing			
57	43.2%	95886	Needle electromyography, each extremity, with related paraspinal areas, done with nerve conduction, amplitude and latency/velocity study
58-64	39.7%	NCS	Nerve conduction study (i.e., CPT codes 95907-95913)
65	7.1%	95851	ROM measurements and report, each extremity (excluding hand) or each trunk section
66	5.9%	95831	Muscle testing, manual (separate procedure) with report; extremity (excluding hand) or trunk
67	4.0%	95885	Needle EMG, each extremity, with related paraspinal areas, when performed, done with nerve conduction, amplitude and latency/velocity study; limited (list separately in addition to code for primary procedure)
Physical medicine			
68	45.8%	97110	Therapeutic procedure, one or more areas, each 15 minutes, therapeutic exercises
69	15.7%	97140	Manual therapy techniques, one or more regions, each 15 minutes
70	7.9%	97530	Therapeutic activities, direct patient contact, each 15 minutes
71	6.2%	97014	Electrical stimulation (unattended), one or more areas
72	5.0%	97112	Therapeutic procedure, one or more areas, each 15 minutes, neuromuscular re-education of movement
73	4.9%	97010	Hot/cold packs, one or more areas
74	3.2%	97035	Ultrasound, one or more areas, each 15 minutes
75	1.6%	97001 ^b	Physical therapy evaluation
76	1.2%	98940	Chiropractic manipulative treatment, spinal, one to two regions
77	1.1%	97032	Electric stimulation, one or more areas, each 15 minutes
78	1.0%	97124	Therapeutic procedure, one or more areas, each 15 minutes, massage
79	1.0%	98941	Chiropractic manipulative treatment, spinal, three to four regions
80	0.9%	97546	Work hardening/conditioning, each additional hour
81	0.9%	97012	Traction, mechanical, one or more areas
82	0.8%	97545	Work hardening/conditioning, initial two hours
83	0.8%	97113	Therapeutic procedure, one or more areas, each 15 minutes, aquatic therapy with therapeutic exercises
84	0.8%	97002 ^b	Physical therapy re-evaluation
85	0.7%	97033	Iontophoresis, one or more areas, each 15 minutes
86	0.6%	97750	Physical performance test or measurement, with written report, each 15 minutes
Major surgery			
87-90	33.3%	Shoulder arthroscopies	Arthroscopic shoulder surgery (i.e., CPT codes 29823, 29824, 29826, and 29827)
91	18.7%	29881	Arthroscopy, knee surgery, with meniscectomy, medial or lateral
92	15.4%	64721	Neuroplasty and/or transposition, median nerve at carpal tunnel
93	6.6%	29880	Arthroscopy, knee surgery, with meniscectomy, medial and lateral
94	5.6%	63030	Laminotomy with decompression of nerve root, one interspace, lumbar
95	5.3%	49505	Repair initial inguinal hernia, age five years or over, reducible
96	4.4%	29888	Arthroscopically aided ACL repair, augmentation, reconstruction
97	3.8%	23412	Repair of ruptured musculotendinous cuff, chronic
98	3.8%	22551	Arthrodesis, anterior interbody, including disc space preparation, discectomy, osteophyctectomy and decompression of spinal cord and/or nerve roots; cervical below C2
99	3.1%	63047	Laminectomy, facetectomy and foraminotomy (unilateral or bilateral with decompression of spinal cord, cauda equina and/or nerve root[s] [e.g., spinal or lateral recess stenosis]), single vertebral segment, lumbar
Pain management injections			
100	22.9%	20552	Injection(s), single or multiple trigger point(s), one or two muscle(s)
101	21.3%	64415	Injection, anesthetic agent, brachial plexus, single
102	16.5%	64483	Injection(s), anesthetic agent and/or steroid, transforaminal epidural, with imaging guidance (fluoroscopy or CT), lumbar or sacral, single level
103	13.4%	62311 ^c	Injection, single (not via indwelling catheter), not including neurolytic substances, with or without contrast (for either localization or epidurography), of diagnostic or therapeutic substance(s) (including anesthetic, antispasmodic, opioid, steroid, other solution), epidural or subarachnoid, lumbar, sacral (caudal)
104	6.7%	64493	Injections, diagnostic or therapeutic agent, paravertebral facet joint (or nerves innervating that joint) with image guidance, lumbar or sacral, single level
105	6.3%	62310 ^c	Injection, single (not via indwelling catheter), not including neurolytic substances, with or without contrast (for either localization or epidurography), of diagnostic or therapeutic substance(s) (including anesthetic, antispasmodic, opioid, steroid, other solution), epidural or subarachnoid, cervical or thoracic
106	5.5%	64450	Injection, anesthetic agent, other peripheral nerve or branch
107	5.4%	20553	Injection(s), single or multiple trigger point(s), three or more muscle(s)
108	2.0%	62284	Injection procedure for myelography and/or computed tomography, spinal (other than C1-C2 and posterior fossa)

