



# **WCRI MEDICAL PRICE INDEX FOR WORKERS' COMPENSATION, FOURTH EDITION (MPI-WC)**

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with the assistance of  
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WC-12-20

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State	Trends in Medical Prices for Professional Services			
Arkansas	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Arizona	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
California	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Connecticut	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Florida	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Georgia	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Iowa	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Illinois	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Indiana	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Louisiana	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Massachusetts	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Maryland	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Michigan	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Minnesota	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Missouri	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
North Carolina	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
New Jersey	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
New York	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Oklahoma	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Pennsylvania	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
South Carolina	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Tennessee	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Texas	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Virginia	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>
Wisconsin	<a href="#">Overall</a>	<a href="#">E&amp;M</a>	<a href="#">Surgery</a>	<a href="#">By Service Group</a>

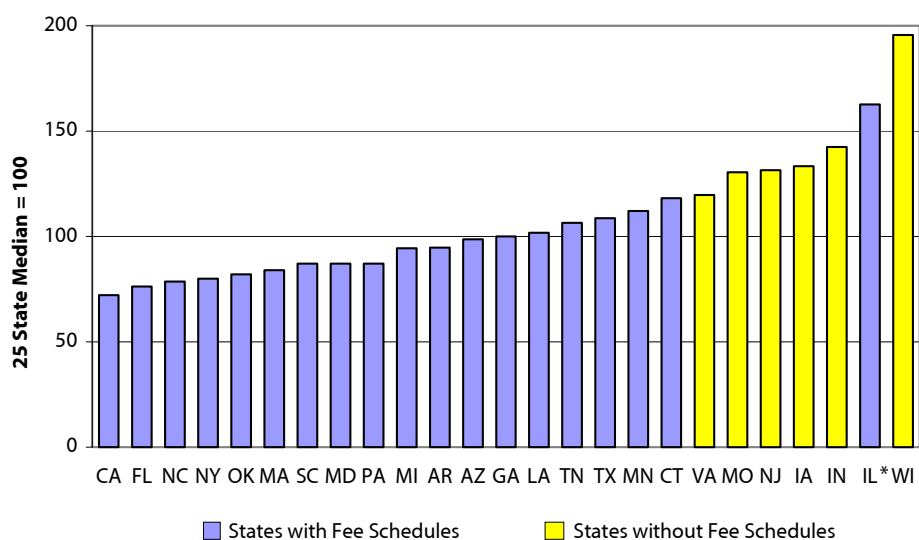
## MAJOR FINDINGS

Increasing prices for medical treatment for workers' compensation injuries have been a focus of public policymakers and system stakeholders. To help decision makers evaluate the impact of price-focused policy initiations and set priorities about system improvement, this study creates an index for prices paid for professional services (i.e., nonhospital, nonfacility services) that are most commonly used in workers' compensation. This report includes 25 large states that represent nearly 80 percent of the workers' compensation benefits paid in the U.S. and covers a ten-year period from 2002 to 2011.<sup>1</sup> This study provides policymakers and stakeholders with a useful tool for monitoring changes in prices over time within each state as well as meaningful comparisons of prices paid across study states.

The major findings from this study are as follows:

- States with no fee schedule regulations on reimbursement for professional services had higher prices paid and more rapid price growth over time compared with states with fee schedules.
  - Six states included in this study had no fee schedules as of 2011, namely Indiana, Iowa, Missouri, New Jersey, Virginia, and Wisconsin (Figure 1). The prices paid for professional services in Virginia, Missouri, New Jersey, Iowa, and Indiana were 27 to 51 percent higher than the median of the study states with fee schedules. The prices paid in Wisconsin were the highest of the 25 study states, more than twice the median of the study states with fee schedules and nearly 50 percent higher than the median of the study states with no fee schedules.

**Figure 1 Interstate Comparisons of Price Index for Professional Services, 2011<sup>P</sup>**



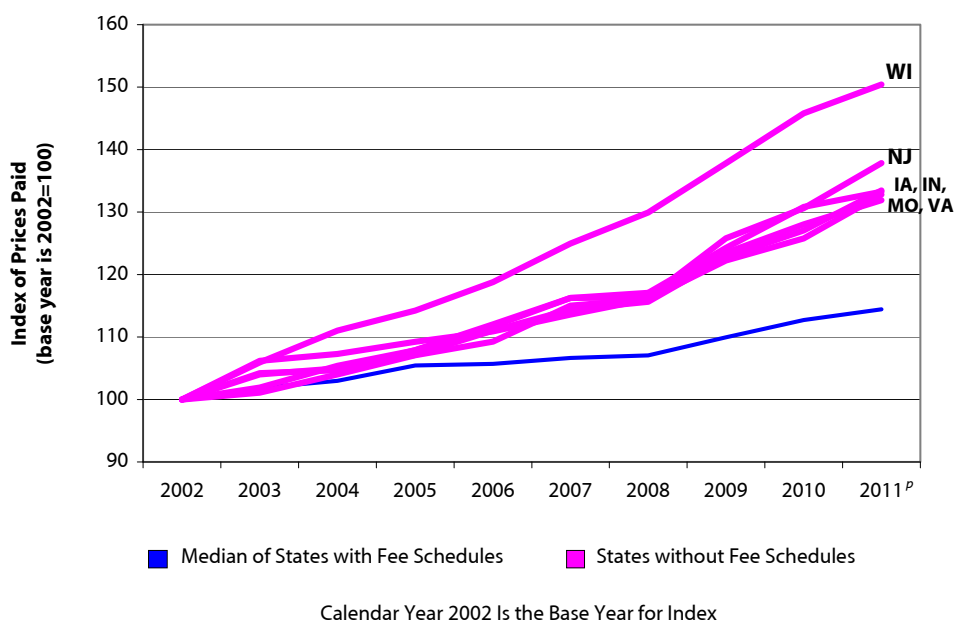
*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

\* In September 2011, Illinois enacted a new legislation that introduced a 30 percent decrease in the fee schedule rates. The results in this report do not reflect that change.

<sup>1</sup> The states included in this study are Arizona, Arkansas, California, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Wisconsin.

- States with no fee schedules also experienced more rapid growth in prices paid over the study period than states with fee schedules (Figure 2). The prices in Missouri, Indiana, Iowa, Virginia, and New Jersey increased 32 to 38 percent from 2002 to 2011, compared with the median growth rate of 14 percent for the study states with fee schedules. The prices in Wisconsin experienced the most rapid growth among the 25 states. Over the ten years covered in this study, the prices in Wisconsin increased 50 percent—not only faster than the typical growth in states with fee schedules, but also more rapid than the growth in the study states with no fee schedules.

**Figure 2 Trends of Price Index for Professional Services, 2002 to 2011**



*Special notation:* <sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

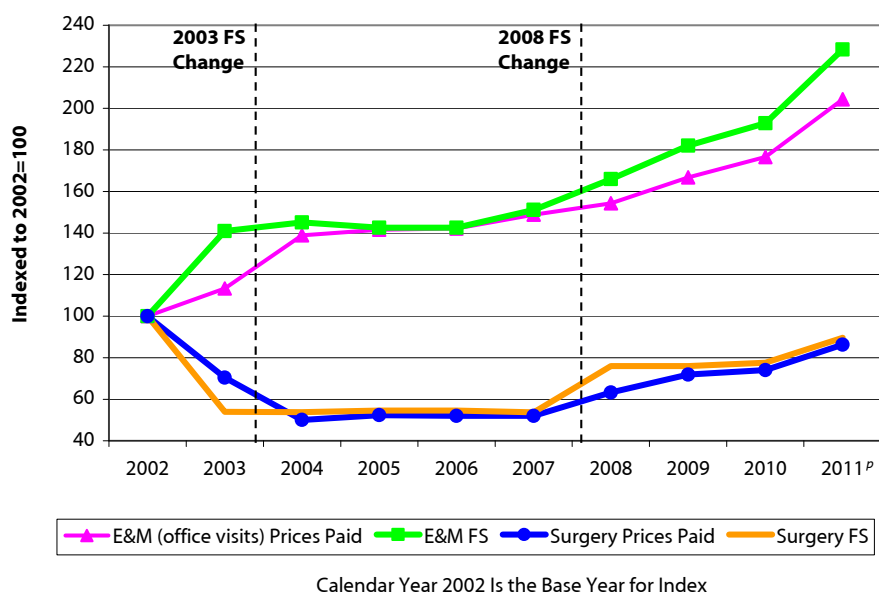
- Fee schedule changes were an important factor driving changes in actual prices paid.
  - In states that did not have changes in their fee schedules for a while, prices paid remained fairly stable. For example, the fee schedule rates in North Carolina did not have any material change during the study period. The prices paid in that state remained stable from 2002 to 2011, with an overall increase of less than 3 percent (Figure A.17). In New York, the fee schedule rates for most types of services covered in this study did not change from 2002 to 2010, and the prices paid in the state remained stable during that period (Figure A.19).<sup>2</sup>
  - In states with fee schedule reforms, changes in the actual prices paid reflected the impact of the policy changes. For example, Texas underwent several fee schedule changes during the study period. Figure 3 shows the trends in prices paid and the changes in fee schedule rates for two types of services—evaluation and management (office visits) and surgeries. In August 2003, the fee schedule rates for surgery decreased nearly 50 percent (for services included in the marketbasket);

<sup>2</sup> In 2011, the fee schedule rates in New York increased for evaluation and management (office visits) and emergency services, and the prices paid for those services increased correspondingly.



meanwhile, the fee schedule rates for office visits increased about 40 percent. The prices paid for surgeries decreased about 50 percent and the prices paid for office visits grew about 40 percent from 2002 to 2004, tracking the fee schedule changes closely. In March 2008, Texas increased the fee schedule rates for most professional services, including an especially large increase for surgeries (about 40 percent). Correspondingly, the prices paid for surgeries increased nearly 40 percent from 2007 to 2009. The prices paid for office visits increased about 20 percent from 2007 to 2010, following the continuous increases in the fee schedule rates.<sup>3</sup> In 2011, the fee schedule rates for both types of services increased again because of Medicare updates, and the growth in prices paid tracked fee schedule increases closely—a nearly 16 percent increase in prices paid for office visits and a 17 percent increase for surgeries.

**Figure 3 Trends in Prices Paid and Fee Schedule Rates for E&M and Surgery in Texas, 2002 to 2011**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

Key: E&M: evaluation and management (office visits); FS: fee schedule.

- In states with certain types of services not covered by their fee schedules, often the growth in prices paid for those services was more rapid than for the services covered by the fee schedules.
  - In Louisiana, the prices paid for most types of medical services remained fairly stable from 2002 to 2011, as the fee schedule rates did not change during the period. However, the prices paid for pain management injections grew rapidly, about 60 percent ([Figure D.10](#)). This was because many pain management injections were not regulated by fee schedule rates; instead they were determined under a *by report* method, which was based on factors such as payors' specific prevailing charges data, documentation submitted by medical providers, etc.

<sup>3</sup> Note that the growth in prices paid for office visits in Texas from 2007 to 2010 (about 20 percent) was slower than the increases in the fee schedule rates (nearly 30 percent). One underlying factor might be that networks were used more often in the state during that period, and services rendered within networks often had discounted prices.

- In Minnesota, before 2010, many commonly used pain management injections were not covered by the fee schedule; the prices paid for these services grew about 50 percent from 2002 to 2009, much faster than the price growth in other types of services under the fee schedule ([Figure D.14](#)). In October 2010, Minnesota updated the fee schedule and covered the pain management injections that were not regulated before. This led to a decrease of nearly 40 percent in the prices paid for pain management injections from 2009 to 2011.

# INTRODUCTION

Over recent years the costs of medical treatment per claim for workers' compensation injuries have been growing rapidly. To manage this growth through both public policies and private management actions, public policymakers and business decision makers need to know what areas of medical care are the key drivers for rapidly increasing overall costs. This study focuses on prices paid for professional services (i.e., nonhospital, nonfacility services). Other Workers Compensation Research Institute (WCRI) studies examine the quantity and mix of medical care provided and hospital costs.<sup>4</sup>

The essential method for developing this workers' compensation medical price index (MPI-WC) is similar to the one for the consumer price index for medical care (CPI-M), published by the U.S. Department of Labor's Bureau of Labor Statistics (BLS). Both price indices measure changes in price while holding utilization constant over the period studied. The BLS medical CPI includes the prices of all medical services provided to the U.S. population. The majority of these services have little or no relevance for tracking medical prices for the care provided to injured workers. The WCRI medical price index includes only those medical services that are commonly provided to injured workers—largely related to diagnosis and treatment of trauma and orthopedic conditions.

## SCOPE OF THE STUDY

WCRI developed the medical price index for workers' compensation to aid policymakers and business decision makers in identifying states and medical services where medical prices are unusually high or low, or are rising rapidly. The index measures prices actually paid and takes into account any network or other discounts. It focuses on professional services billed by physicians, physical therapists, and chiropractors. The price indices compare medical prices paid from state to state and show the trends within each state. Indices are reported for each state on a statewide basis and for major groups of medical services, including evaluation and management, physical medicine, surgery, major radiology, minor radiology, neurological and neuromuscular testing, pain management injections, and emergency care. The indices exclude services billed by hospitals or ambulatory surgical centers and services billed for durable medical equipment, as well as pharmaceuticals.

This fourth edition covers 25 large states that represent nearly 80 percent of the workers' compensation benefits paid in the U.S. For each state, the indices track medical prices from calendar year 2002 through June 2011. Interstate comparisons are made for 2011.

This report does not seek to identify all of the potential reasons for interstate differences in prices paid, nor does it seek to identify all of the potential factors driving increases or decreases in prices paid in each year in every state. In general, these changes are driven by state regulation (e.g., fee schedules) and market conditions (e.g., negotiated fee levels).

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<sup>4</sup> Radeva, E., B. Savych, C. Telles, R. Yang, and R. Tanabe. 2011. *CompScope™ medical benchmarks, 11th edition*. 13 vols. Cambridge, MA: Workers Compensation Research Institute.

Yang, R., and O. Fomenko. 2012. *Hospital outpatient cost index for workers' compensation*. Cambridge, MA: Workers Compensation Research Institute.

## **ORGANIZATION OF THE REPORT**

This report includes six major sections. The Major Findings section presents major findings and highlights policy implications. After a short Introduction section, the Data and Methods section and the Limitations and Caveats section discuss the data and methodology design in this study. Then, in the Figures and Tables section, we present the trends in workers' compensation medical prices paid for each of the 25 states from calendar year 2002 through June 2011, followed by the interstate comparisons of prices paid for services delivered and paid for in calendar year 2011.<sup>P</sup> The Technical Appendix section describes the methods, data, and limitations of this price index study in more detail.

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<sup>P</sup> 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

# DATA AND METHODS

The price index measures prices for professional services, holding the utilization of those services constant across study states and over study years. It is based on a collection of the most common medical services provided to injured workers; this collection is called a marketbasket. To isolate the effect of price changes and interstate differences in prices, we held the marketbasket of procedures constant, and used fixed weights to compute the average prices across study states and over the study years. 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 methodology.

## THE DATA

The WCRI MPI-WC is based on the detailed medical bill data in the WCRI Detailed Benchmark/Evaluation (DBE) database. Across the study states, the data used in this study comprise 40 to 66 percent of the claims in each state. The data in most of the 25 study states are reasonably representative of the state systems, with the caveats described in the “Limitations and Caveats” section of this chapter and the Technical Appendix. For Arizona, Missouri, New York, and Oklahoma, the data may not be necessarily representative because they are missing data from a larger data source that is significant in the state. The information to construct the marketbasket and to compute the price index comes from the medical bills associated with the set of claims in the DBE database. The basic unit of measurement is the price—the amount paid for each medical service on a bill.

## THE MARKETBASKET

To hold the utilization of medical services constant, we created a collection of medical services most commonly used to treat injured workers. This collection is called a marketbasket. The marketbasket of procedures is held constant across states and from year to year. Holding utilization constant allows us to isolate the effect of price changes and interstate differences in prices. The professional services provided to injured workers generally falls 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 that comprise at least 80 percent of expenditures in each service group. There were two exceptions: major surgery and minor radiology, where the codes in the marketbasket captured 63 percent and 67 percent of total expenditures in those groups, respectively (see Technical Appendix [Table TA.4](#)). The marketbasket was then tested to ensure that it was robust and represented the overwhelming majority of workers' compensation expenditures on professional services in each of the 25 states (see Technical Appendix [Table TA.3](#)).

## CREATING THE INDICES

We computed an average price paid for each of the individual services in the marketbasket for each state and

for each year.<sup>5</sup> 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. The weights are the frequency of each procedure—that is, the number of times each service was provided to injured workers in the marketbasket. 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 total number of all services in the marketbasket.

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 2002 as the base, so an index of 120 for calendar year 2011 means that the average price paid in 2011 was 20 percent higher than in 2002.

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<sup>5</sup> 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. The methods for cleaning the data are described in more detail in the Technical Appendix.

## LIMITATIONS AND CAVEATS

First, to provide more recent information, we report prices in 2011 based on January through June 30, 2011. The interstate rankings based on the 2011 figures should provide a reasonable approximation for a state's ranking relative to other states in 2011—especially for states that adjusted their fee schedules early in 2011. For states that adjusted their fee schedules after June 30, the index may understate or overstate their comparable price index for 2011.<sup>6</sup> That is also true to a lesser extent for states that adjusted their fee schedules in the second quarter of 2011. 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. For the same reasons, the price index trends from 2010 to 2011 in the report (based on half-year 2011 data) may understate or overstate the trends based on a full year of 2011 data in the study states.

Second, this study is based on data from a group of large insurers, self-insurers, state funds, and third-party administrators in 25 states. The data in 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. These states include Arizona, Missouri, New York, and Oklahoma, as noted throughout the tables.

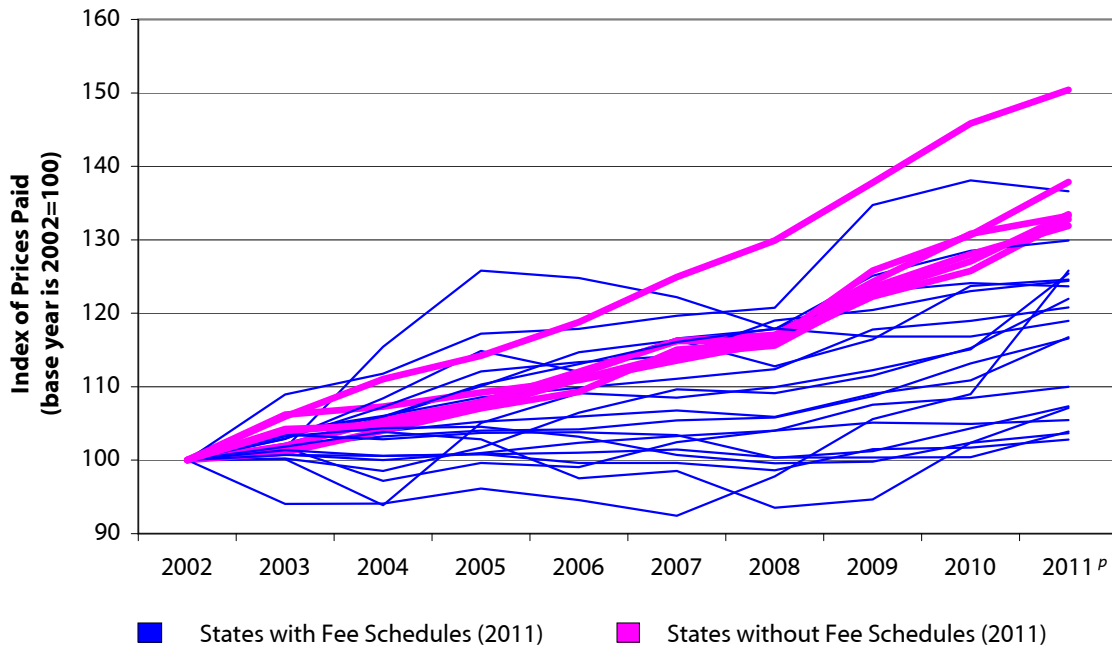
Third, we use a single marketbasket of procedure codes across all states to hold utilization constant in order to isolate the effects of prices. In a few states, there are a limited number of unique state-specific procedure codes. Often these codes are mapped to the standard codes in the marketbasket. In a few states, such a mapping is not possible. In these cases, we omit the state-specific codes (for example, the physical medicine services in Louisiana). This might produce minor distortions in the interstate comparability, but should not affect the individual state trends.

Fourth, radiology procedure codes often use modifiers to distinguish the technical component versus the professional component of the whole procedure, and these components are paid at different levels for the same procedure. Unfortunately, the modifier codes are sometimes missing in the data reported to WCRI. For this study, we developed an algorithm to identify the services billed for the professional component separately from those for the technical component or for the whole procedure. This allows us to more accurately compute the average prices for radiology services. However, we were not able to identify the services billed for the technical component and for the whole procedure separately due to data limitations (see the Technical Appendix for more discussion).

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<sup>6</sup> For example, Illinois decreased the fee schedule rates by 30 percent, effective September 2011. Results in the current edition do not reflect this change. The next edition of this study will evaluate the impact of this policy change and the post-change interstate comparison on prices paid for professional services for Illinois.

**Figure A.1 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



**Professional Services, WCRI MPI-WC Trends in Medical Prices Paid 2002 to 2011**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
AR	100	104	104	105	106	107	106	109	111	117
AZ <sup>a,b</sup>	100	102	106	110	115	116	113	116	124	125
CA	100	102	97	100	99	102	104	105	105	105
CT <sup>b</sup>	100	102	103	104	104	105	106	109	113	117
FL	100	102	115	126	125	122	118	123	124	124
GA	100	100	99	102	106	110	109	112	115	122
IA <sup>c</sup>	100	106	107	109	111	114	116	122	126	133
IL <sup>b</sup>	100	103	108	115	112	117	118	125	128	130
IN <sup>c</sup>	100	102	105	108	112	116	117	124	131	133
LA	100	101	100	101	102	103	104	108	108	110
MA	100	109	112	117	118	120	121	135	138	137
MD <sup>b</sup>	100	100	94	105	109	108	110	112	115	125
MI	100	103	107	112	113	114	119	120	123	124
MN	100	104	106	109	110	111	112	118	119	121
MO <sup>a,c</sup>	100	101	104	107	109	115	116	123	128	132
NC	100	101	101	101	100	100	99	101	102	103
NJ <sup>c</sup>	100	104	105	108	112	116	116	126	131	138
NY <sup>a</sup>	100	101	101	101	101	101	100	100	100	104
OK <sup>a,b</sup>	100	103	104	105	103	101	100	100	102	104
PA <sup>b</sup>	100	103	106	110	113	116	118	117	117	119
SC	100	103	103	104	104	103	100	101	104	107
TN <sup>b</sup>	100	102	104	103	98	99	94	95	102	107
TX <sup>b</sup>	100	94	94	96	95	92	98	106	109	126
VA <sup>c</sup>	100	104	105	107	111	114	116	123	127	133
WI <sup>c</sup>	100	106	111	114	119	125	130	138	146	150

*continued*



**Figure A.1 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011 (continued)**

*Special notation:*<sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

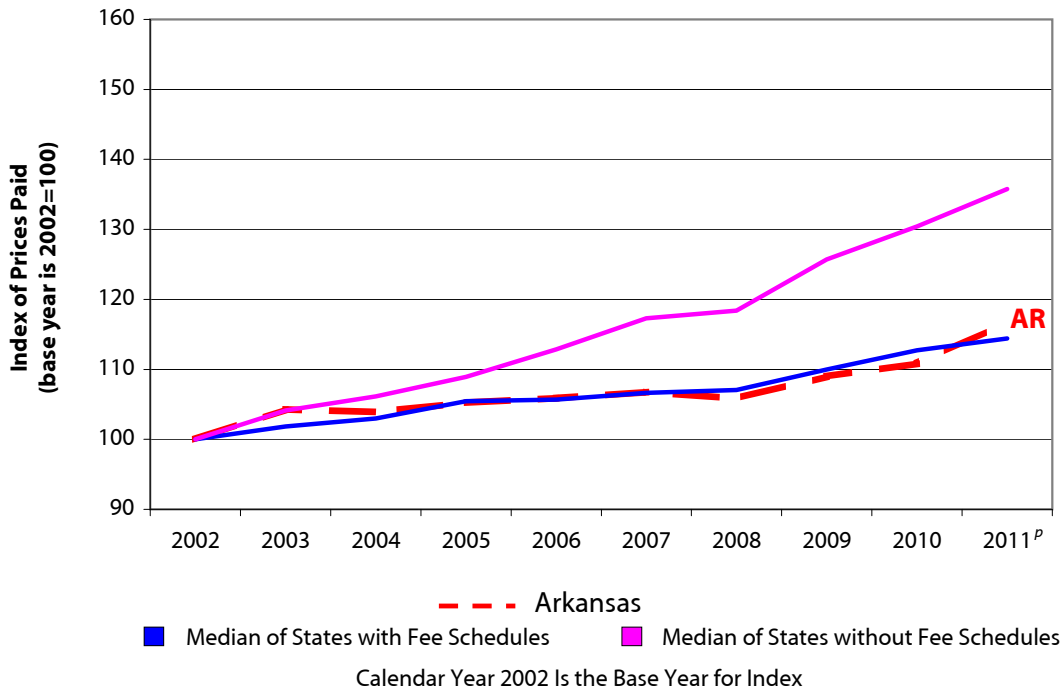
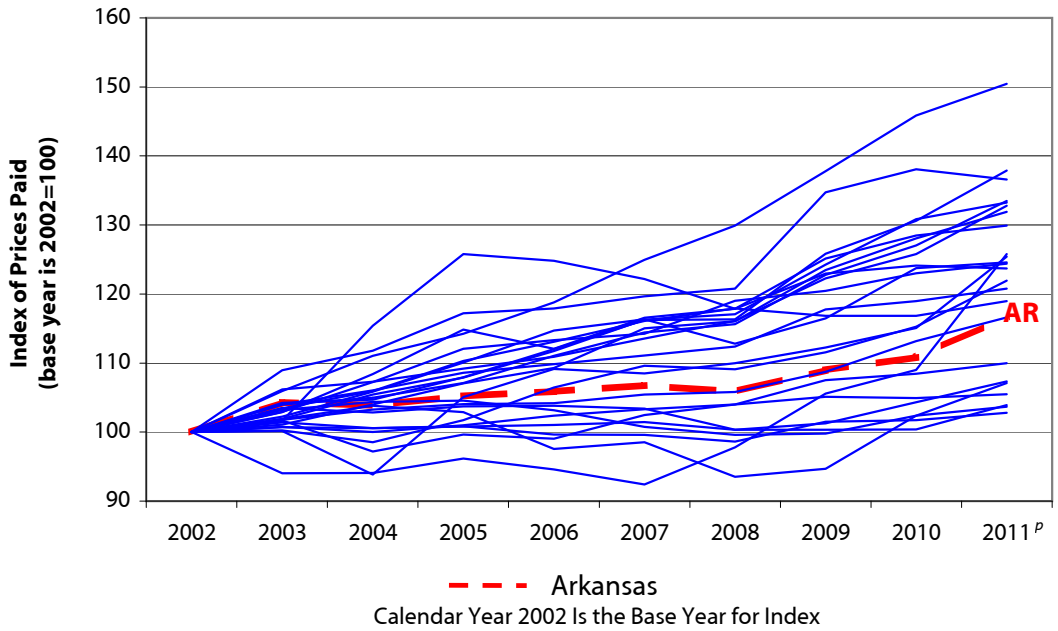
*Note:* Calendar year 2002 is the base year, which is equal to 100 in the index.

<sup>a</sup> The data for this state 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.

<sup>b</sup> This state had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.

<sup>c</sup> This state had no workers' compensation fee schedule in 2011.

**Figure A.2 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

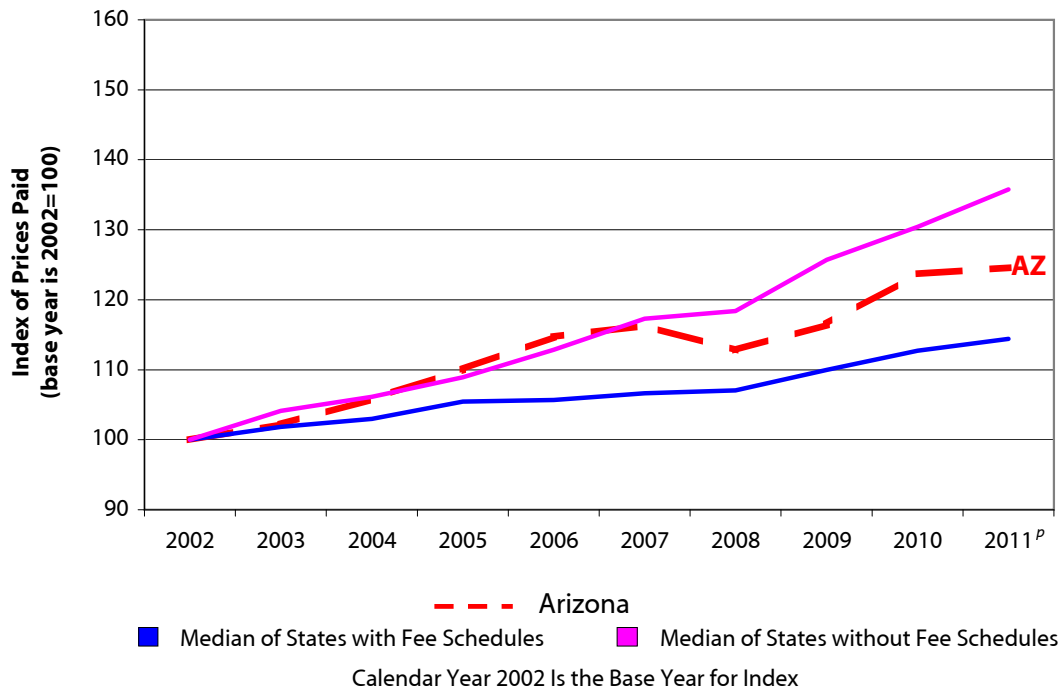
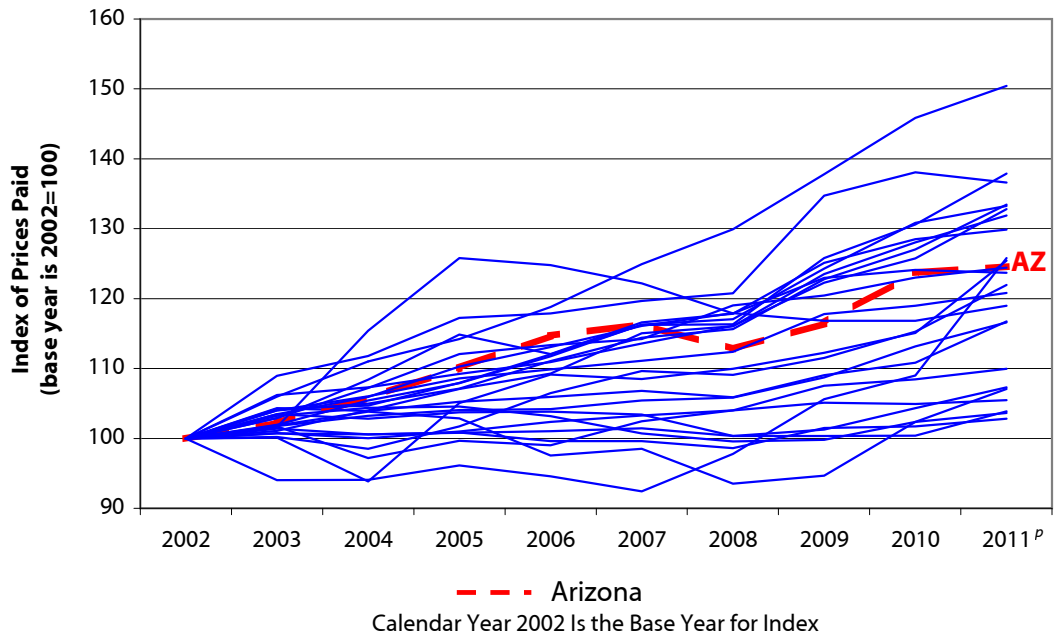


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Arkansas' fee schedule for professional services has regular updates on the RVUs tied to the most recent Medicare 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, 2011.

*Key:* RBRVS: resource-based relative value scale; RVUs: relative value units.

**Figure A.3 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



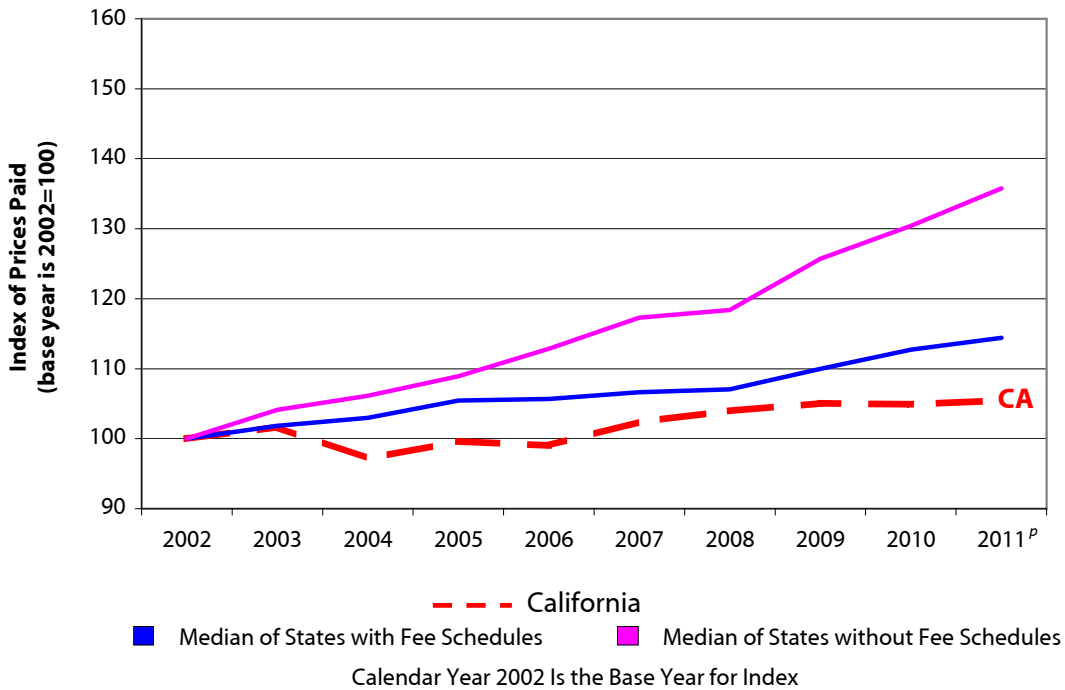
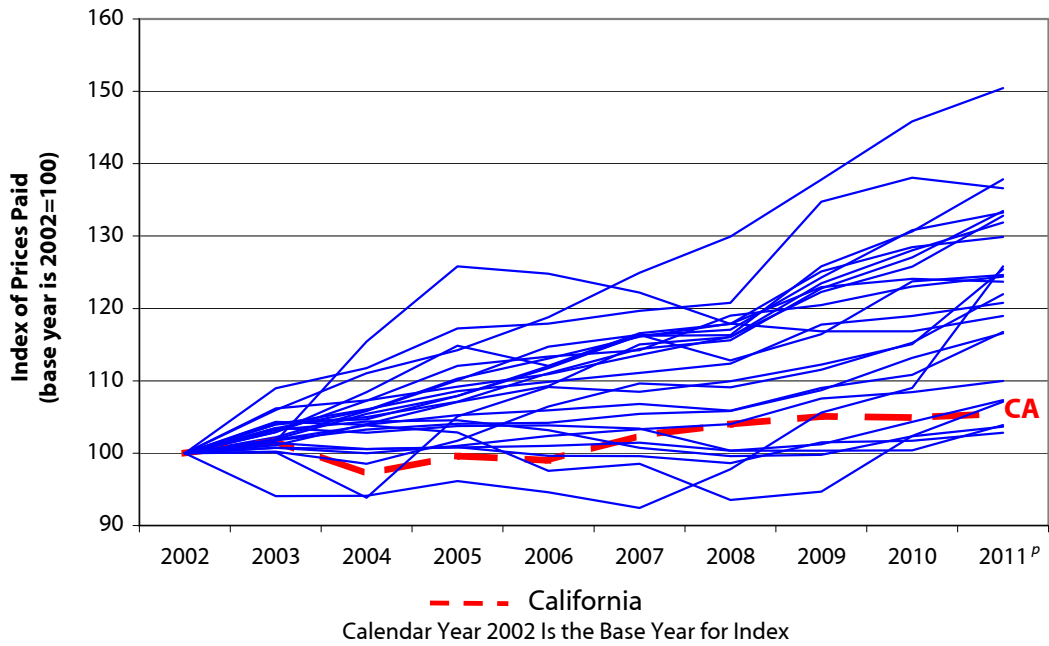
*Special notation:* <sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:*

The data for this state 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.

Arizona updates its fee schedule for professional services annually in October. The most recent update covered in the study period in this report was effective October 1, 2010.

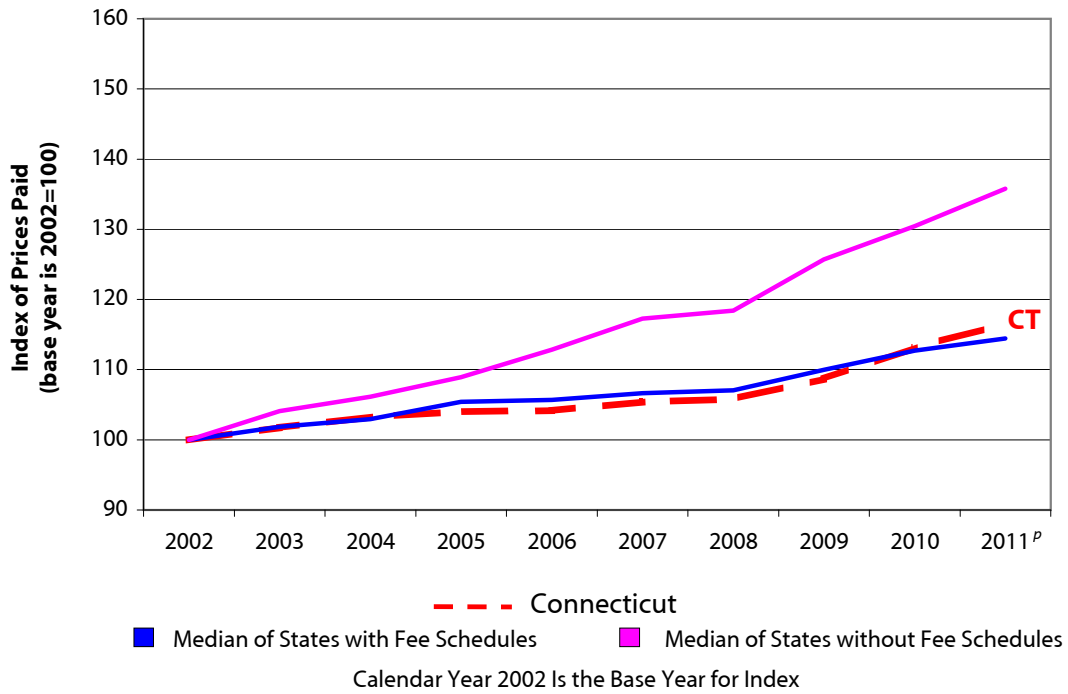
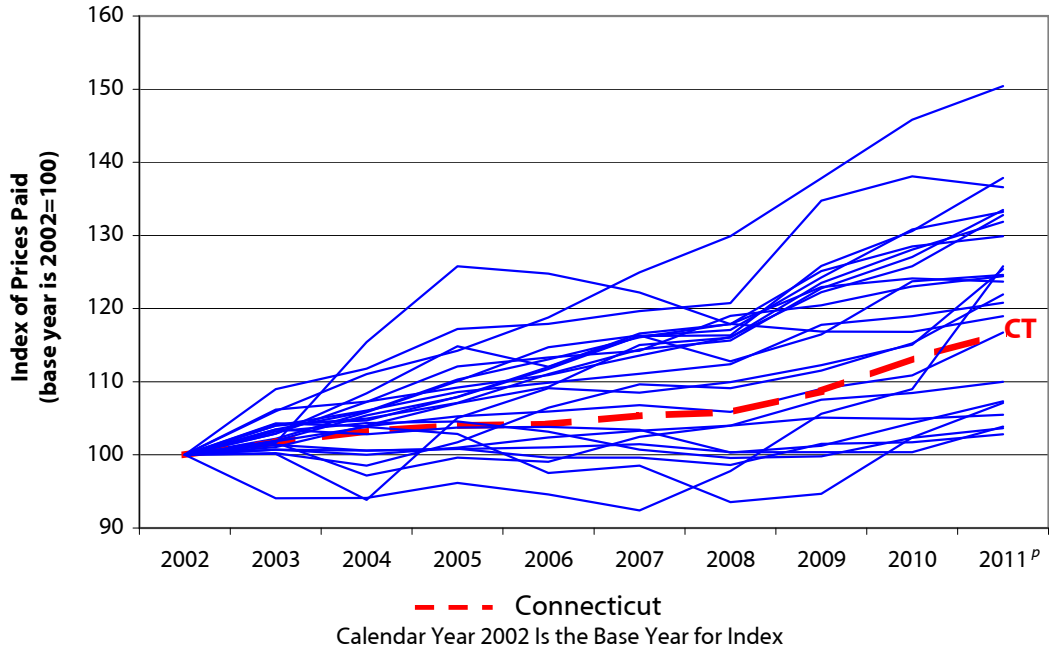
**Figure A.4 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* California had a reduction of 5 percent in fee schedule rates for professional services in 2004; except for increases in fee schedule rates for evaluation and management services in February 15, 2007, there have not been additional updates.

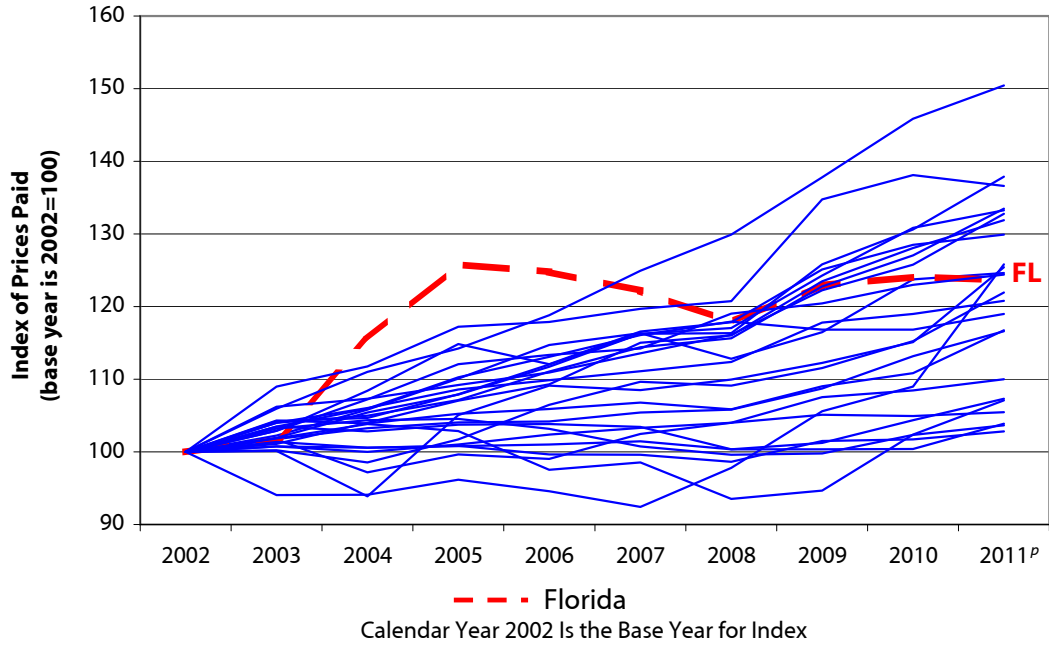
**Figure A.5 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Connecticut has updated its fee schedule for professional services annually in July since 2008; in prior years, updates were effective in April. The most recent update covered in the study period in this report was effective July 15, 2010.

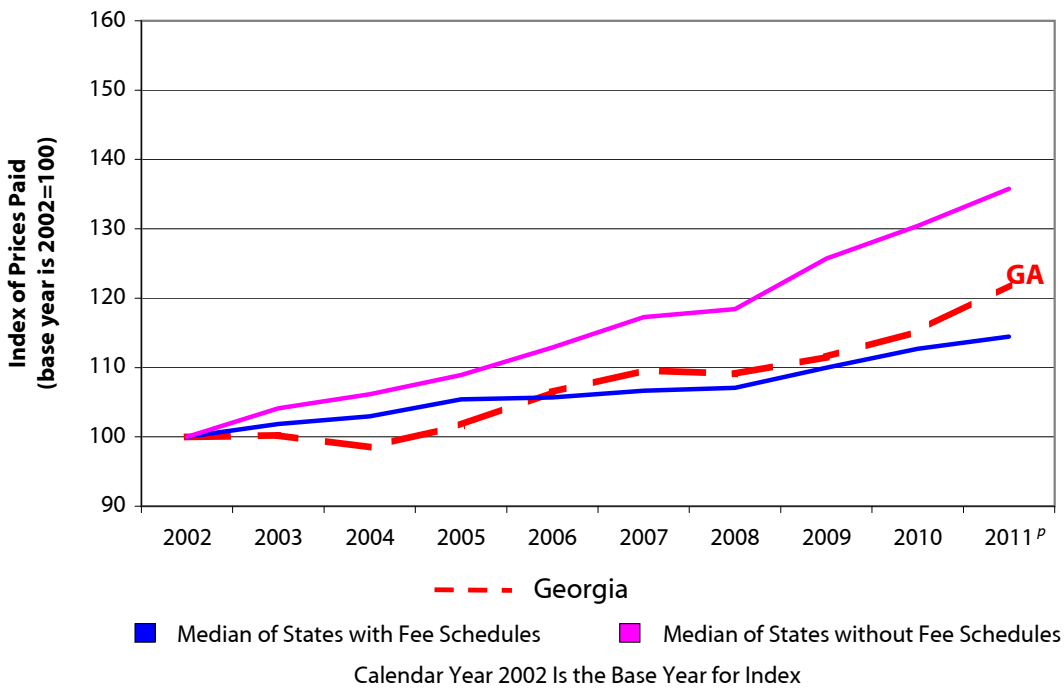
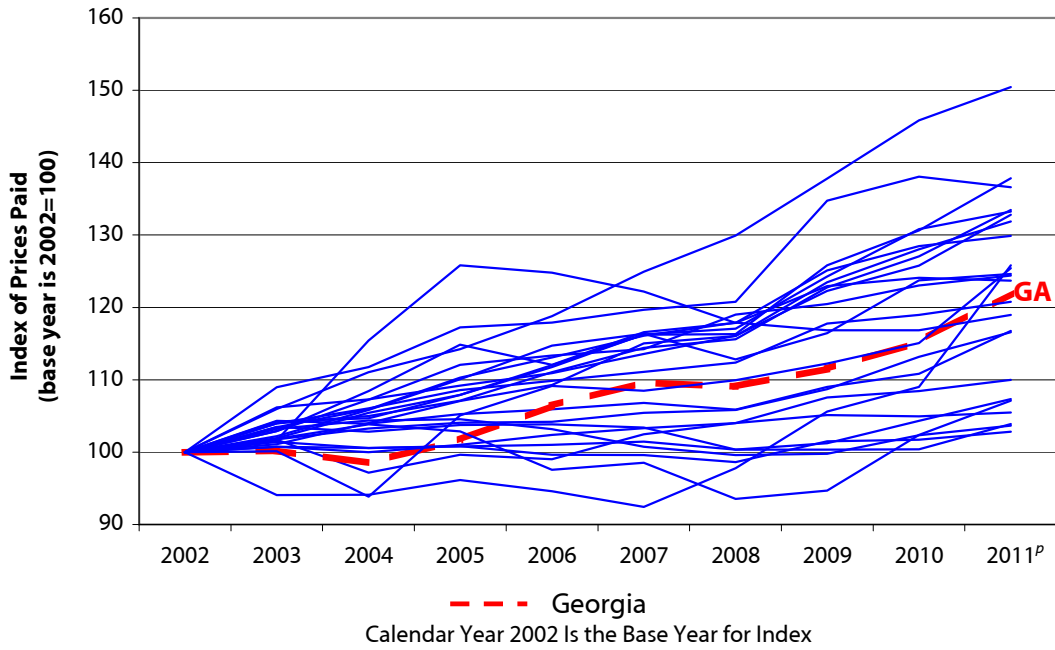
**Figure A.6 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Florida had significant increases in fee schedule rates for physician services in January 2004 and increases in fee schedule rates for services provided by chiropractors and physical/occupational therapists in May 2005. After that, Florida had fee schedule updates for professional services in 2006, 2007, and 2009.