continued

Table TA.2 Marketbasket Services (continued)

^a In 2016, the use of CPT code 73510 in many states was replaced by the use of a new code, 73502, following a Medicare coding change. This new CPT code is for unilateral radiologic examination of hip, with pelvis when performed, and including 2–3 views. In the study states that followed this coding change starting in 2016, we crosswalked the new code 73502 to the CPT code 73510, as these two codes have similar definitions, prices, and utilization patterns. In 2018, the use of CPT code 71010 and 71020 in many states was replaced by the use of new codes 71045 and 71046, respectively, following a Medicare coding change. The new CPT code 71045 is for radiologic examination of chest with a single view, and the new CPT code 71046 is for radiologic examination of chest with two views. In the study states that followed this coding change in 2018, we crosswalked the new code 71045 to the CPT code 71010, and the new code 71046 to the CPT code 71020, based on the common billing pattern observed across states as of June 2018.

^b In 2017, Medicare issued several coding changes that are relevant to our marketbasket. CPT codes 97001 and 97002 were replaced by a set of four new codes: 97161 (physical therapy evaluation with low complexity for 10 minutes typically), 97162 (physical therapy evaluation with moderate complexity for 30 minutes typically), 97163 (physical therapy evaluation with high complexity for 45 minutes typically), and 97164 (physical therapy re-evaluation with high complexity for 20 minutes typically). Based on the common billing pattern observed across states starting in 2017, we crosswalked the new codes 97161, 97162, and 97163 to the CPT code 97001, and we crosswalked the new code 97164 to the CPT code 97002.

^c In 2017, CPT code 62310 was replaced by a pair of new codes, 62321 (cervical epidural injections with imaging guidance) and 62320 (cervical epidural injections without imaging guidance). CPT 62311 was replaced by a pair of new codes, 62323 (lumbar epidural injections with imaging guidance) and 62322 (lumbar epidural injections without imaging guidance). Starting in 2017, we observed that the use of CPT code 62310 was mainly replaced by the use of the new code 62321, and the use of CPT code 62311 was mainly replaced by the use of the new code 62323 in most states; therefore, we crosswalked the new code 62321 to the CPT code 62310 and crosswalked the new code 62323 to the CPT code 62311.

Key: ACL: anterior cruciate ligament; CPT: Current Procedural Terminology; EMG: electromyography; MRI: magnetic resonance imaging; NCS: nerve conduction study; ROM: range of motion.

Table TA.3 Procedures for Arthroscopic Shoulder Surgery

Major Surgery	Procedure	CPT Code	Percentage Frequency ^a	Description
CPT 29826 is a primary code	1	29827	52.9%	Arthroscopy, shoulder, surgical; rotator cuff repair
	2	29826	29.4%	Arthroscopy, shoulder, surgical; decompression of subacromial space with partial acromioplasty, with or without coracoacromial release
	3	29823	12.7%	Arthroscopy, shoulder, surgical; debridement extensive
	4	29824	5.0%	Arthroscopy, shoulder, surgical; distal claviclectomy including distal articular surface (Mumford procedure)
CPT 29826 is an add-on code	1	29827	63.3%	Arthroscopy, shoulder, surgical; rotator cuff repair
	2	29823	20.6%	Arthroscopy, shoulder, surgical; debridement extensive
	3	29824	16.1%	Arthroscopy, shoulder, surgical; distal claviclectomy including distal articular surface (Mumford procedure)

Notes: The CPT 2012 Professional Edition converted CPT 29826 from a primary code to an add-on code. Sixteen study states reimburse CPT 29826 as an add-on code as of 2019. The other study state workers' compensation fee schedules still establish the rate for CPT 29826 as a primary code.