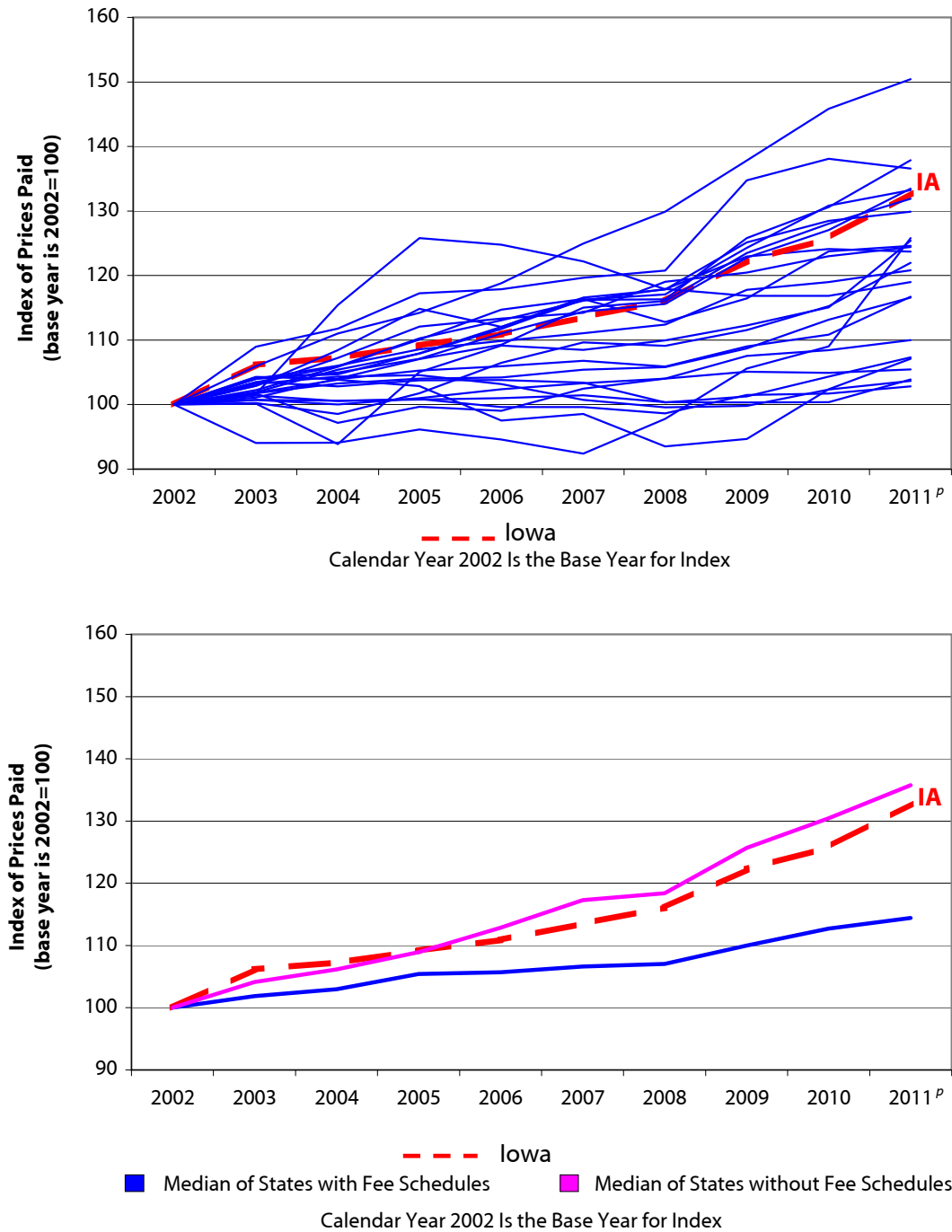
**Figure A.7 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Georgia updates its fee schedule for professional services annually in April. For example, in 2005, the fee schedule rates had material increases in certain evaluation and management and physical medicine services and decreases in many services, such as emergency, minor radiology, neurological and neuromuscular testing, and certain major surgery procedures. The most recent update covered in the study period in this report was effective April 1, 2011.

**Figure A.8 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

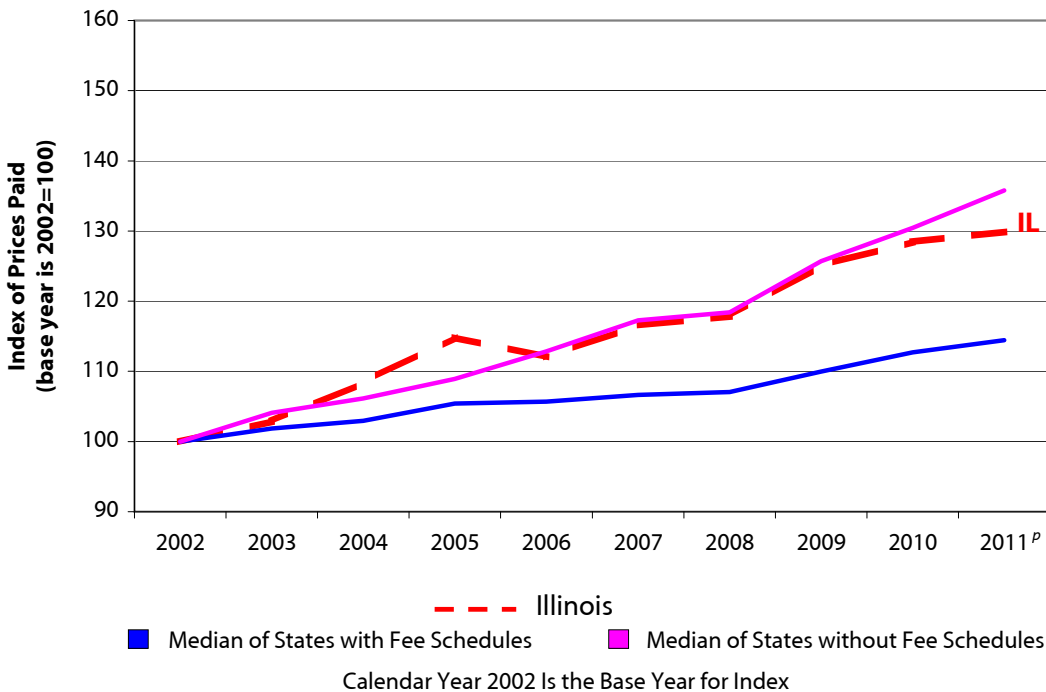
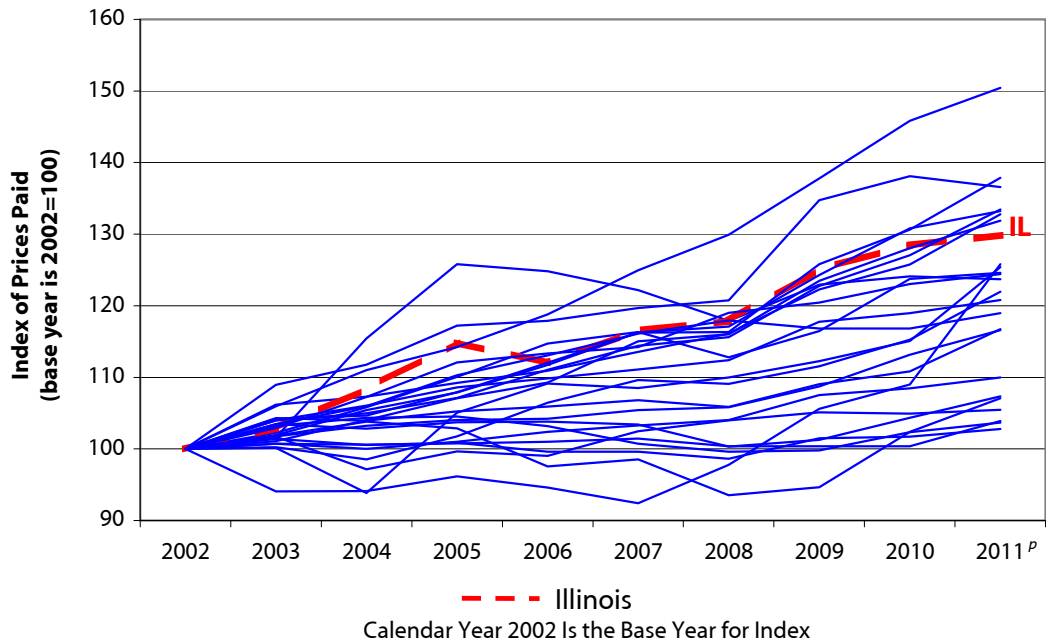


*Special notation:* <sup>P</sup> We use the notation <sup>P</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Iowa did not have a workers' compensation fee schedule as of 2011.



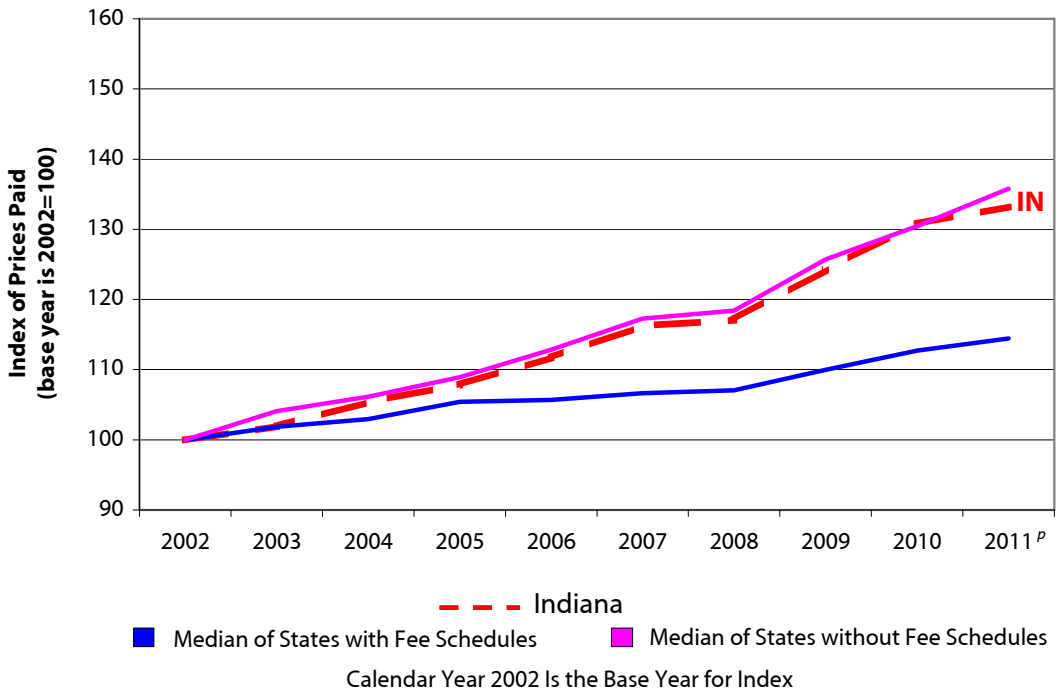
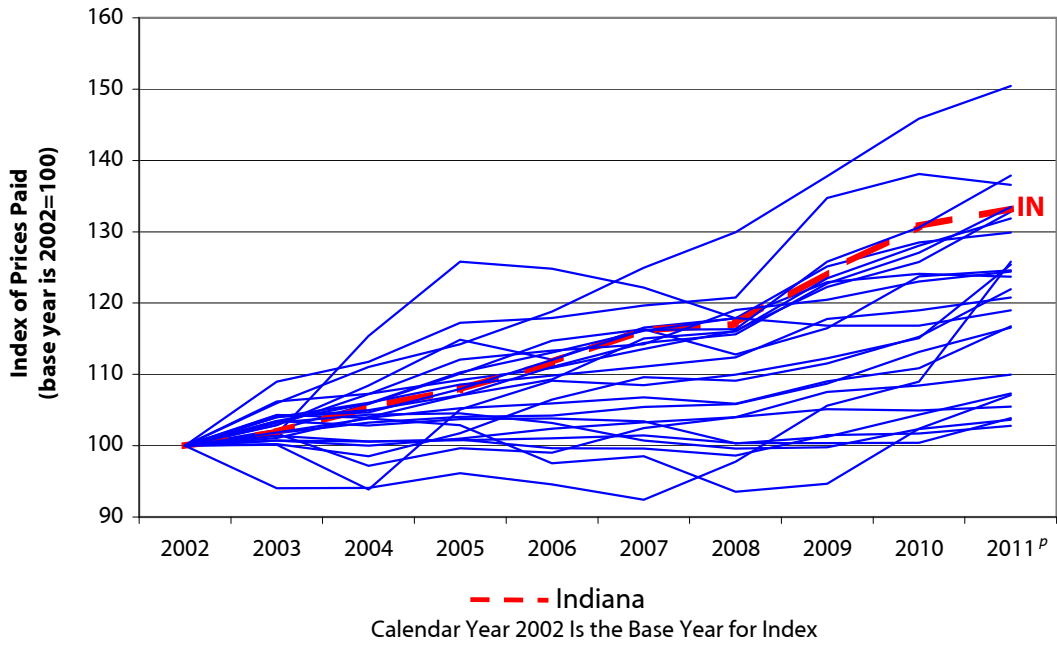
**Figure A.9 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:*<sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*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 geo-zip areas; therefore, the price trends after 2006 could be influenced by the potential behavior changes of the providers. In September 2011, Illinois enacted a new legislation that introduced a 30 percent decrease in the fee schedule rates. The results in this report do not reflect this most recent change.

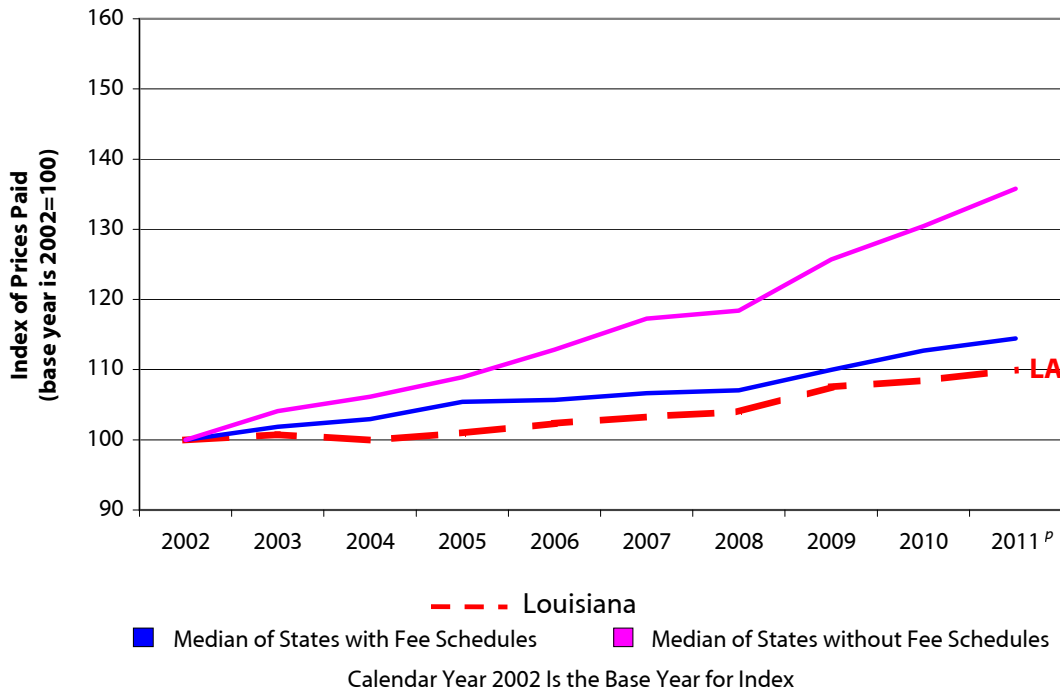
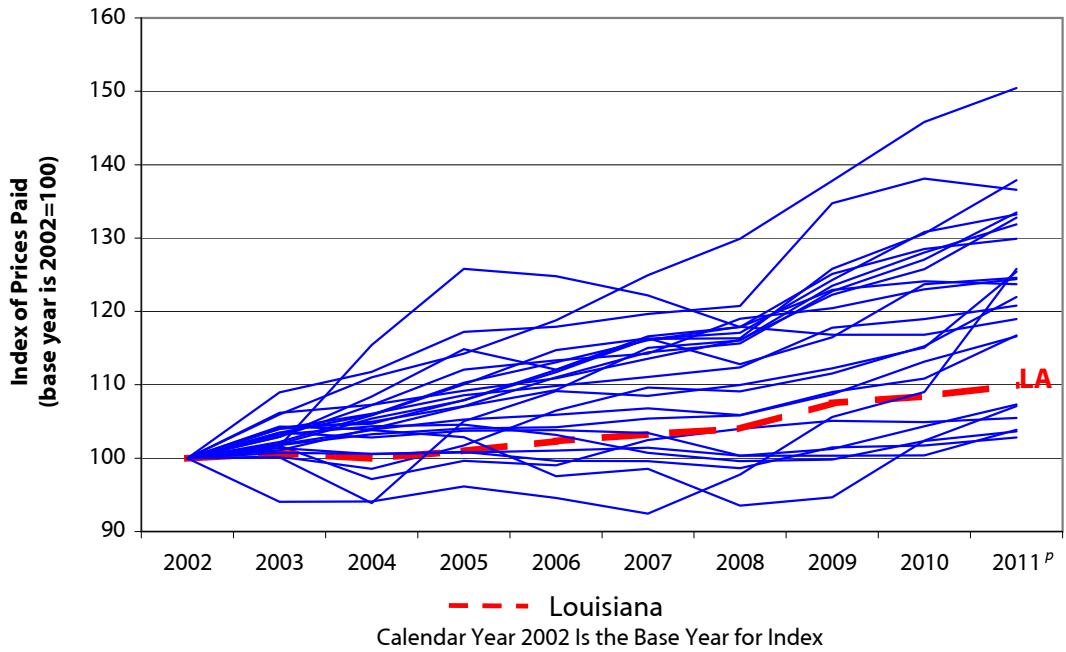
**Figure A.10 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Indiana did not have a workers' compensation fee schedule as of 2011.

**Figure A.11 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

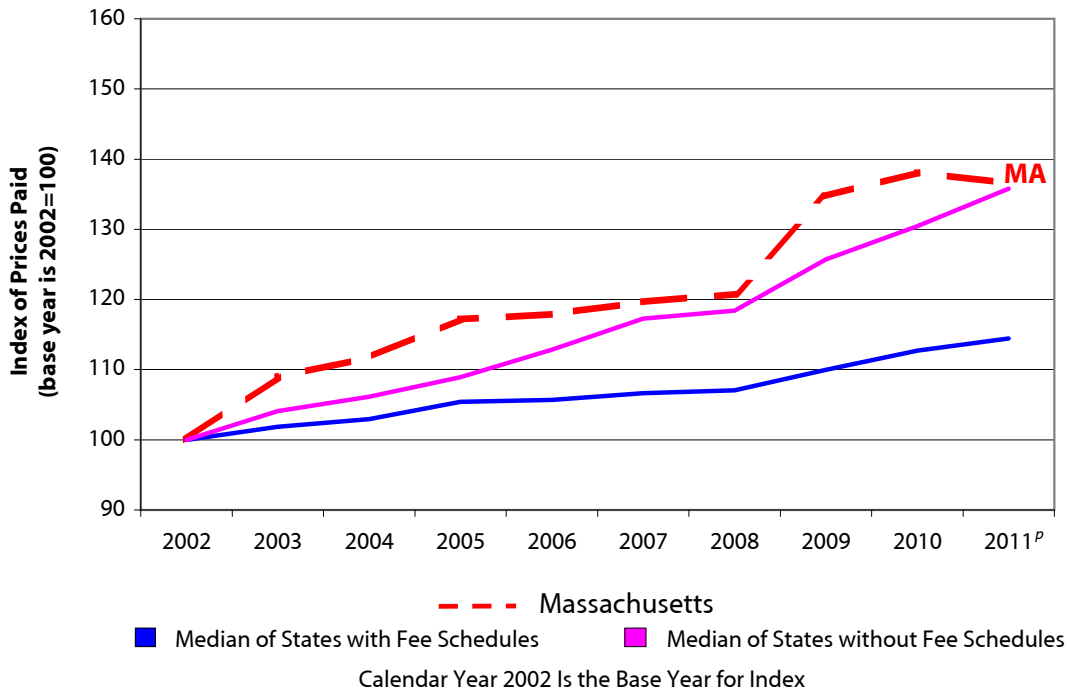
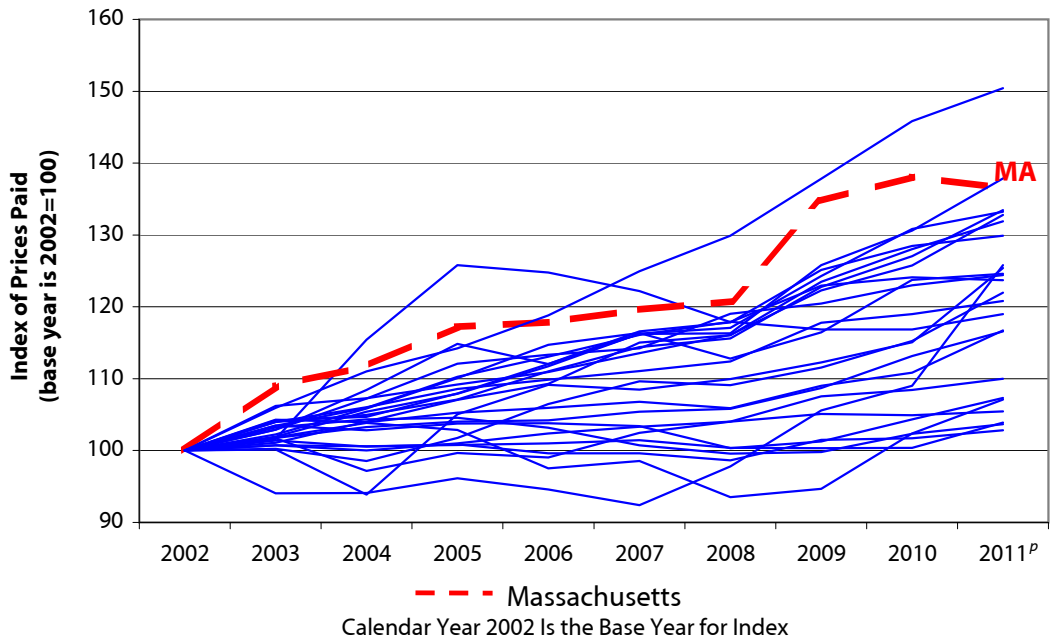


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Louisiana's fee schedule for professional services uses the 1999 CPT list published by the AMA and the maximum allowable reimbursement rates effective as of March 2001.

*Key:* AMA: American Medical Association; CPT: Current Procedural Terminology.

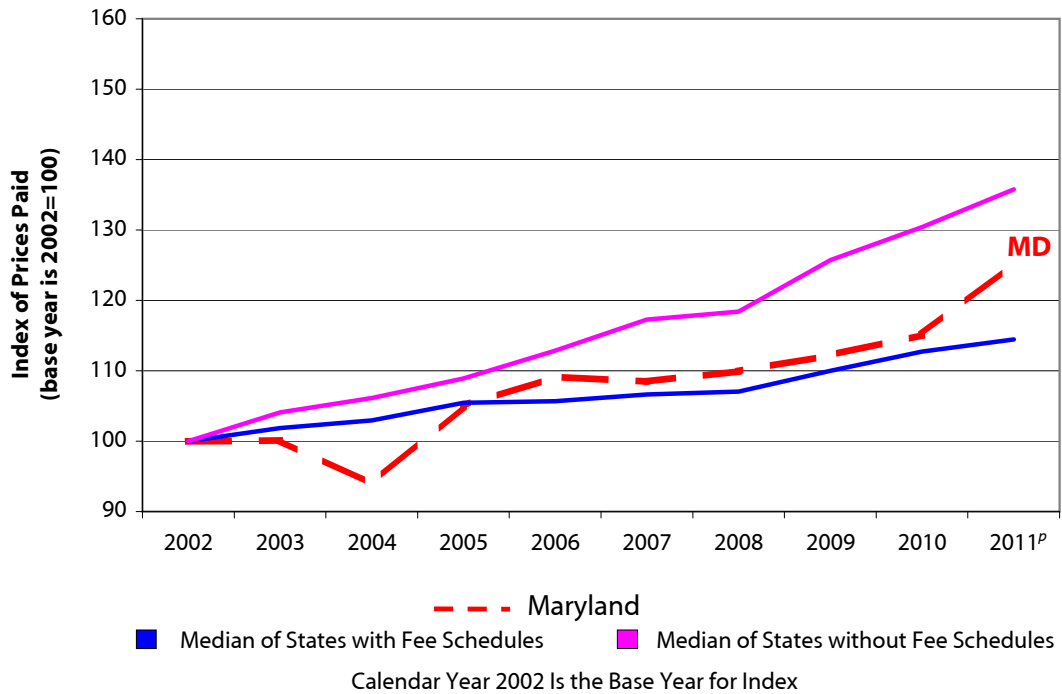
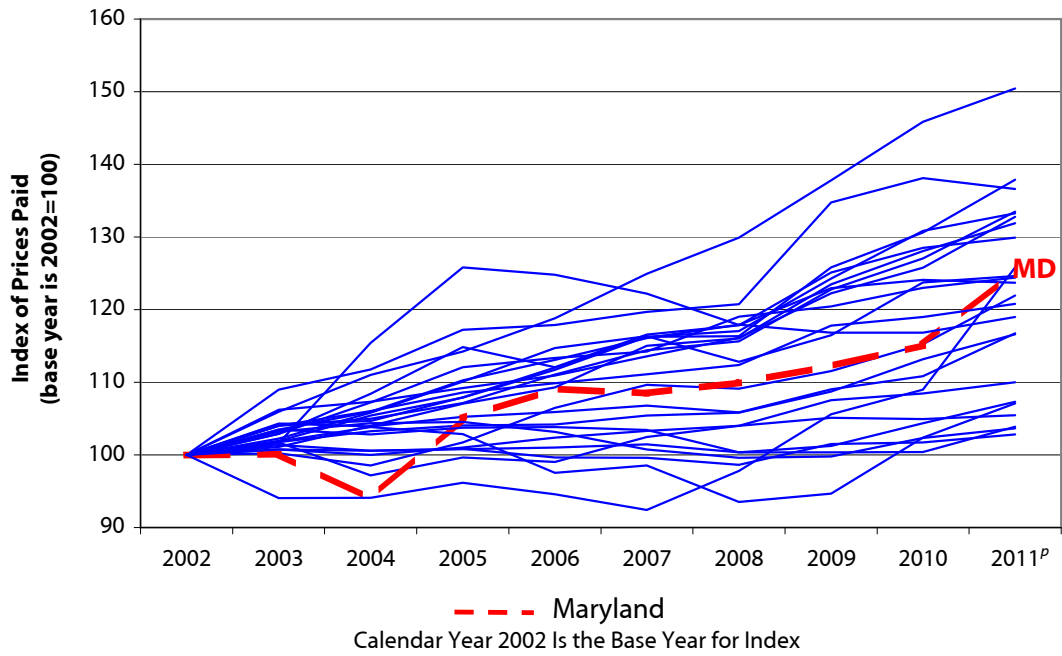
**Figure A.12 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Massachusetts increased the fee schedule rates for many professional services, effective April 2009. The fee schedule increases for major surgeries were especially significant; the rates for some procedures increased two to three times above the previous rates. Prior to that, the fee schedule for professional services had not been updated since September 2004.

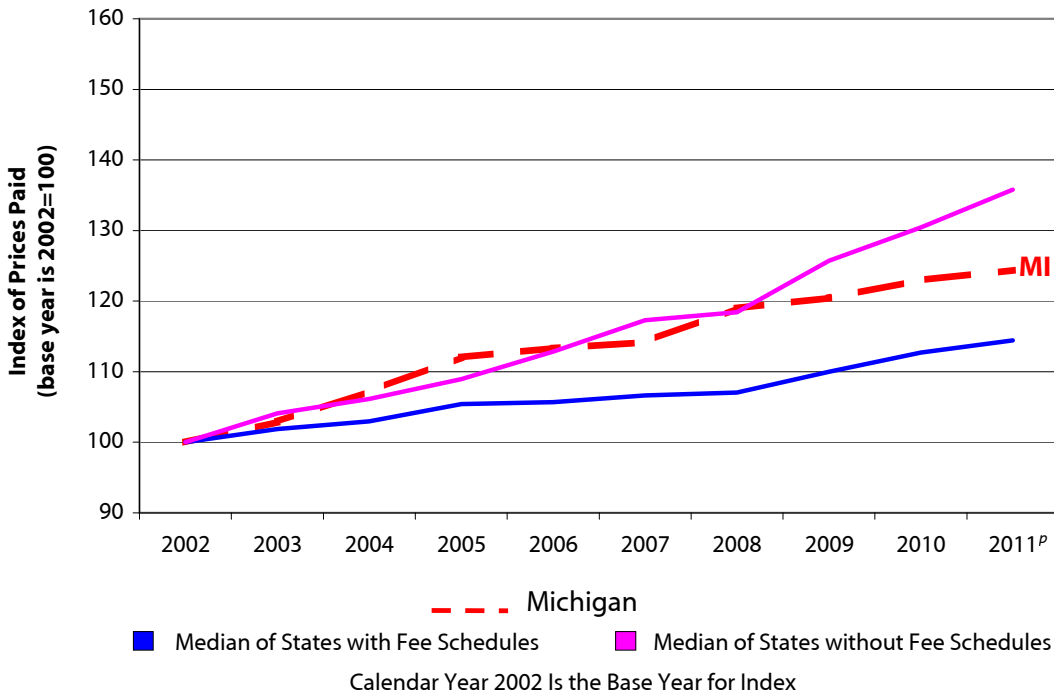
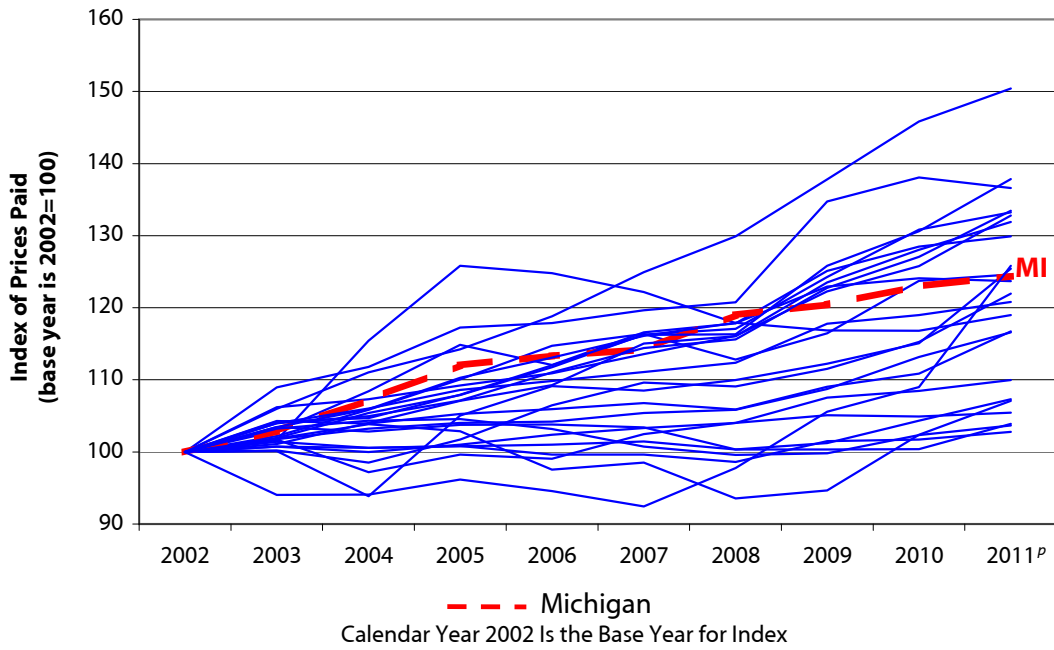
**Figure A.13 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Maryland increased fee schedule rates for evaluation and management and physical medicine services, and decreased rates for surgery, in September 2004. In February 2006, Maryland increased fee schedule rates for neurological and orthopedic surgeries. Starting in March 2008, Maryland allowed annual increases in fee schedule rates for professional services based on changes in the Medicare Economic Index. The most recent update covered in the study period in this report was effective January 1, 2011.

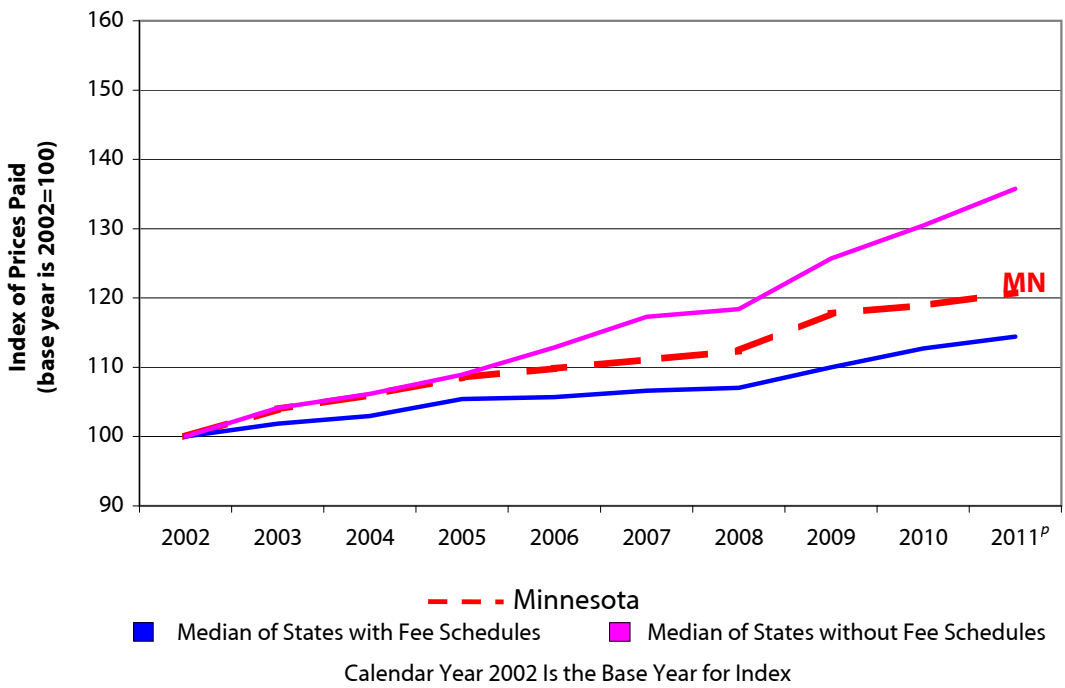
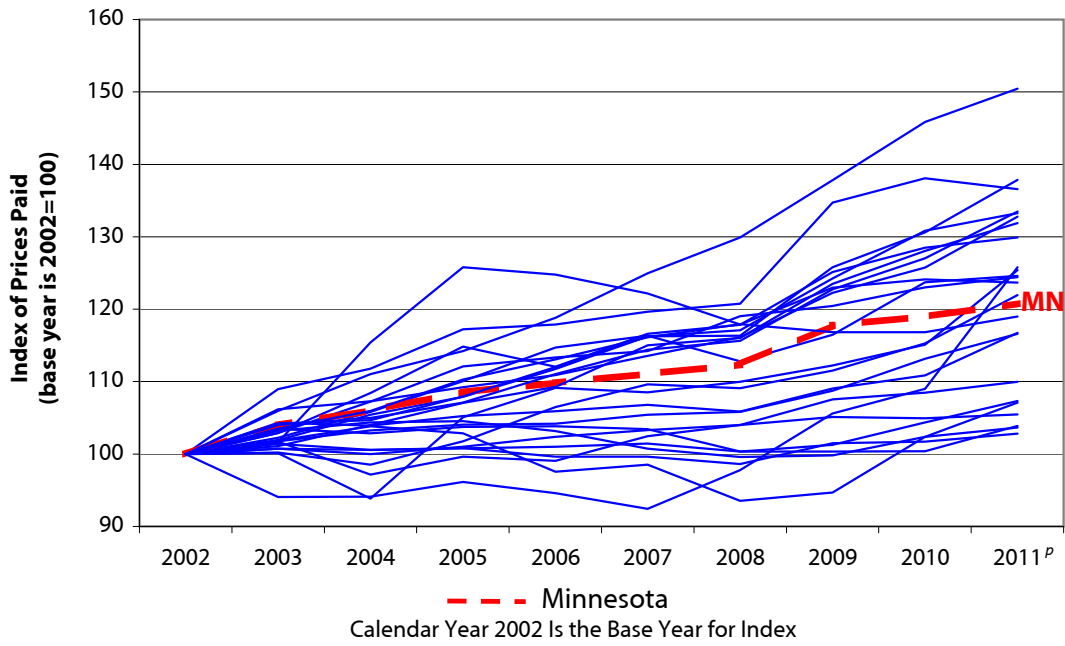
**Figure A.14 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Michigan updates its fee schedule for professional services annually. The most recent update covered in the study period in this report was effective December 8, 2010.

**Figure A.15 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

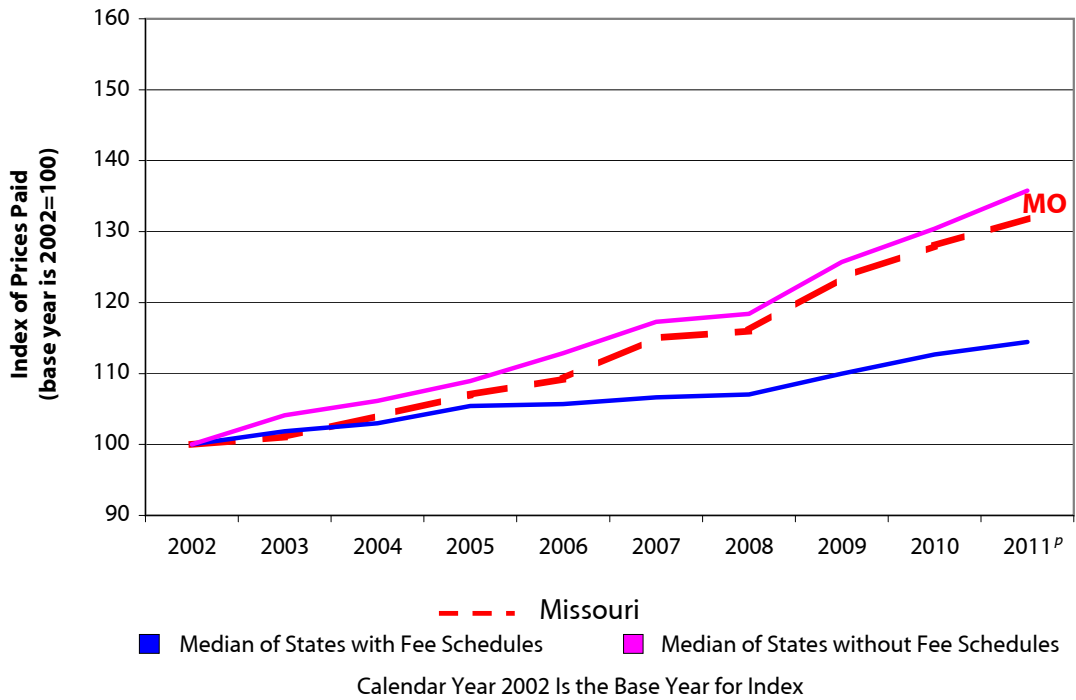
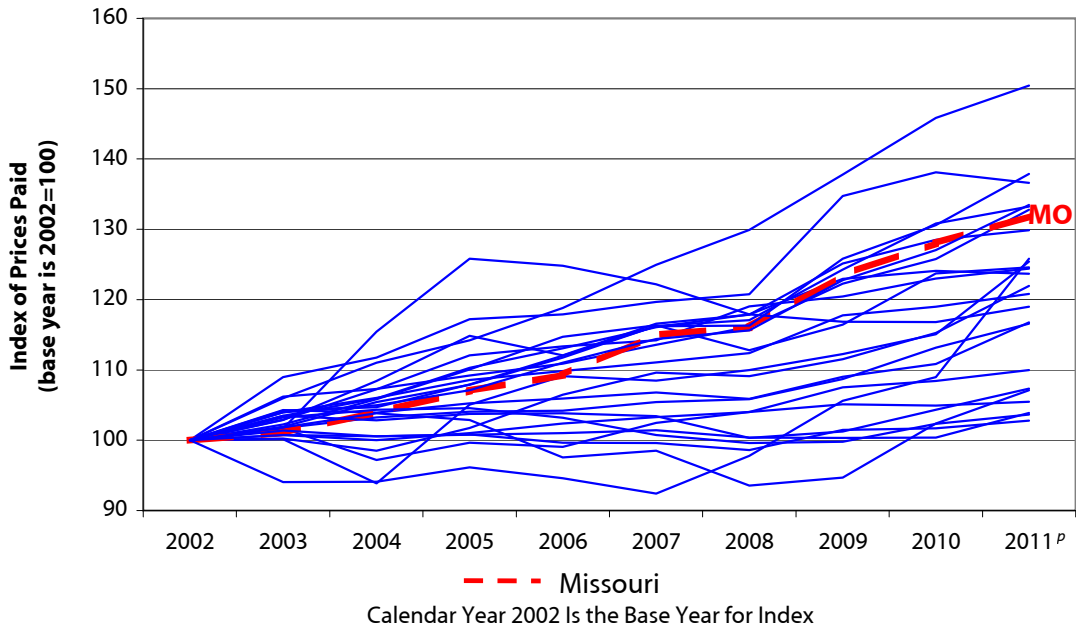


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Minnesota's fee schedule for professional services from 2002 to September 2010 was based on 1998 Medicare RVUs, with annual updates in the conversion factor. Effective October 1, 2010, Minnesota updated its fee schedule by using 2009 Medicare RVUs, and meanwhile decreased the state conversion factor.

*Key:* RVU: relative value unit.

**Figure A.16 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

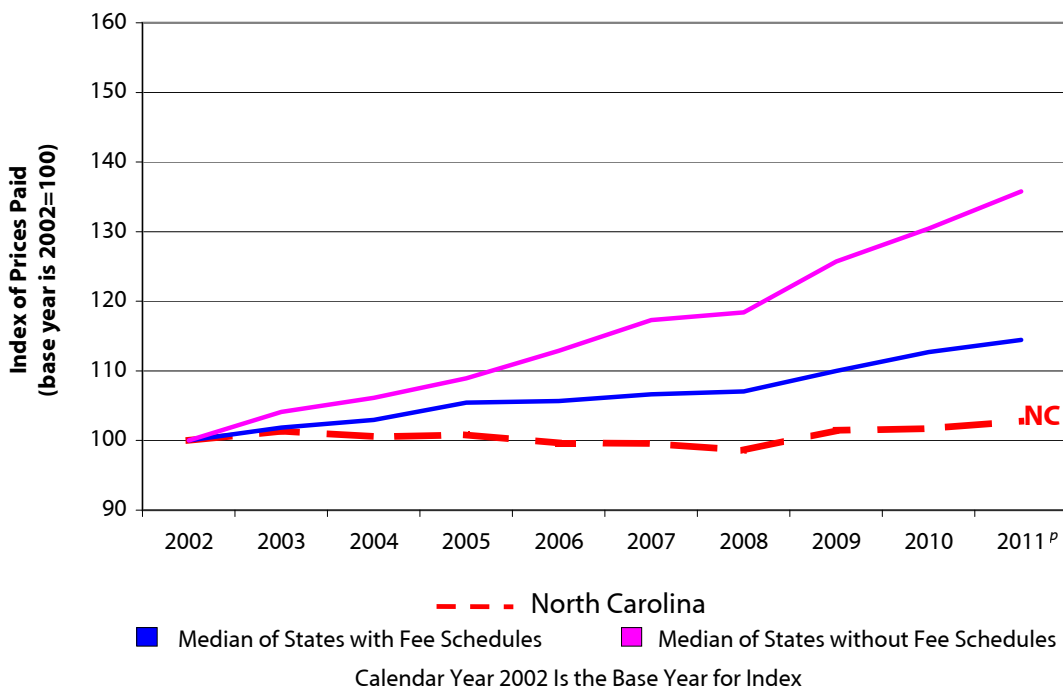
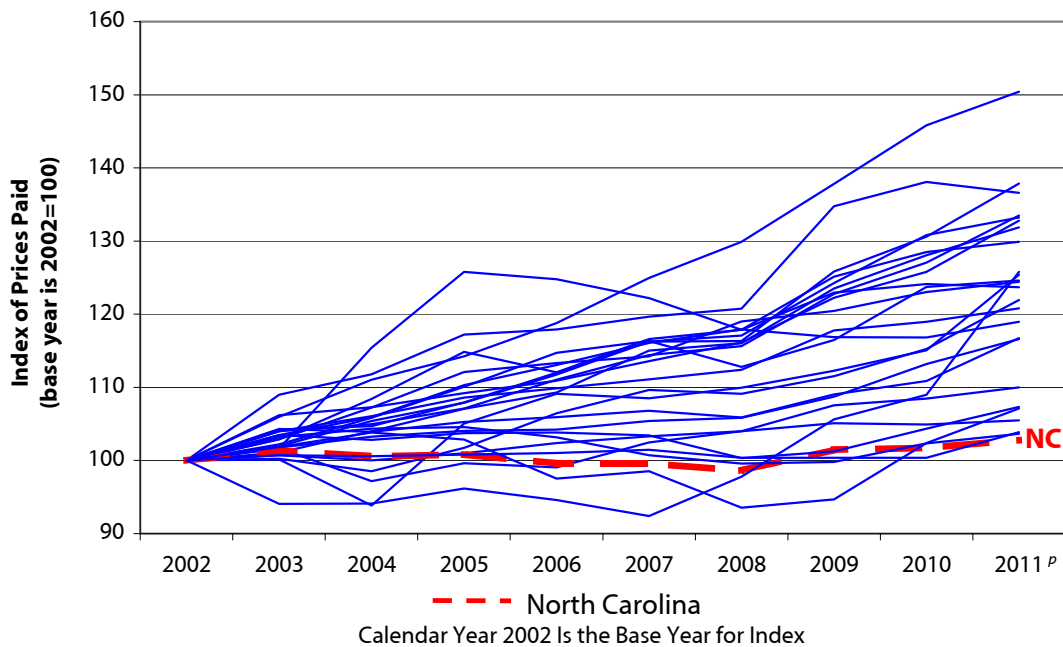
**Notes:**

The data for this state 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 2011.



**Figure A.17 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

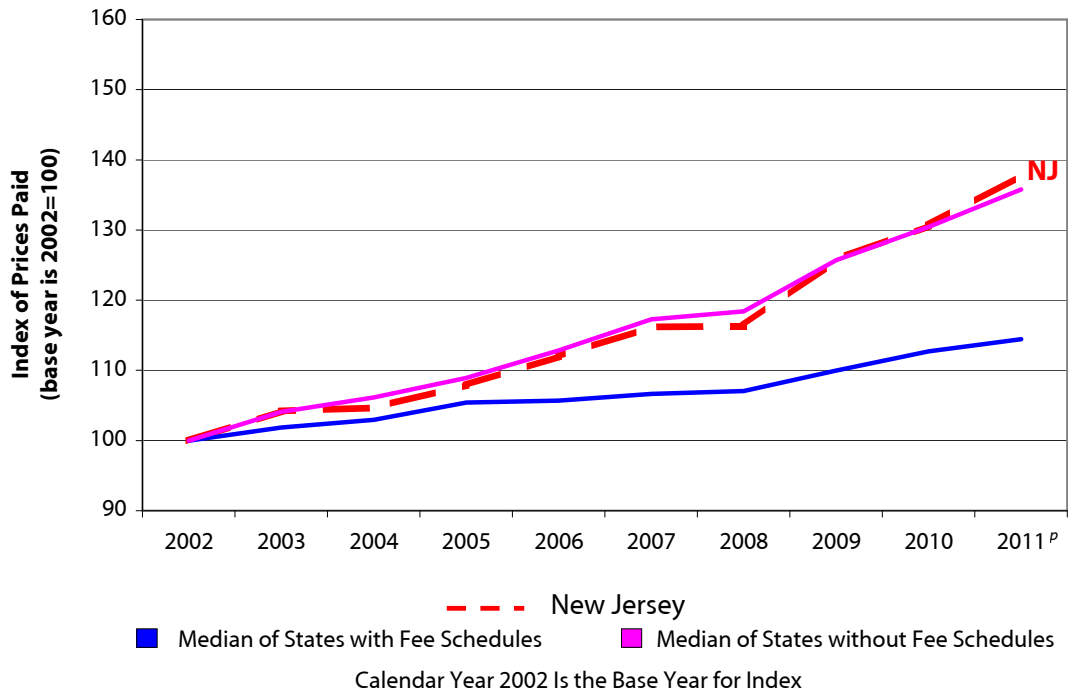
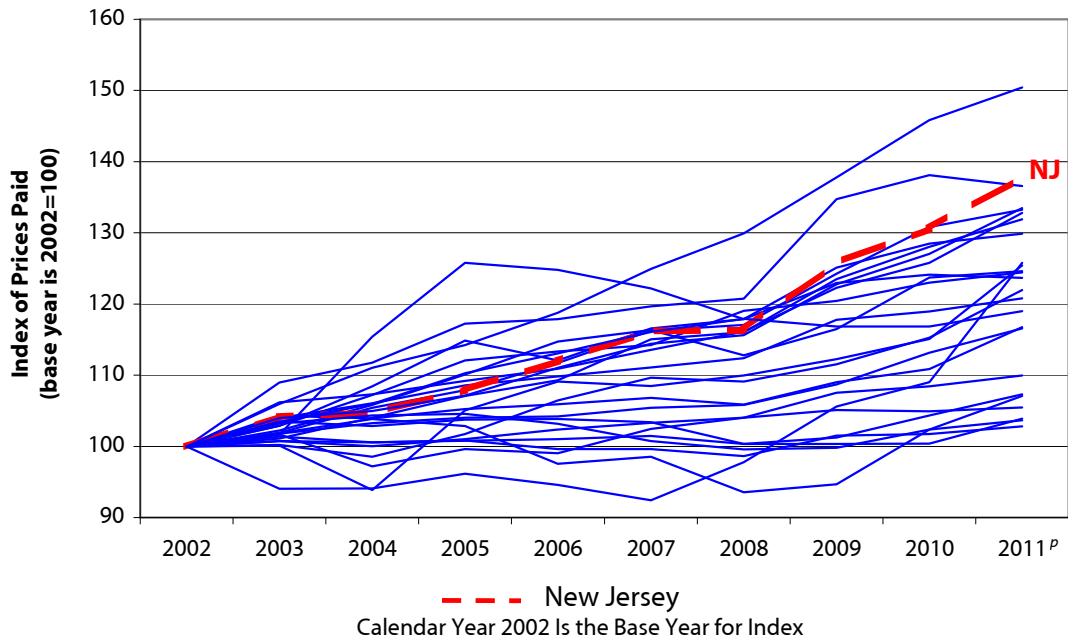


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*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. North Carolina updates its fee schedule annually in January to account for new and discontinued CPT codes published by the AMA.