^a Percentage frequency is the frequency share for each CPT code within the arthroscopic shoulder surgery procedures.

Key: CPT: Current Procedural Terminology.

Table TA.4 Description of Marketbasket Contents

Service Group	Number of CPT Codes	% of Expenditures Captured by Marketbasket Codes	% of Expenditures in Marketbasket	% of Services Captured by Marketbasket Codes	% of Services in Marketbasket
Emergency	5	95%	2%	89%	1%
Evaluation and management	13	95%	26%	96%	17%
Major radiology	14	90%	8%	86%	1%
Minor radiology	24	76%	4%	82%	5%
Neurological/neuromuscular testing	11	78%	2%	77%	1%
Physical medicine	19	94%	36%	95%	73%
Major surgery	13	44%	20%	41%	1%
Pain management injections	9	79%	2%	85%	1%

Key: CPT: Current Procedural Terminology.

Table TA.5a Percentage of Expenditures Represented by the Marketbasket by State and Service Group, January 2013 to December 2014

State	Emergency	Evaluation & Management	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Physical Medicine	Major Surgery	Pain Management Injections
AR	94%	95%	87%	80%	70%	96%	36%	78%
AZ	96%	95%	86%	79%	83%	94%	42%	83%
CA	91%	92%	92%	67%	76%	79%	42%	84%
CO	95%	97%	91%	72%	75%	93%	46%	73%
CT	95%	97%	91%	76%	72%	98%	49%	79%
FL	70%	96%	90%	73%	86%	94%	36%	78%
GA	90%	97%	90%	79%	72%	95%	43%	81%
IA	100%	95%	91%	77%	93%	98%	43%	84%
IL	93%	94%	90%	74%	71%	98%	46%	79%
IN	99%	96%	91%	78%	82%	97%	47%	74%
KS	99%	95%	92%	77%	87%	96%	44%	85%
KY	100%	96%	88%	78%	88%	98%	45%	82%
LA	98%	91%	89%	74%	57%	86%	38%	77%
MA	97%	95%	91%	71%	77%	94%	51%	82%
MD	87%	96%	90%	78%	72%	92%	37%	78%
MI	99%	96%	89%	81%	92%	97%	40%	76%
MN	100%	96%	90%	77%	87%	92%	47%	69%
MO	99%	96%	90%	73%	87%	97%	48%	86%
MS	100%	95%	89%	75%	87%	95%	50%	84%
NC	97%	94%	90%	77%	85%	94%	44%	79%
NE	94%	95%	92%	83%	87%	98%	43%	80%
NJ	98%	93%	89%	71%	51%	96%	45%	76%
NY	97%	96%	92%	71%	81%	91%	45%	82%
OK	95%	96%	94%	79%	54%	95%	48%	79%
OR	93%	98%	91%	73%	88%	94%	41%	76%
PA	96%	95%	91%	78%	73%	91%	46%	78%
SC	93%	94%	92%	78%	89%	97%	38%	81%
TN	99%	97%	90%	82%	75%	95%	47%	76%
TX	99%	96%	86%	79%	65%	85%	33%	76%
VA	91%	95%	89%	74%	69%	97%	39%	80%
WI	98%	95%	90%	77%	90%	95%	51%	76%

Notes: For emergency services, the marketbasket captures 70 percent of total expenditures in Florida, a lower percentage than in other study states. CPT code S9088 captures nearly 30 percent of total expenditures. CPT S9088 is an add-on code to report services provided in an urgent care center (listed in addition to the code for service). The Florida workers' compensation fee schedule rate for this code is *by report*.

Key: CPT: Current Procedural Terminology.