*Key:* AMA: American Medical Association; CPT: Current Procedural Terminology.

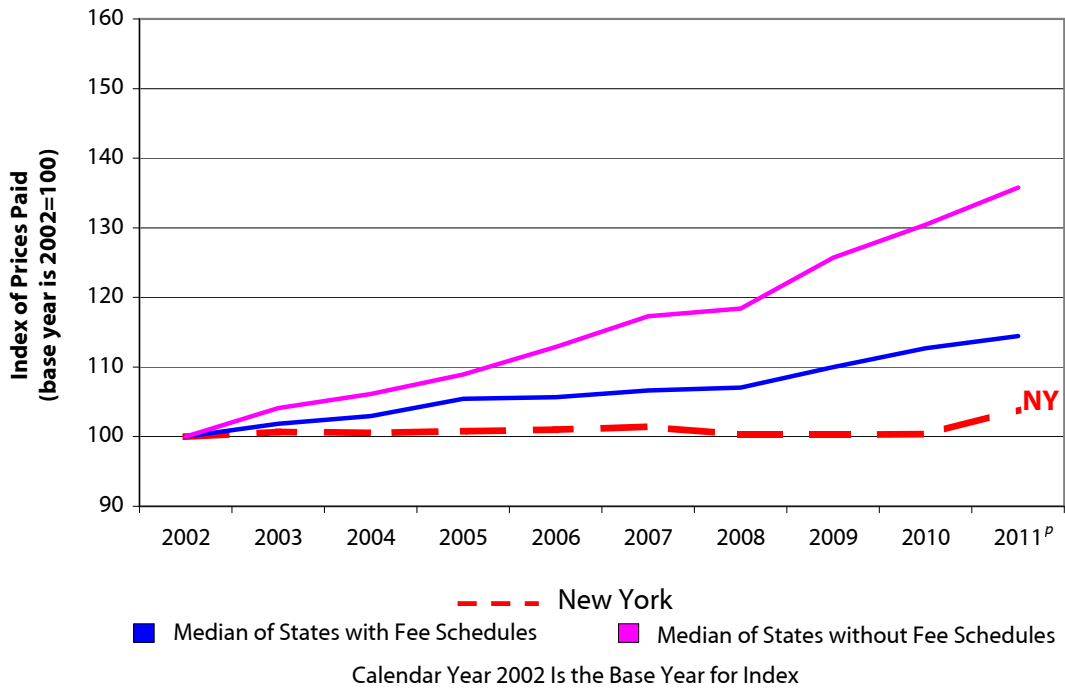
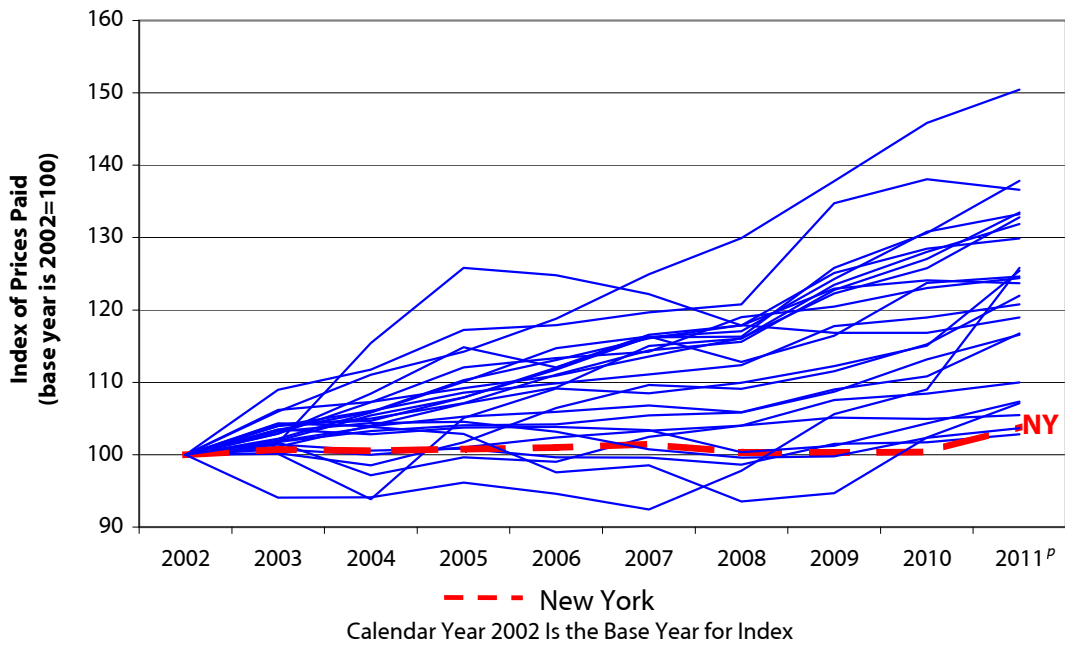
**Figure A.18 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* New Jersey did not have a workers' compensation fee schedule as of 2011.

**Figure A.19 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



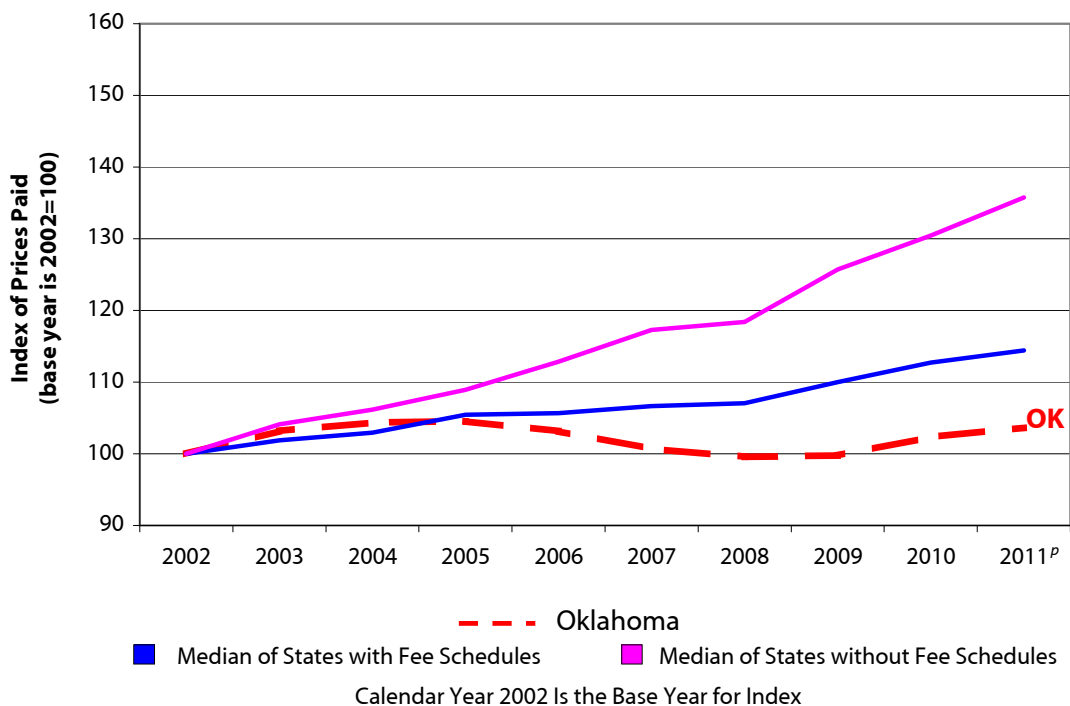
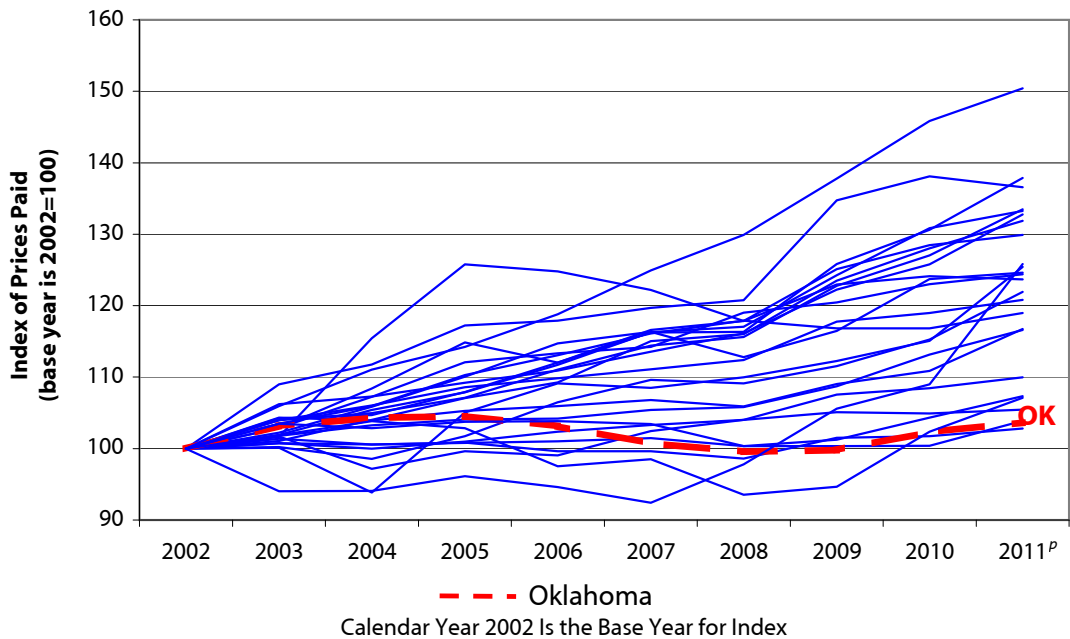
*Special notation: <sup>P</sup>* We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

**Notes:**

The data for this state 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.

New York periodically updates its fee schedule for professional services; however, the maximum allowable reimbursement rates for most procedures 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.

**Figure A.20 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



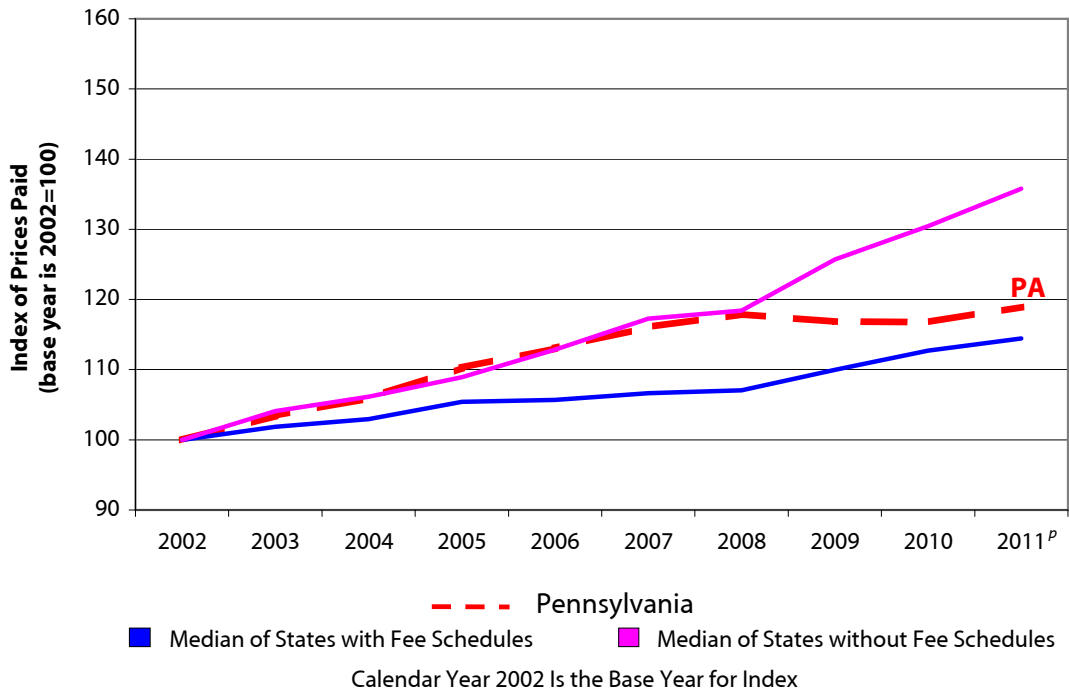
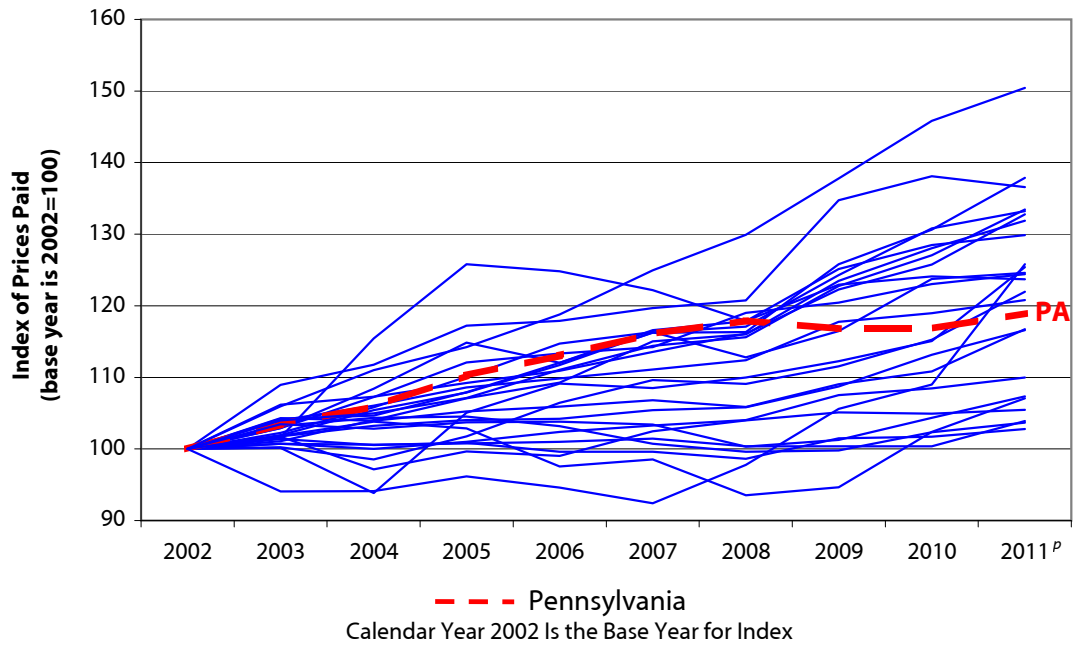
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

**Notes:**

The data for this state 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.

Oklahoma had regular updates to its fee schedule for professional services over the study period. For example, in 2006 the fee schedule rates had material increases in many pain management injection procedures and decreases in many services, such as emergency, radiology, neurological and neuromuscular testing, and many surgery procedures. The most recent update during the period covered by this study was effective January 1, 2011.

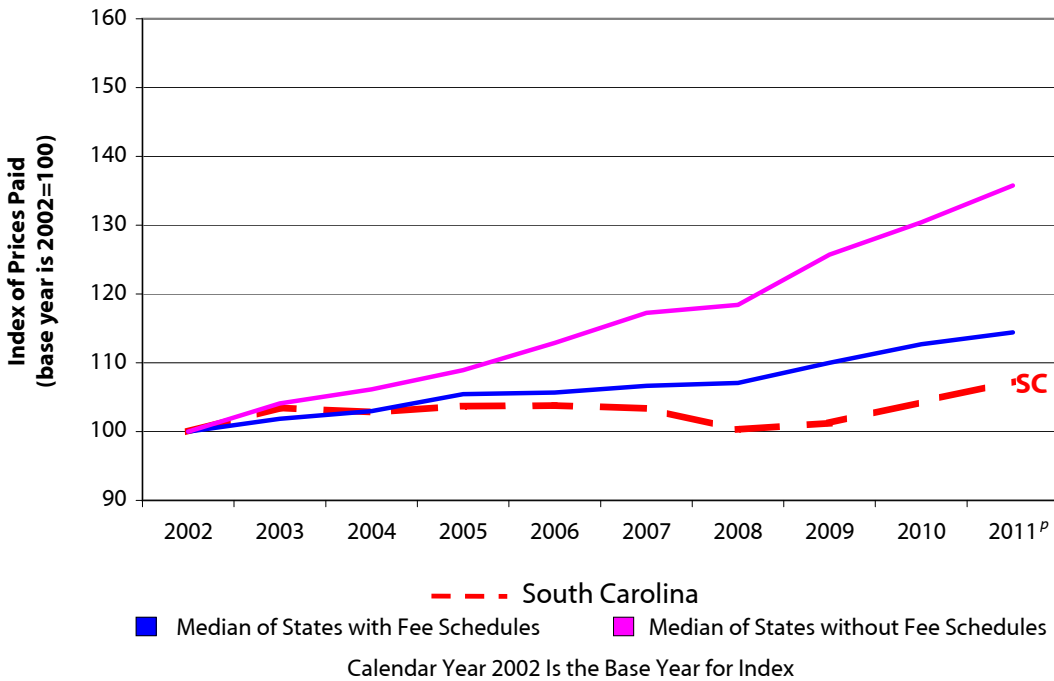
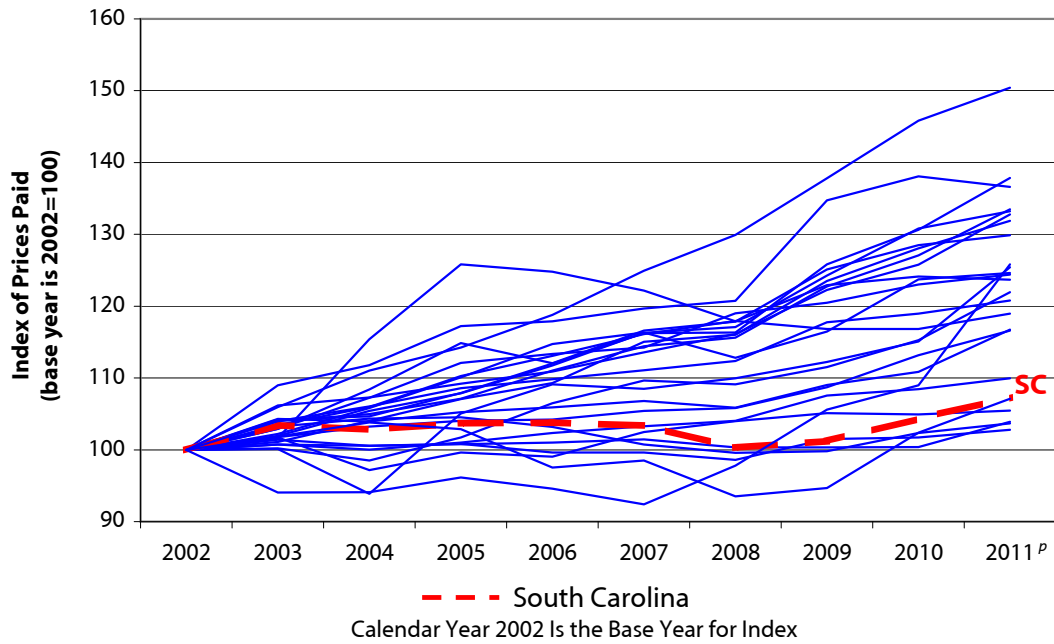
**Figure A.21 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Pennsylvania updates its fee schedule for professional services annually, based on the percentage change in the statewide average weekly wage.

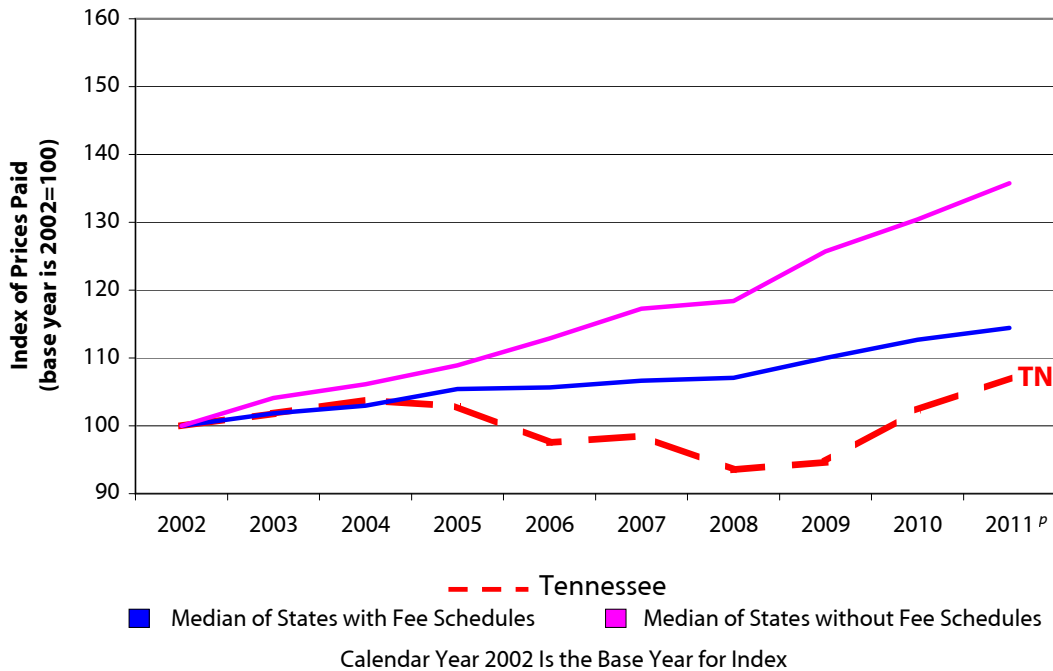
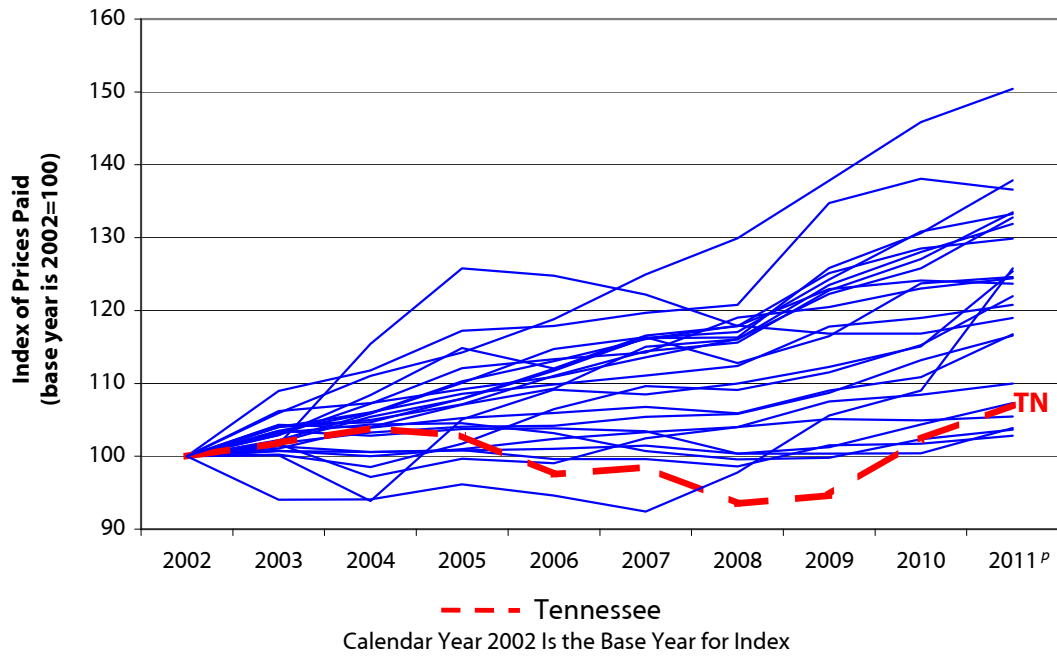
**Figure A.22 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* South Carolina's fee schedule for professional services remained unchanged after the 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 (such as evaluation and management, emergency, etc.) and decreased the rates for others (such as pain management injections, radiology services, etc.).

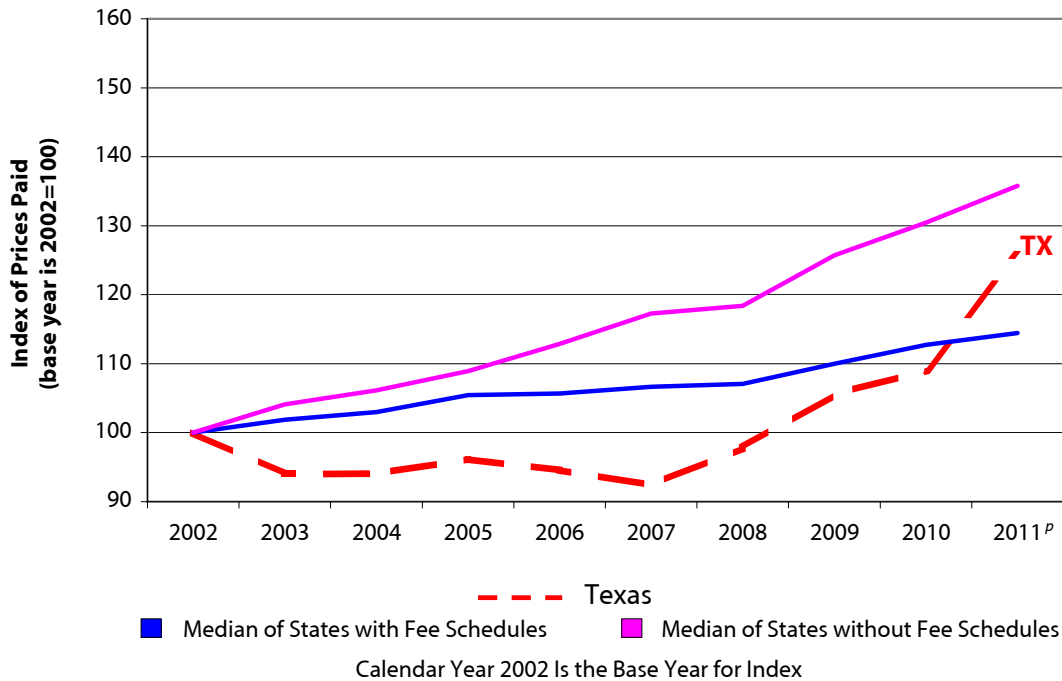
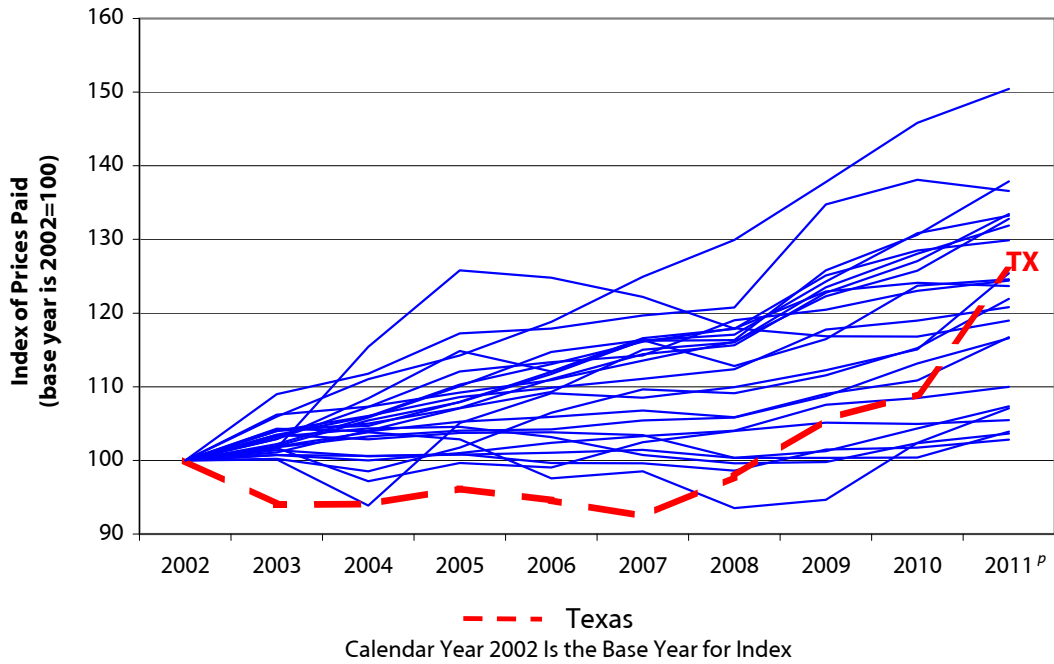
**Figure A.23 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Tennessee implemented a fee schedule in July 2005 and had regular updates in the following years.

**Figure A.24 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

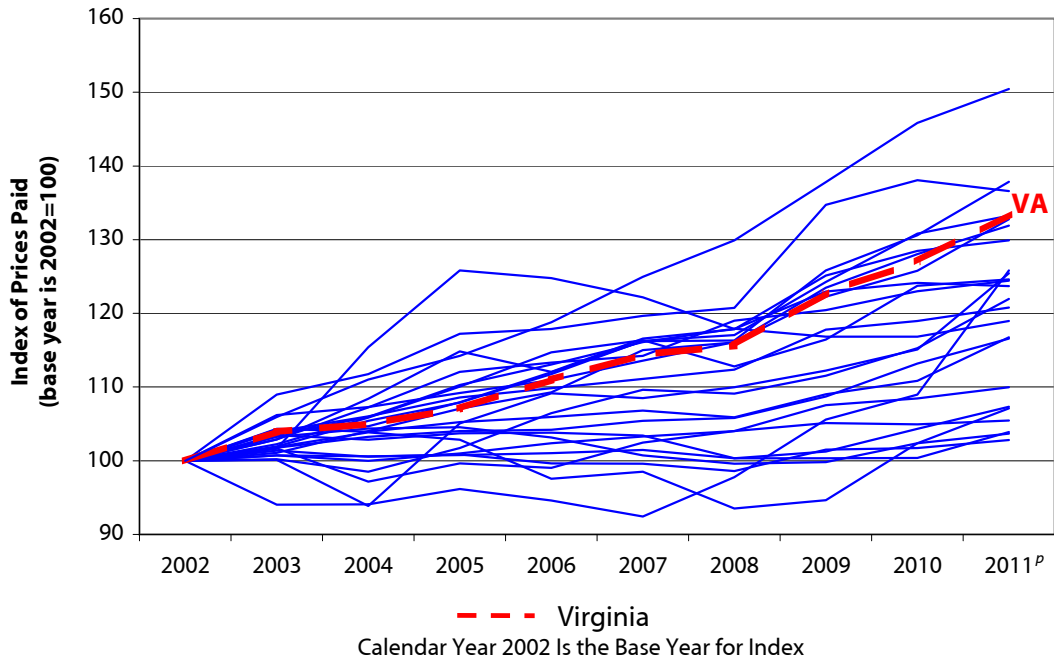


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Texas decreased fee schedule rates for surgery and radiology and increased rates for evaluation and management services in August 2003. 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.



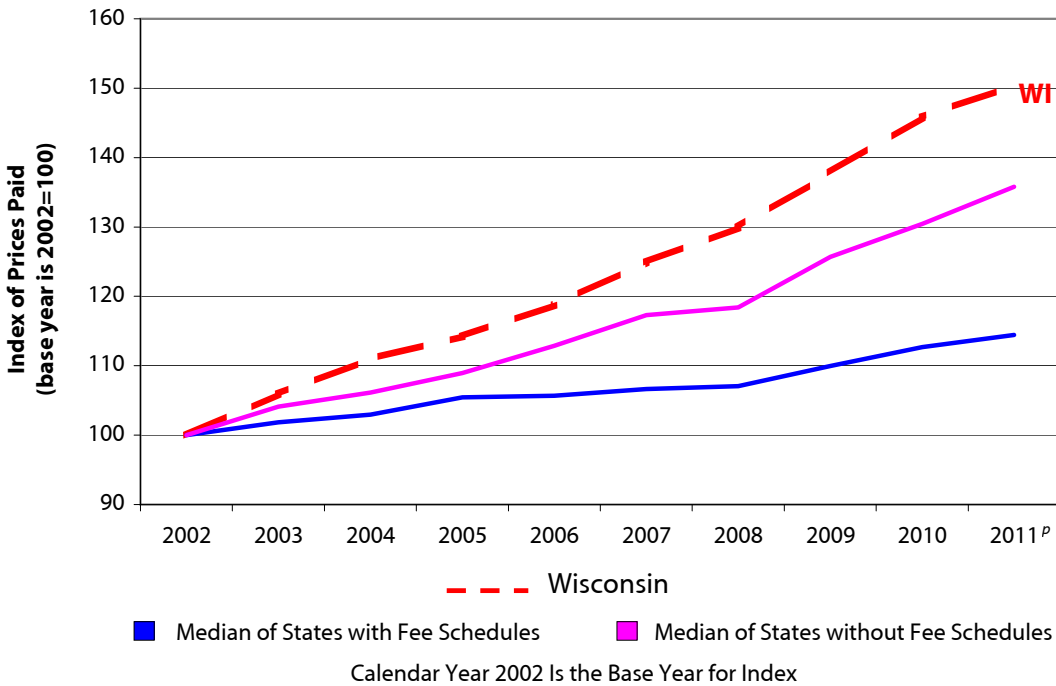
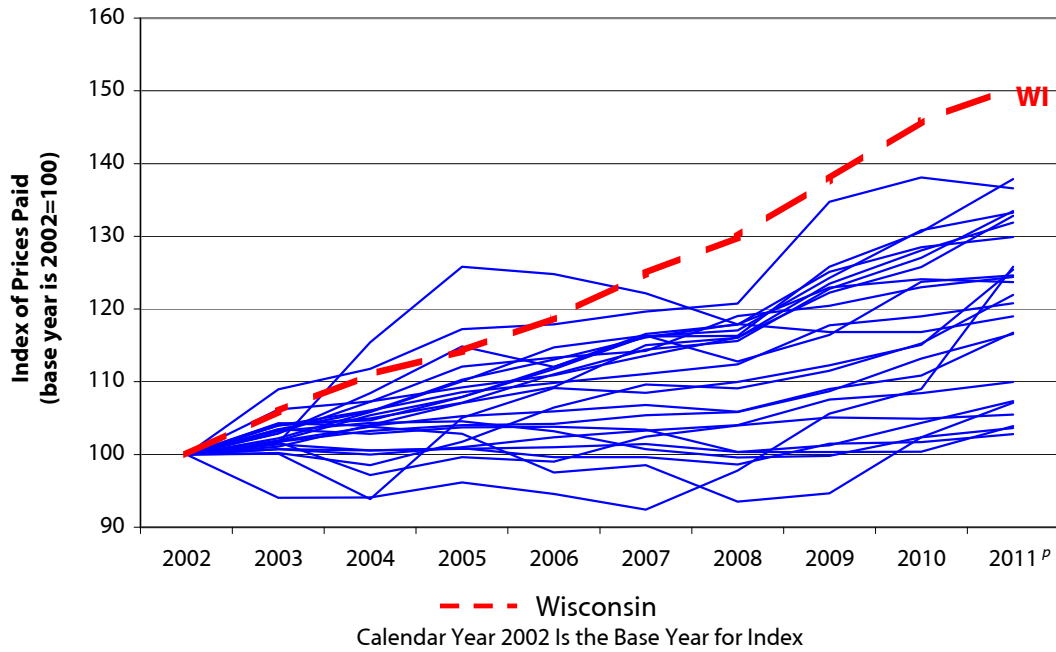
**Figure A.25 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Virginia did not have a workers' compensation fee schedule as of 2011.

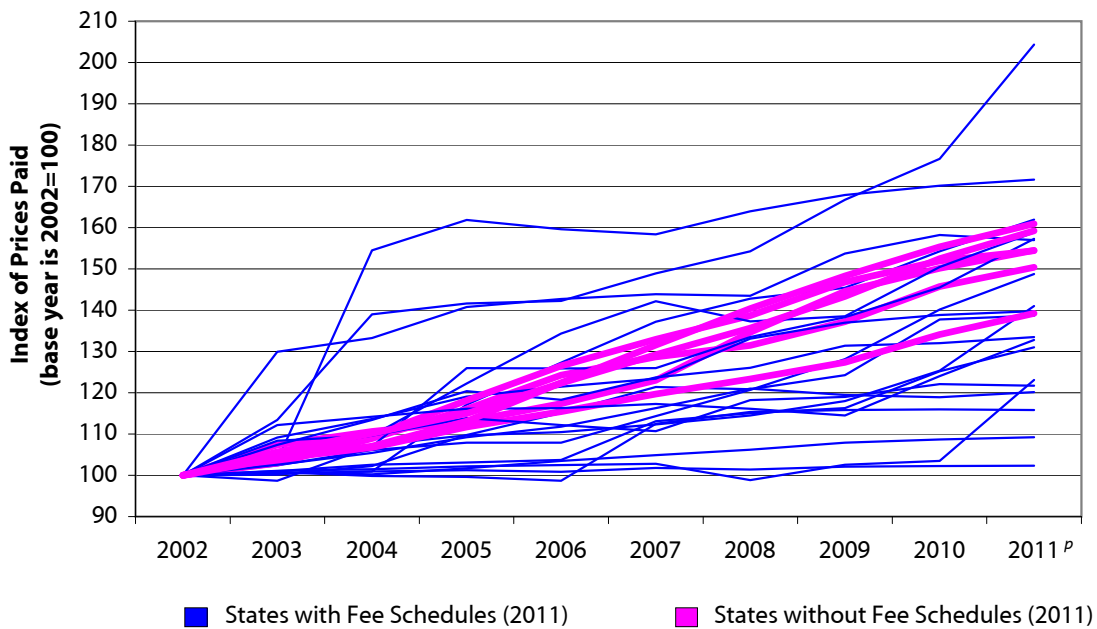
**Figure A.26 Professional Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Wisconsin did not have a conventional workers' compensation fee schedule as of 2011.

**Figure B.1 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



**Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
AR	100	101	103	103	104	113	115	116	125	131
AZ <sup>a,b</sup>	100	100	102	110	115	121	121	124	138	139
CA	100	101	100	100	99	112	115	116	116	116
CT <sup>b</sup>	100	102	106	108	108	114	121	128	140	149
FL	100	104	155	162	160	158	164	168	170	172
GA	100	100	101	117	127	137	143	145	154	162
IA <sup>c</sup>	100	107	111	113	117	123	135	145	150	154
IL <sup>b</sup>	100	107	113	120	118	124	126	131	132	133
IN <sup>c</sup>	100	103	109	116	124	129	131	137	146	150
LA	100	101	100	102	103	105	106	108	109	109
MA	100	130	133	141	143	144	144	154	158	157
MD <sup>b</sup>	100	99	107	126	126	126	133	138	145	157
MI	100	109	114	119	121	123	133	137	139	140
MN	100	104	107	110	110	112	115	118	125	141
MO <sup>a,c</sup>	100	104	110	118	126	133	139	147	152	154
NC	100	101	101	101	101	102	101	102	102	102
NJ <sup>c</sup>	100	104	107	112	115	120	123	127	134	139
NY <sup>a</sup>	100	101	101	102	103	103	99	103	103	123
OK <sup>a,b</sup>	100	108	110	114	112	111	118	119	122	122
PA <sup>b</sup>	100	103	105	109	112	116	121	119	119	120
SC	100	112	114	116	116	117	116	114	124	133
TN <sup>b</sup>	100	106	110	122	134	142	137	139	150	159
TX <sup>b</sup>	100	113	139	142	142	149	154	167	177	204
VA <sup>c</sup>	100	104	107	113	122	132	140	148	155	161
WI <sup>c</sup>	100	106	110	115	122	129	136	143	152	159

continued

**Figure B.1 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011 (continued)**

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*Special notation:*<sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

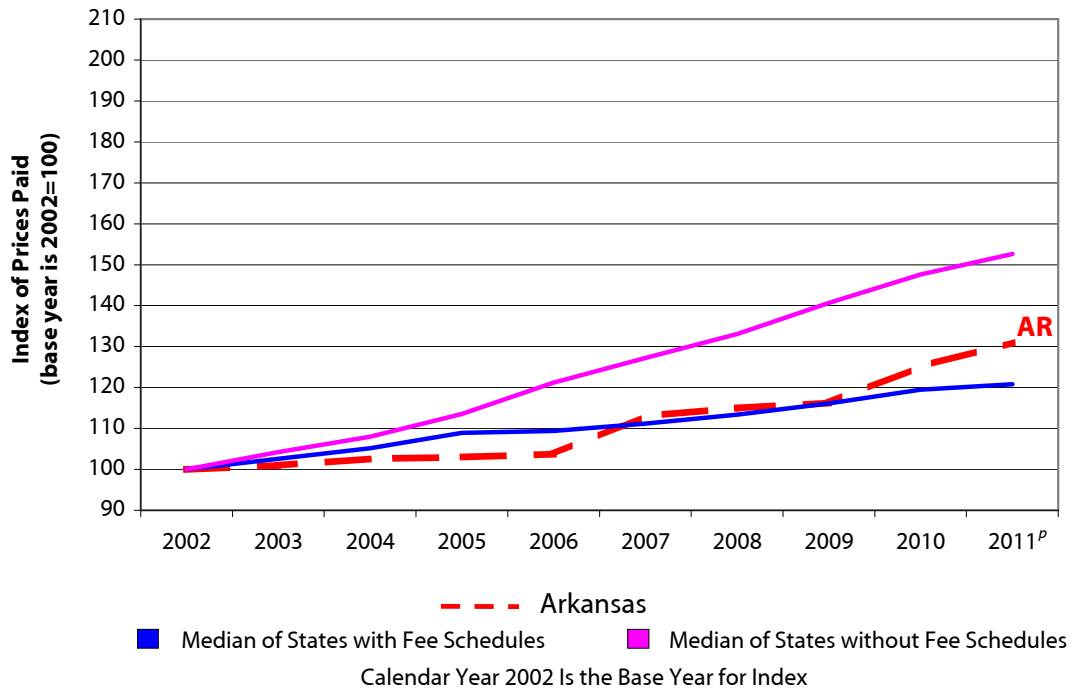
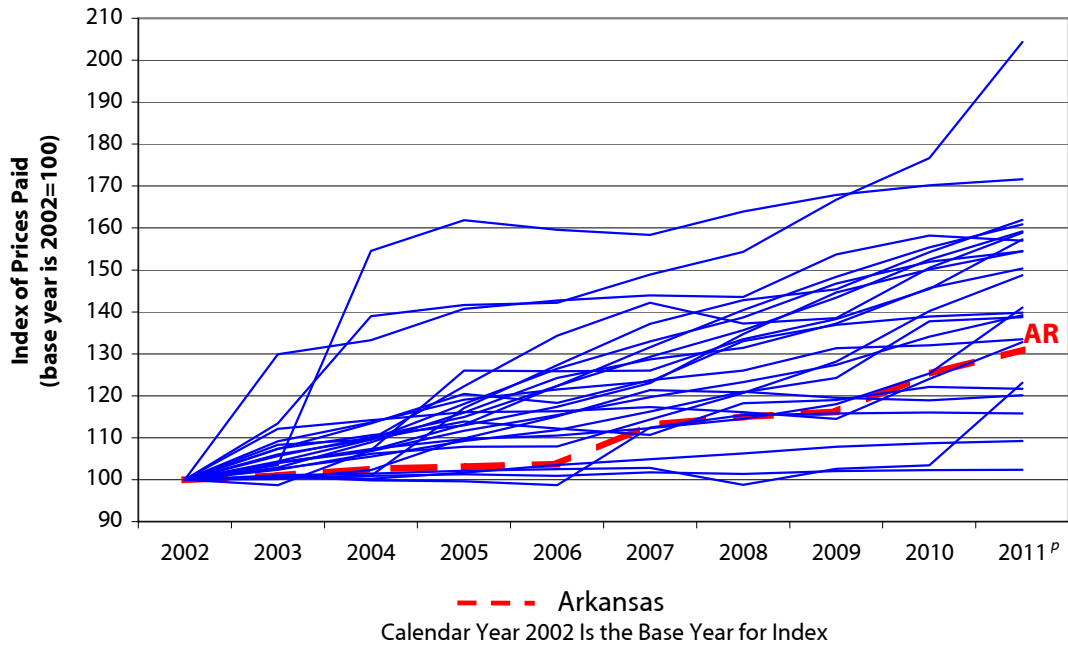
*Note:* Calendar year 2002 is the base year, which is equal to 100 in the index.

<sup>a</sup> The data for this state 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.

<sup>b</sup> This state had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.

<sup>c</sup> This state had no workers' compensation fee schedule in 2011.

**Figure B.2 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

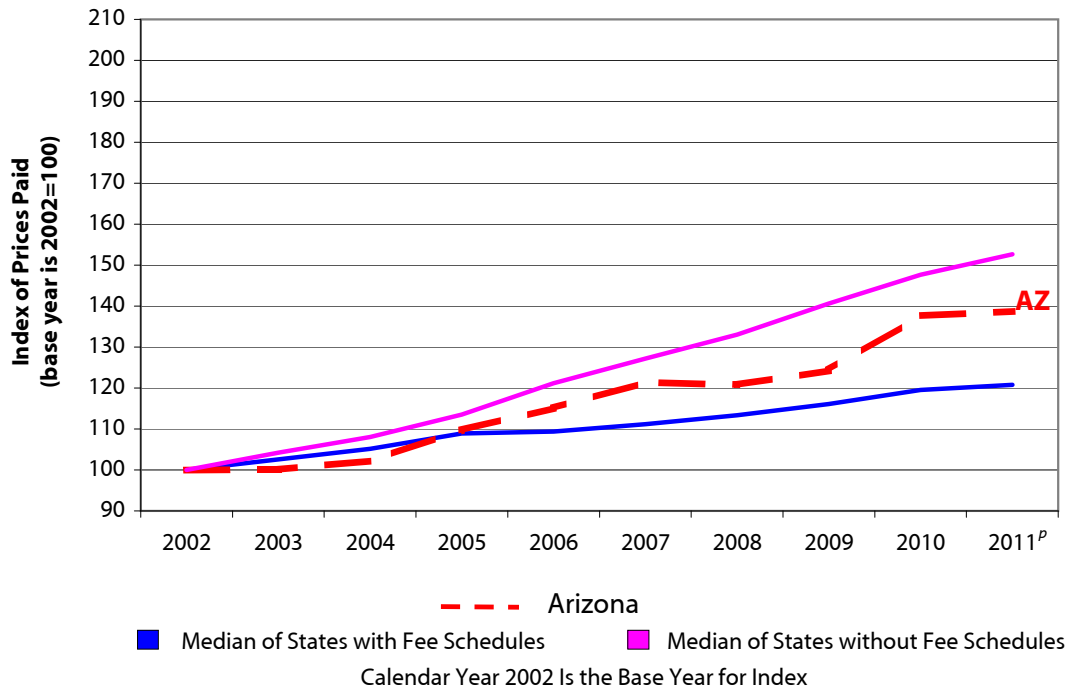
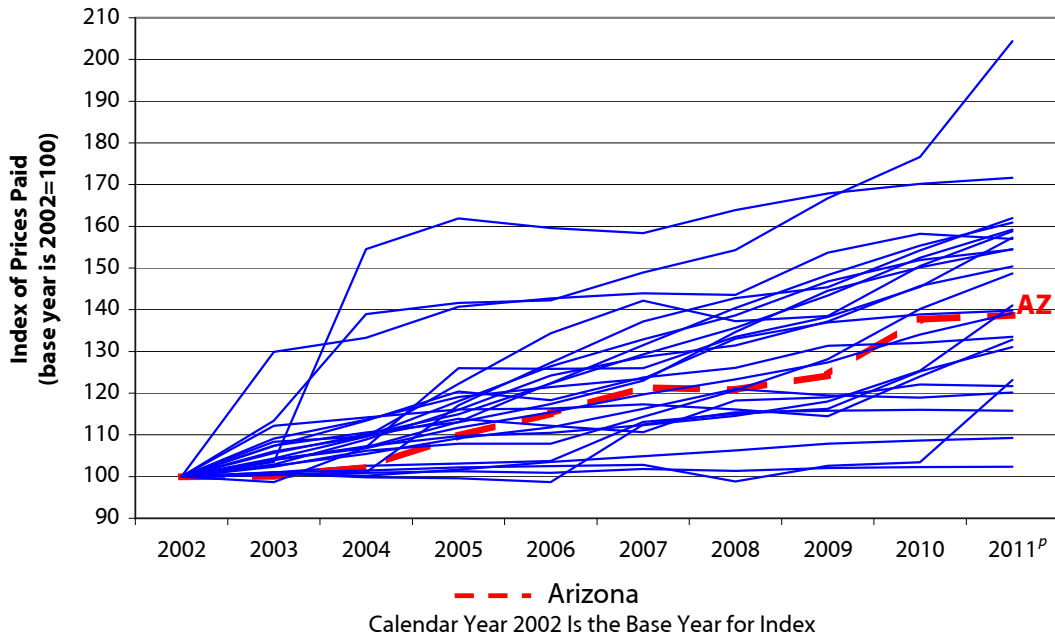


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Arkansas' fee schedule for professional services has regular updates on the RVUs tied to the most recent Medicare 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, 2011.

*Key:* RBRVS: resource-based relative value scale; RVUs: relative value units.