Table TA.5b Percentage of Expenditures Represented by the Marketbasket by State and Service Group, January 2018 to June 2019

State	Emergency	Evaluation & Management	Major Radiology	Minor Radiology	Neurological/Neuromuscular Testing	Physical Medicine	Major Surgery	Pain Management Injections
AL	97%	95%	89%	83%	65%	96%	46%	80%
AR	92%	97%	87%	86%	56%	97%	31%	75%
AZ	97%	97%	90%	81%	67%	95%	30%	78%
CA	85%	95%	91%	76%	81%	81%	35%	83%
CO	85%	98%	90%	78%	44%	93%	36%	64%
CT	86%	98%	90%	78%	47%	97%	44%	77%
DE	100%	97%	92%	79%	89%	96%	34%	65%
FL	51%	96%	91%	77%	72%	95%	32%	75%
GA	89%	97%	91%	82%	62%	96%	40%	78%
IA	100%	96%	90%	79%	88%	98%	42%	84%
IL	92%	96%	91%	77%	54%	98%	43%	79%
IN	99%	96%	91%	83%	71%	98%	41%	74%
KS	98%	96%	91%	80%	69%	97%	41%	75%
KY	99%	97%	90%	83%	68%	98%	40%	75%
LA	98%	92%	88%	77%	44%	96%	35%	69%
MA	90%	95%	91%	75%	67%	95%	46%	74%
MD	79%	98%	89%	82%	70%	96%	33%	77%
MI	99%	97%	87%	82%	78%	98%	33%	71%
MN	100%	97%	88%	80%	85%	92%	39%	72%
MO	99%	97%	90%	80%	73%	96%	44%	81%
MS	100%	97%	90%	82%	75%	97%	41%	81%
NC	98%	96%	88%	82%	69%	94%	35%	78%
NE	99%	96%	90%	85%	89%	98%	39%	78%
NH	100%	98%	93%	78%	80%	95%	42%	84%
NJ	91%	95%	90%	78%	42%	97%	45%	80%
NM	96%	94%	90%	79%	49%	91%	34%	65%
NV	97%	96%	89%	80%	47%	95%	47%	69%
NY	98%	96%	93%	72%	80%	91%	41%	78%
OK	98%	97%	93%	85%	36%	96%	46%	79%
OR	91%	98%	91%	73%	76%	93%	34%	74%
PA	90%	96%	91%	82%	69%	92%	41%	75%
SC	92%	95%	91%	82%	87%	96%	34%	77%
TN	93%	97%	89%	84%	74%	97%	38%	78%
TX	100%	96%	85%	83%	38%	81%	27%	77%
VA	80%	95%	90%	81%	71%	96%	34%	70%
WI	100%	96%	89%	82%	82%	96%	43%	79%

Notes: For emergency services, the marketbasket captures lower percentages of total expenditures in Florida due to more frequent billing of CPT code S9088 (an add-on code to report services provided in an urgent care center, listed in addition to the code for service) in the state. For neurological/neuromuscular testing services, the marketbasket captures lower percentages of total expenditures in Oklahoma and Texas due to more frequent billing of CPT codes 95940 (a code for continuous intraoperative neurophysiological monitoring in operating room) and 95941 (a code for continuous intraoperative neurophysiology monitoring from outside the operating room either remote or nearby) in Oklahoma, and more frequent billing of CPT code 95951 (a code for monitoring for localization of cerebral seizure focus by cable or radio) in Texas.