**Figure B.3 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



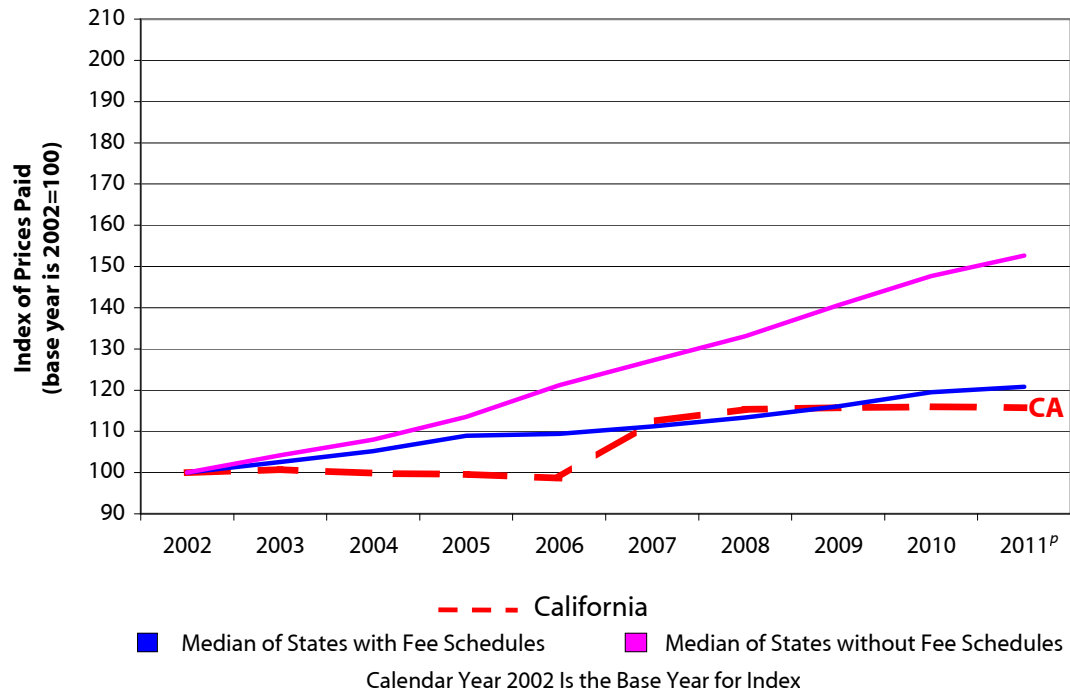
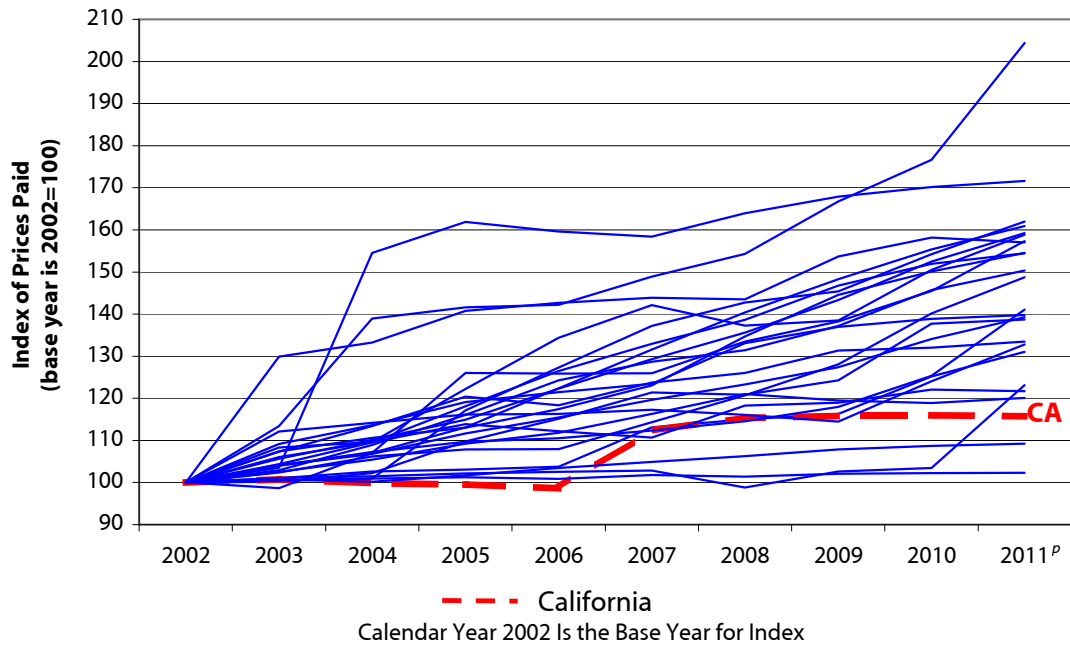
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:*

The data for this state 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.

Arizona updates its fee schedule for professional services annually in October. The most recent update covered in the study period in this report was effective October 1, 2010.

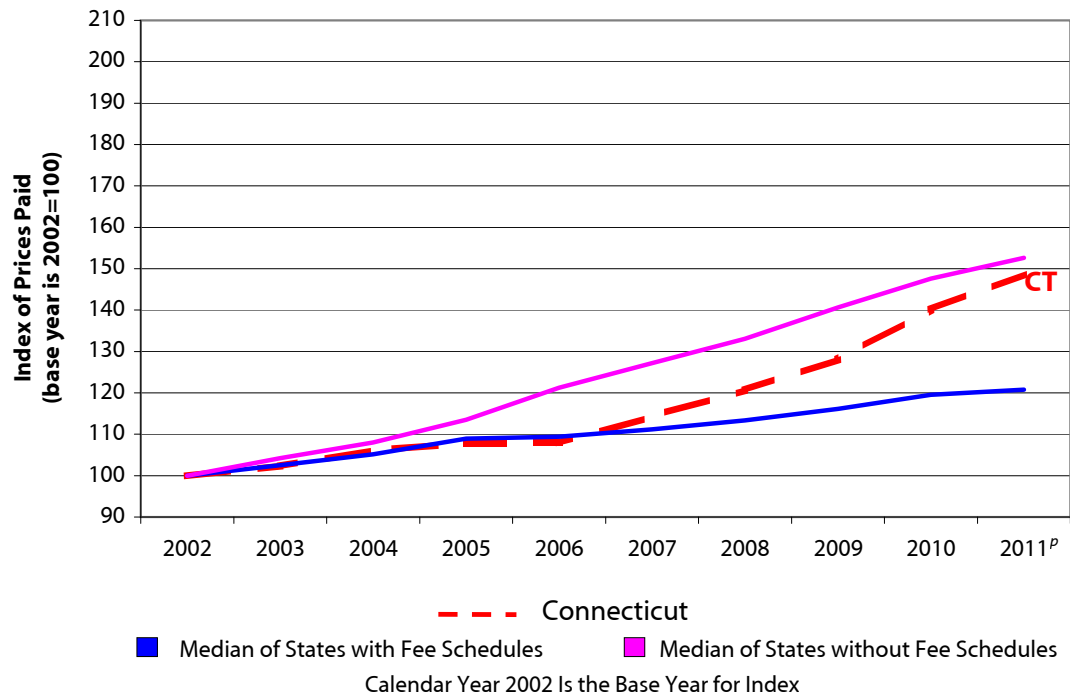
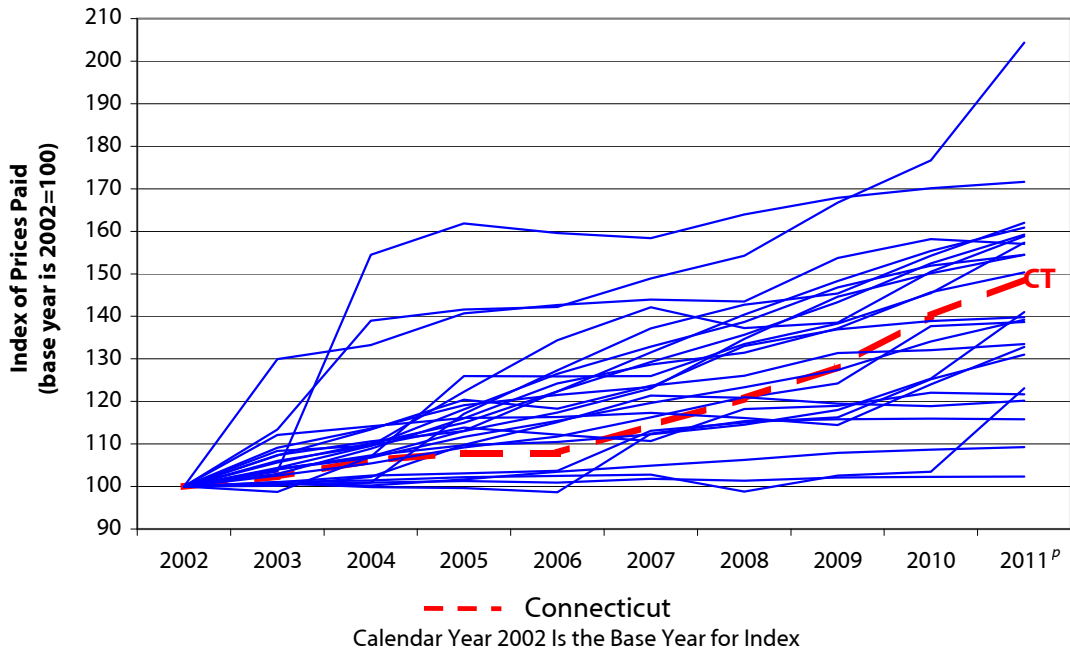
**Figure B.4 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* California had a reduction of 5 percent in fee schedule rates for professional services in 2004; except for increases in fee schedule rates for evaluation and management services in February 15, 2007, there have not been additional updates.

**Figure B.5 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

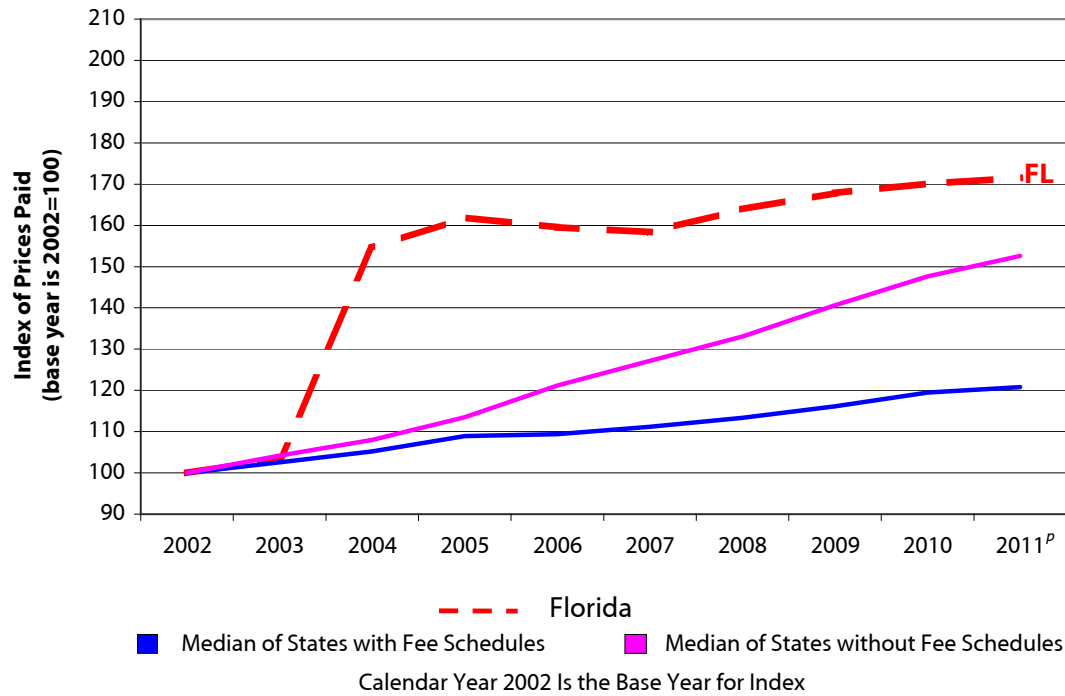
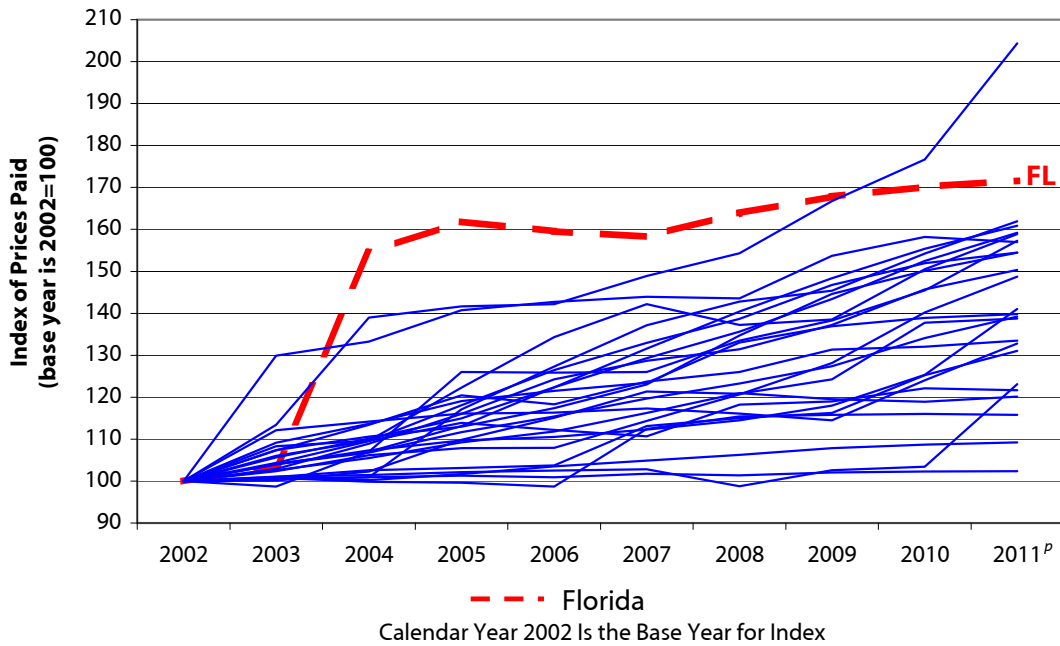


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Connecticut has updated its fee schedule for professional services annually in July since 2008; in prior years, updates were effective in April. The most recent update covered in the study period in this report was effective July 15, 2010.



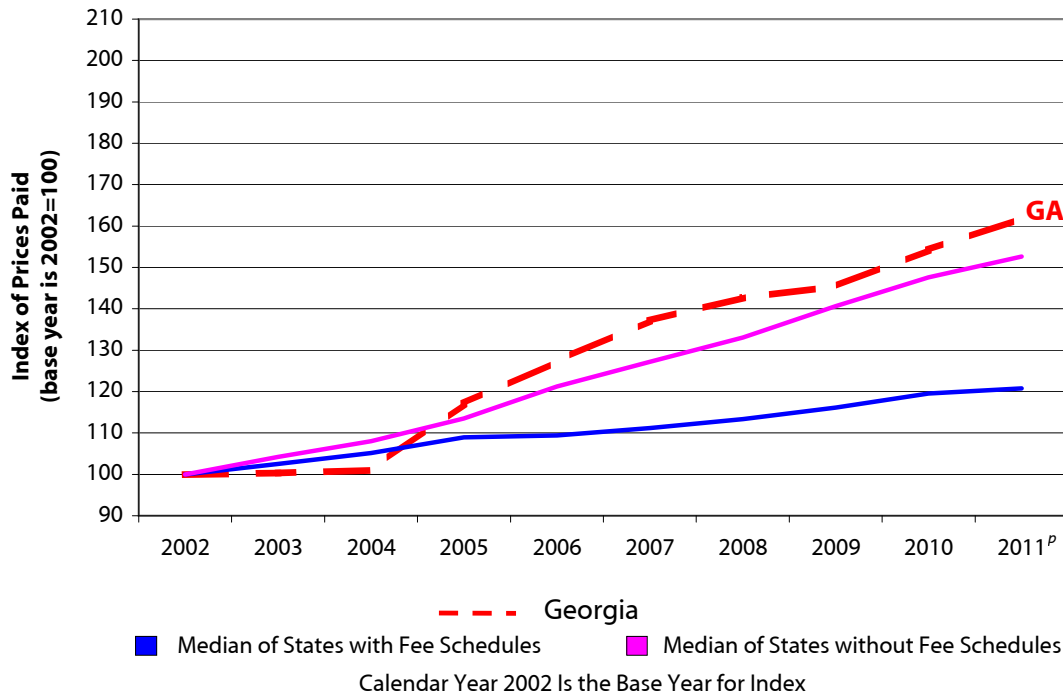
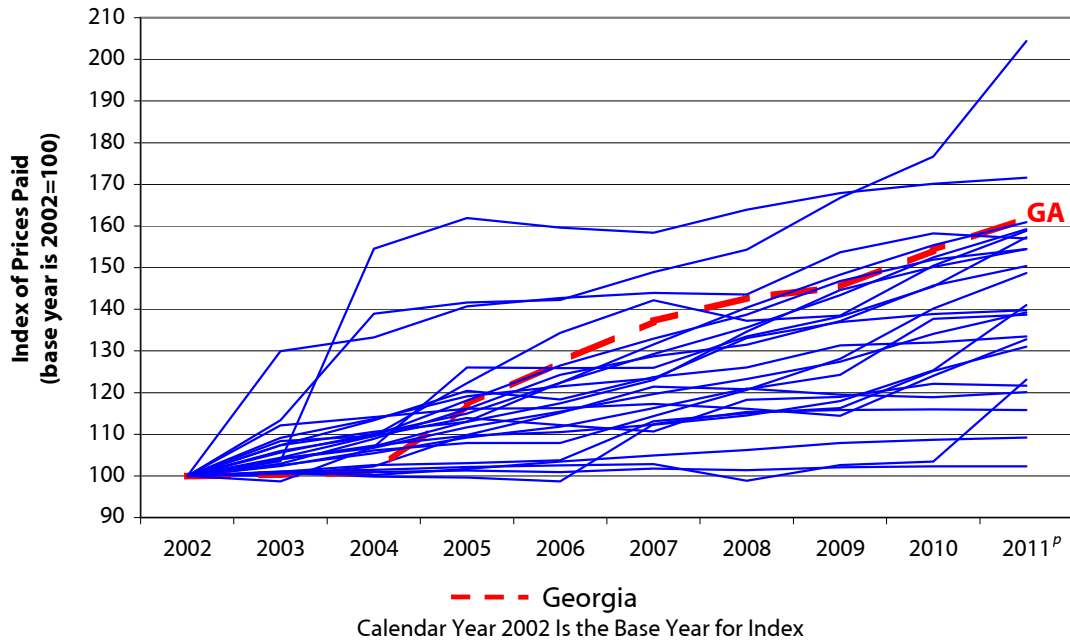
**Figure B.6 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Florida had significant increases in fee schedule rates for physician services in January 2004 and increases in fee schedule rates for services provided by chiropractors and physical/occupational therapists in May 2005. After that, Florida had fee schedule updates for professional services in 2006, 2007, and 2009.

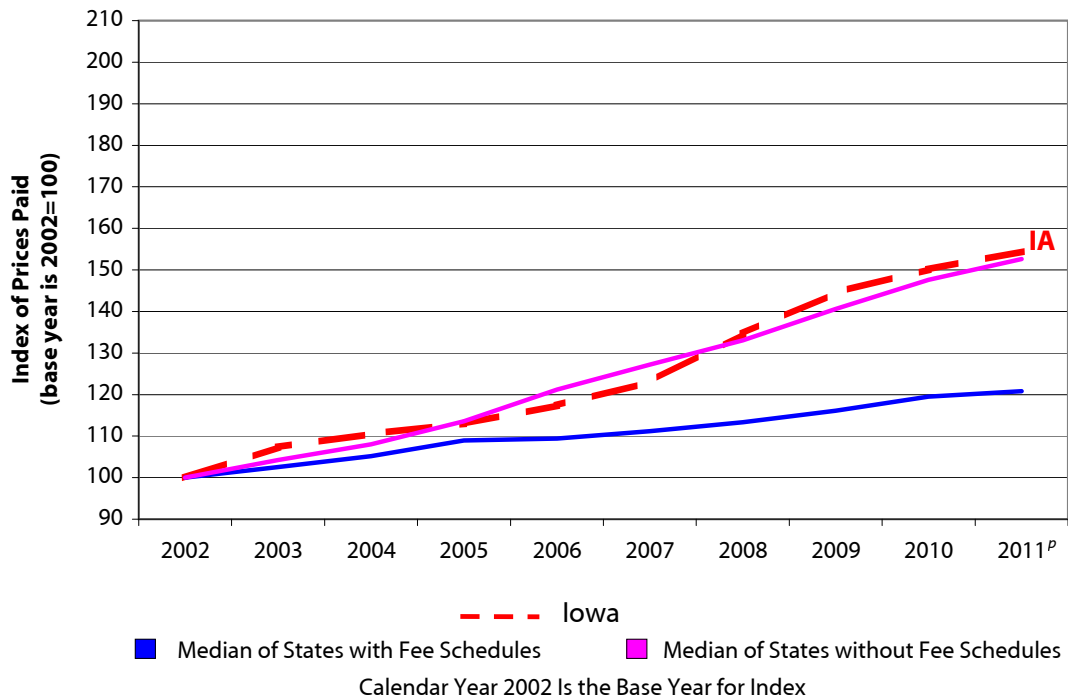
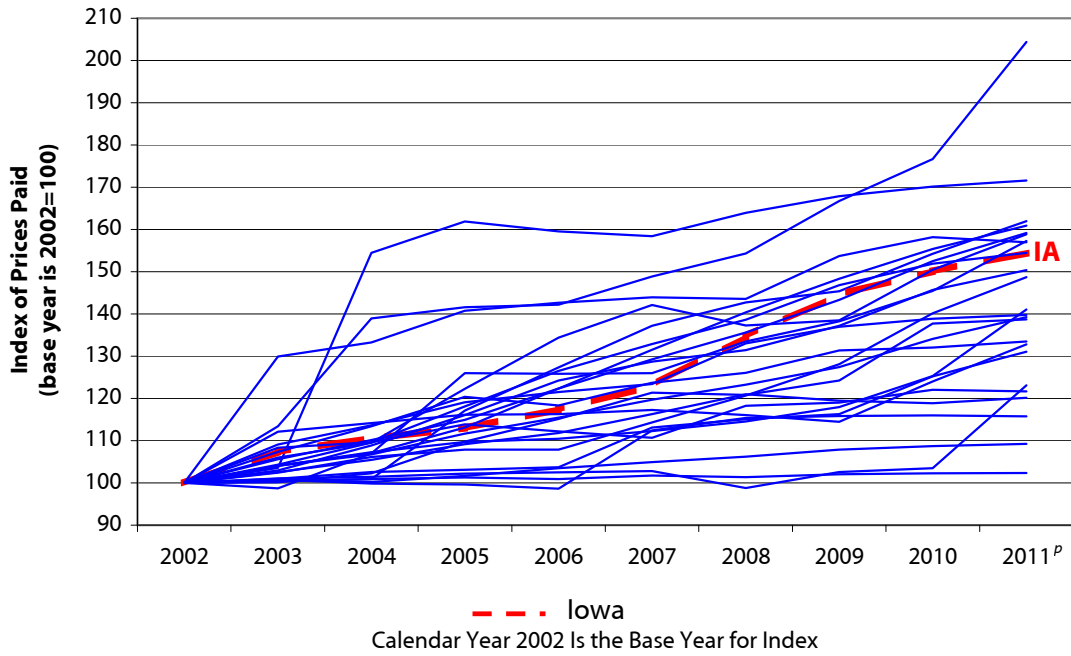
**Figure B.7 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Georgia updates its fee schedule for professional services annually in April. For example, in 2005, the fee schedule rates had material increases in certain evaluation and management and physical medicine services and decreases in many services such as emergency, minor radiology, neurological and neuromuscular testing, and certain major surgery procedures. The most recent update covered in the study period in this report was effective April 1, 2011.