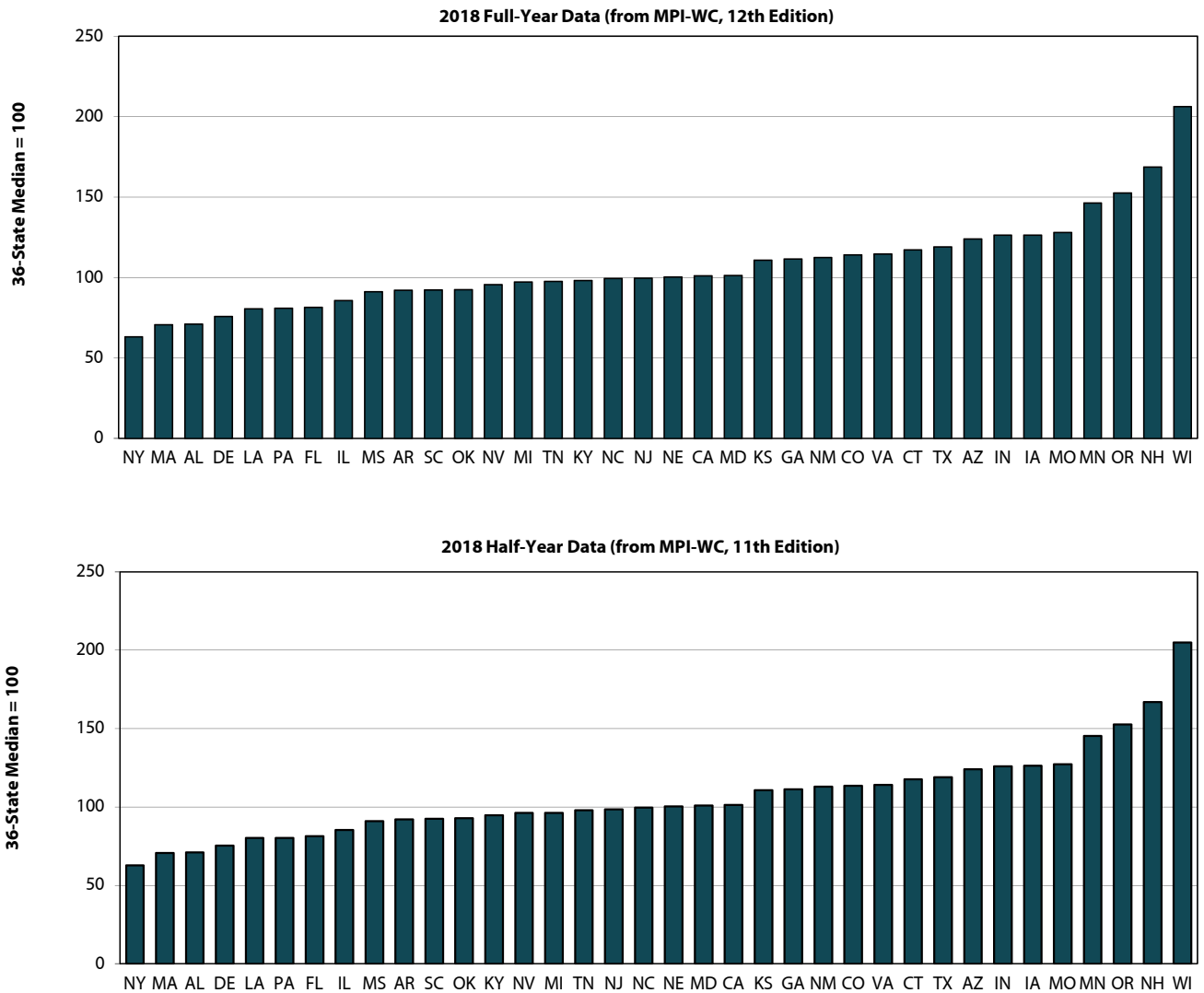
Key: CPT: Current Procedural Terminology.

Table TA.6 New CPT Codes for Nerve Conduction Studies Implemented in 2013

CPT Code	Definition
95907	Nerve conduction studies; 1–2 studies
95908	Nerve conduction studies; 3–4 studies
95909	Nerve conduction studies; 5–6 studies
95910	Nerve conduction studies; 7–8 studies
95911	Nerve conduction studies; 9–10 studies
95912	Nerve conduction studies; 11–12 studies
95913	Nerve conduction studies; 13 or more studies

Key: CPT: Current Procedural Terminology.

Figure TA.1 Interstate Comparison of Evaluation and Management Prices Paid, Full-Year versus Half-Year Data in 2018, from Different Editions of the MPI-WC



Notes:

This comparison demonstrates that interstate comparisons based on half-year data are reasonable approximations for the results using full-year data, as the relative rankings of states are fairly similar. We show the comparisons for evaluation and management services here because there was little change in the marketbasket codes selection and computation methods for this service group between different editions of this study.

This comparison reflects the 36 states that were common to both editions of the MPI-WC.

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