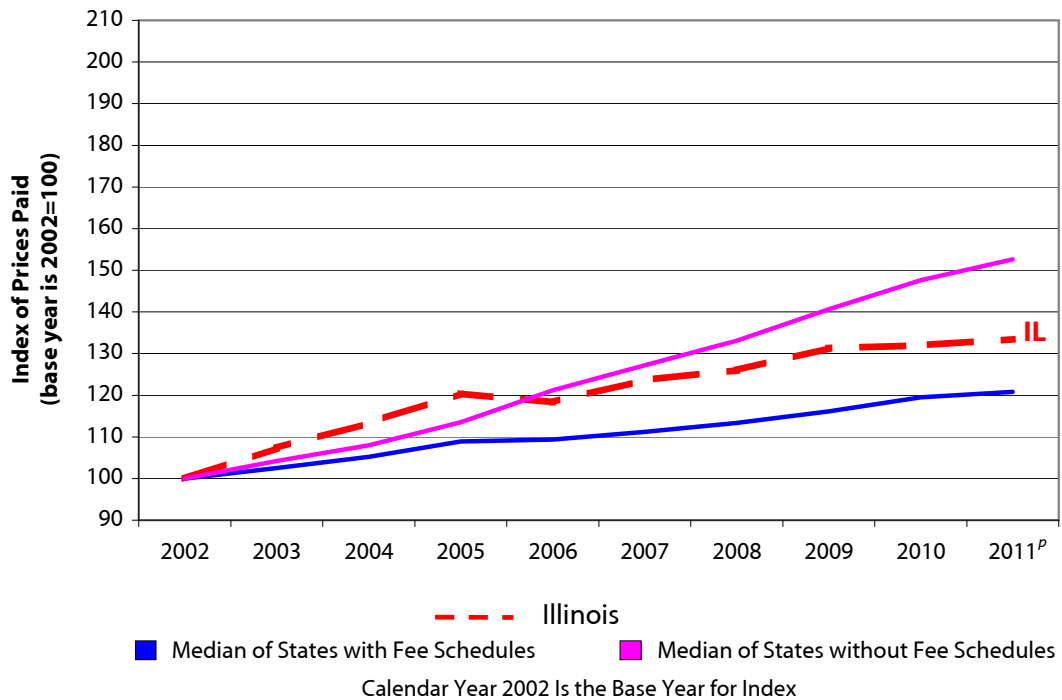
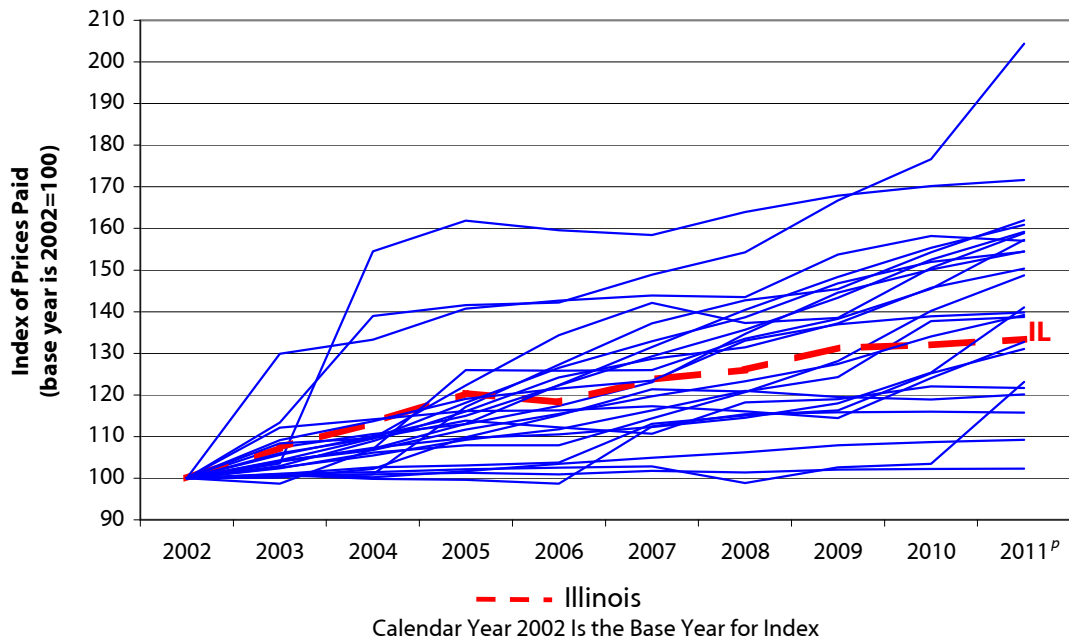
**Figure B.8 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Iowa did not have a workers' compensation fee schedule as of 2011.

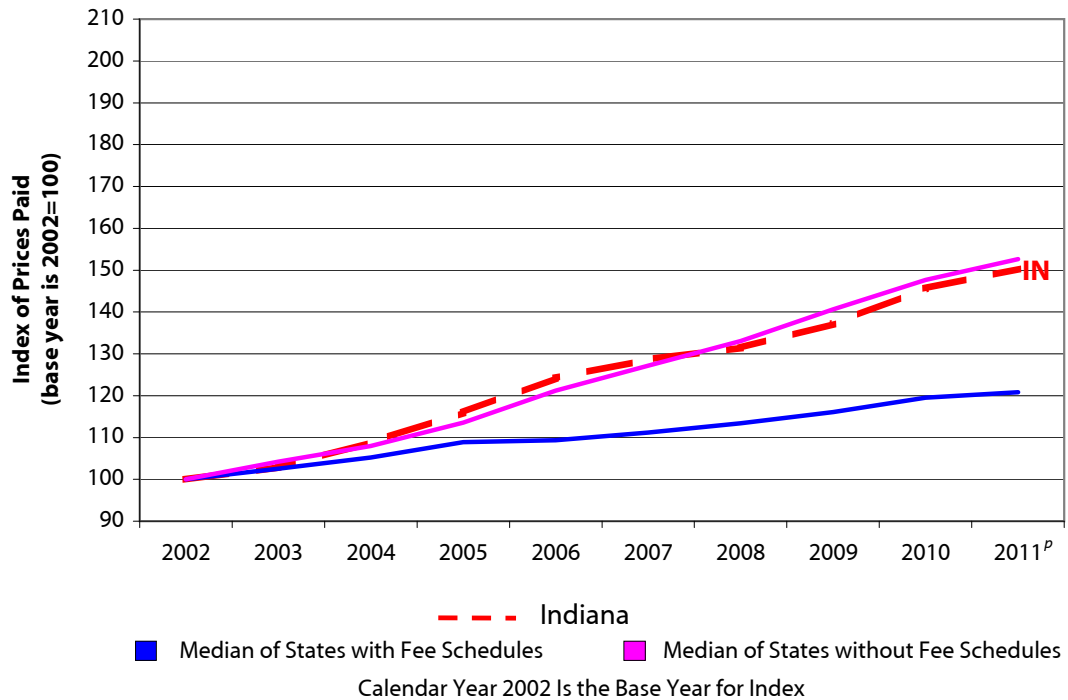
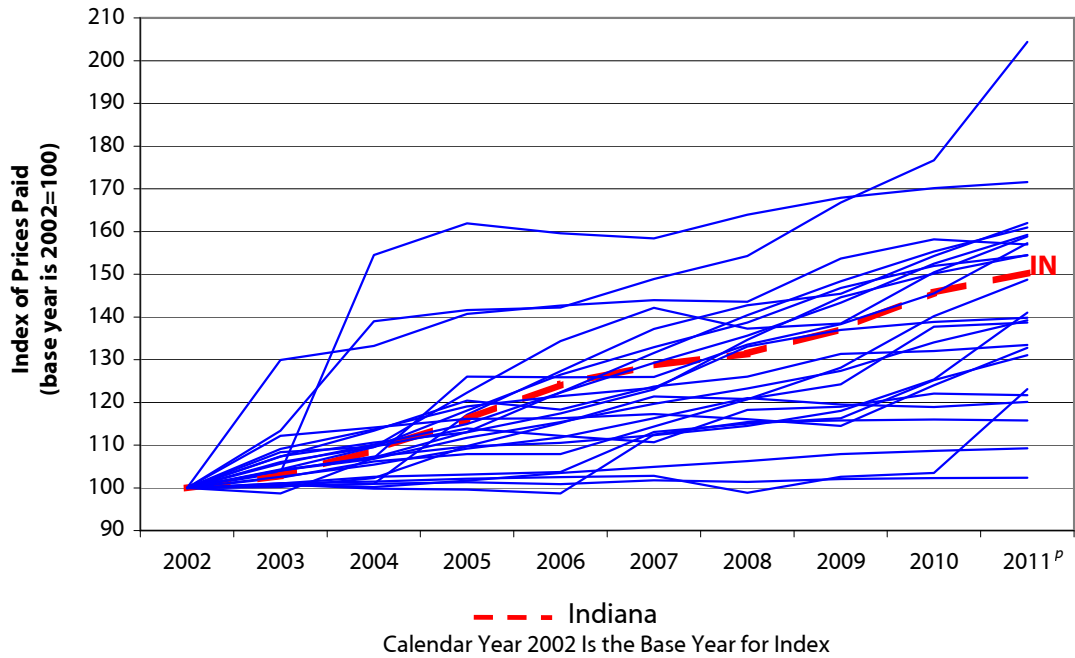
**Figure B.9 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*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 geo-zip areas; therefore, the price trends after 2006 could be influenced by the potential behavior changes of the providers. In September 2011, Illinois enacted a new legislation that introduced a 30 percent decrease in the fee schedule rates. The results in this report do not reflect this most recent change.

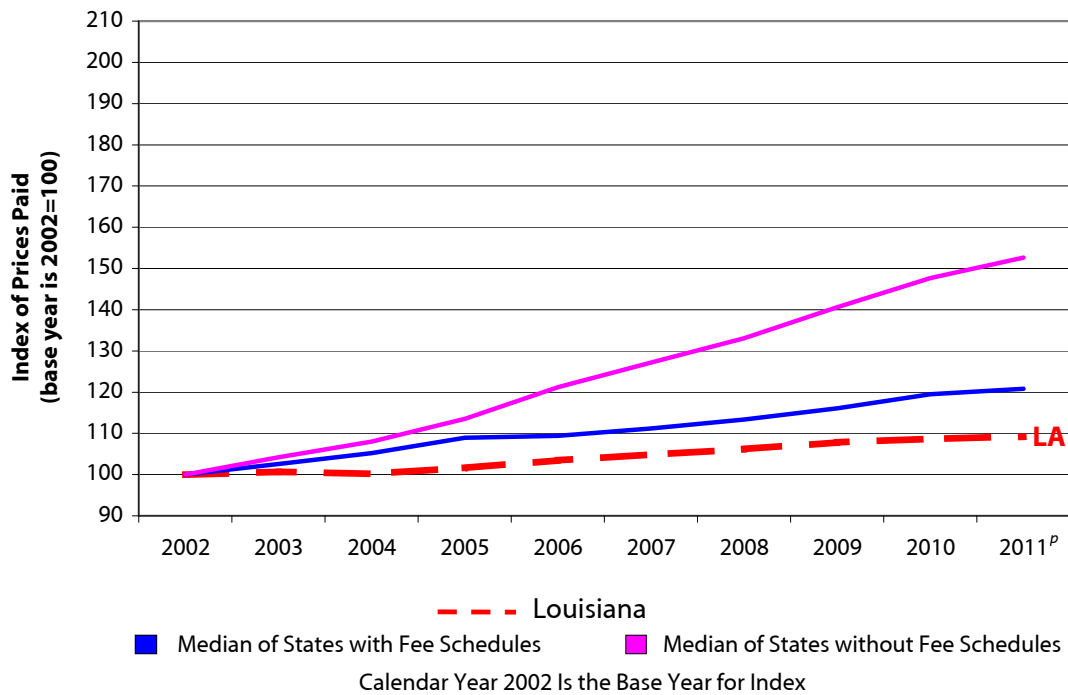
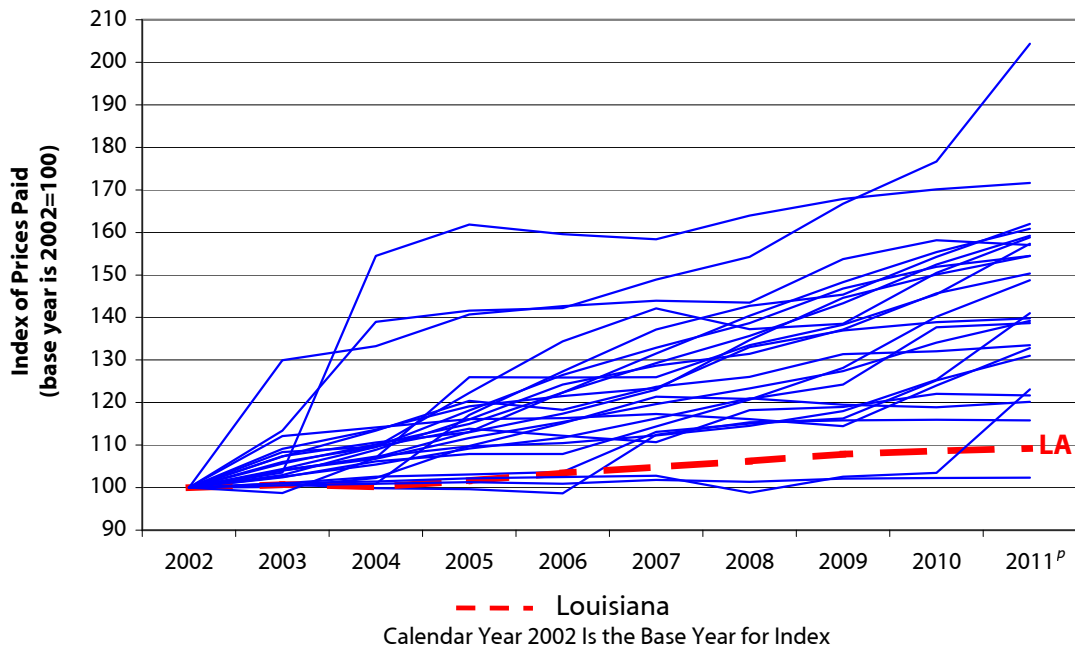
**Figure B.10 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Indiana did not have a workers' compensation fee schedule as of 2011.

**Figure B.11 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

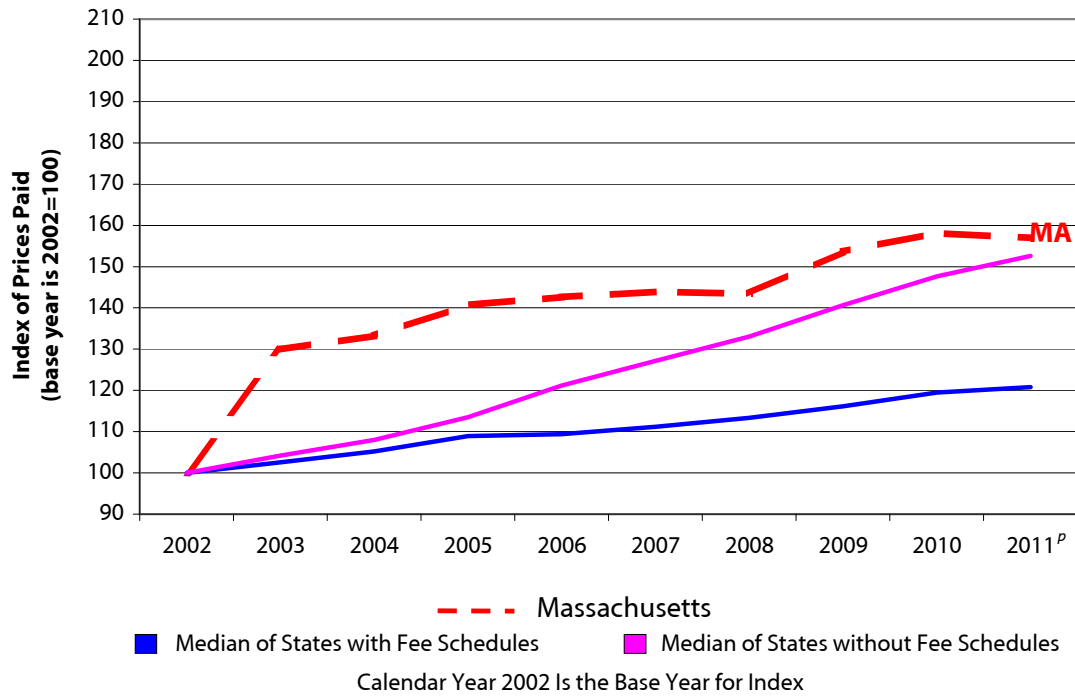
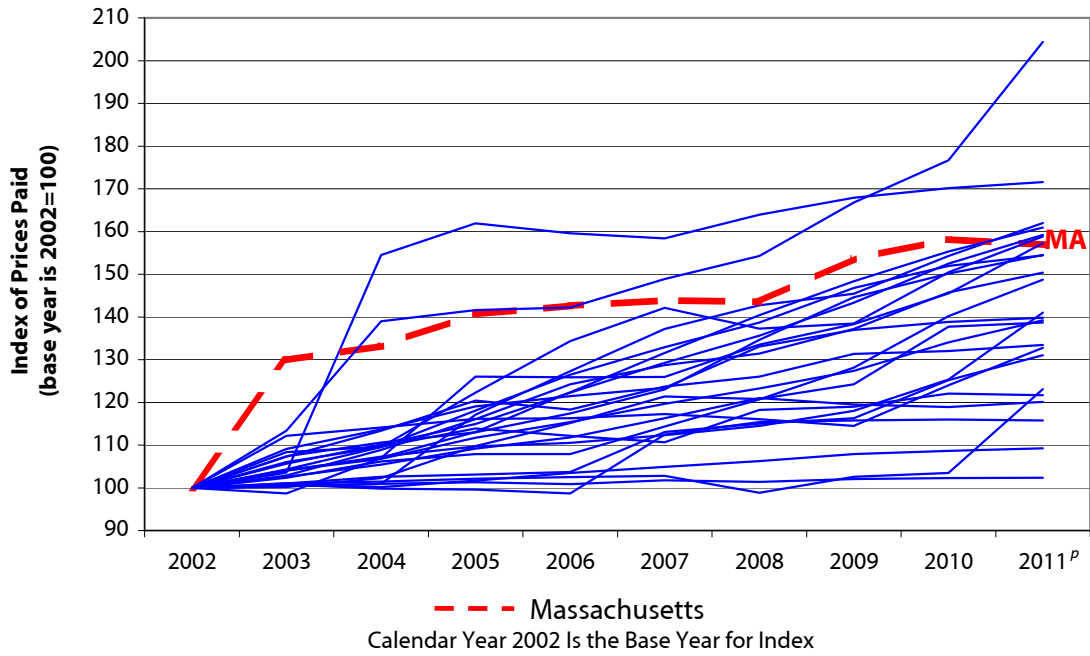


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Louisiana's fee schedule for professional services uses the 1999 CPT list published by the AMA and the maximum allowable reimbursement rates effective as of March 2001.

*Key:* AMA: American Medical Association; CPT: Current Procedural Terminology.

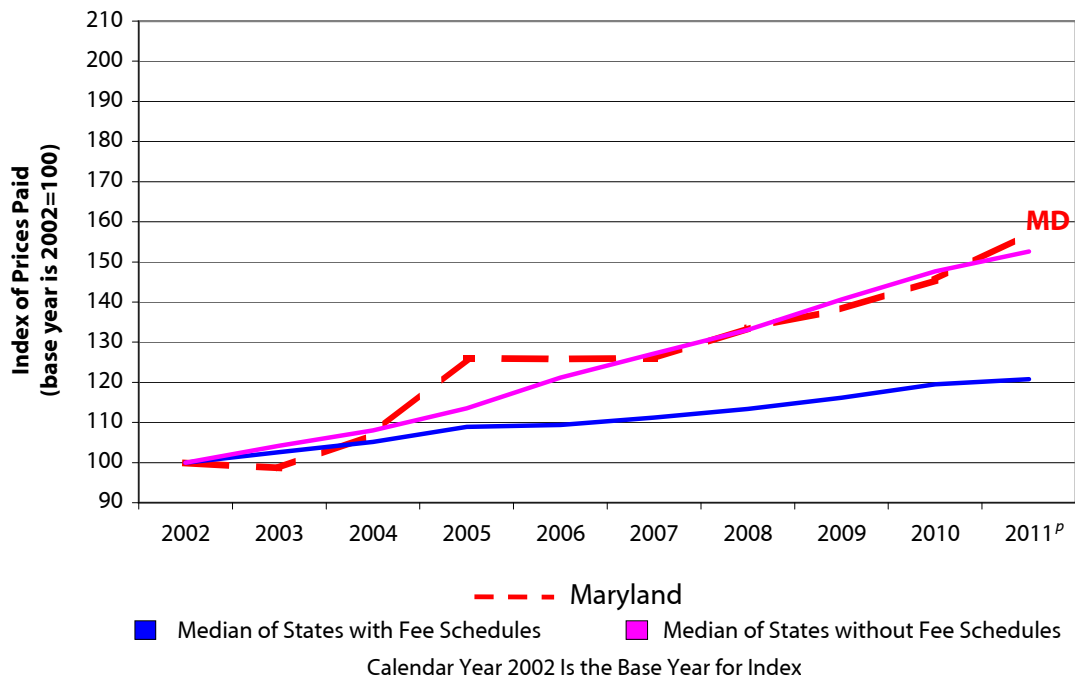
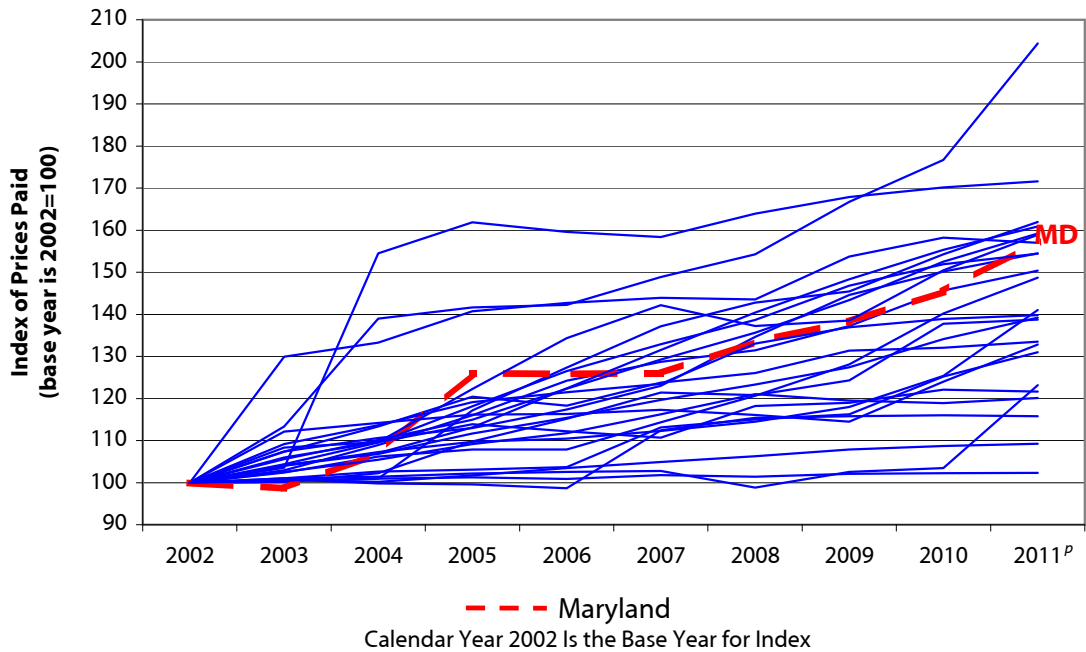
**Figure B.12 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Massachusetts increased the fee schedule rates for many professional services, effective April 2009. The fee schedule increases for major surgeries were especially significant; the rates for some procedures increased two to three times above the previous rates. Prior to that, the fee schedule for professional services had not been updated since September 2004.

**Figure B.13 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

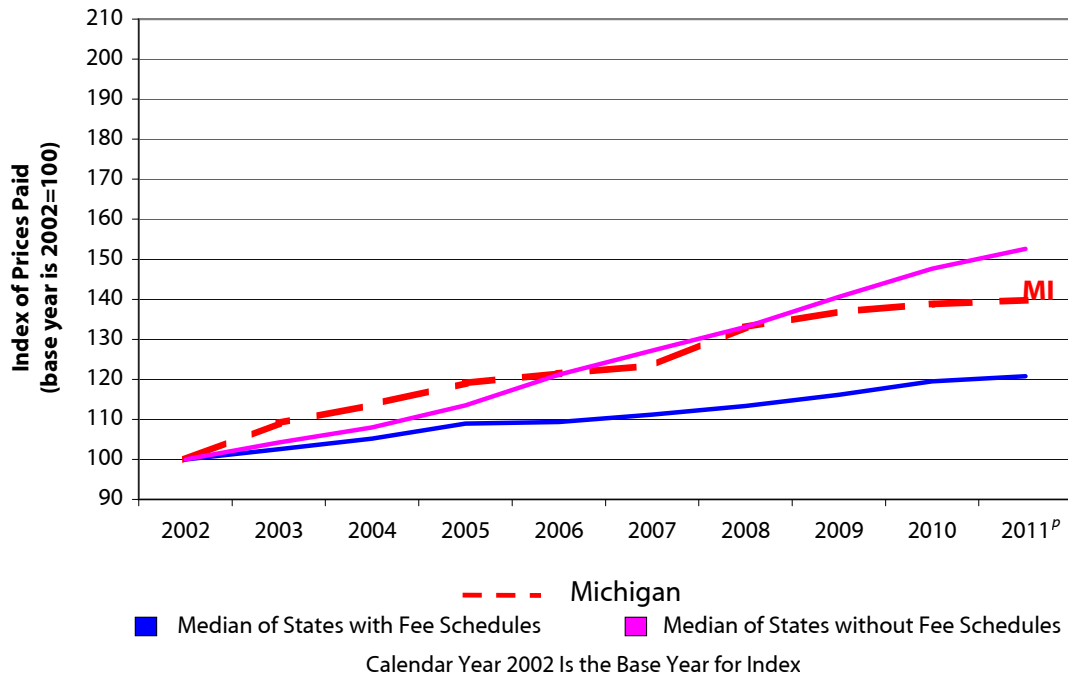
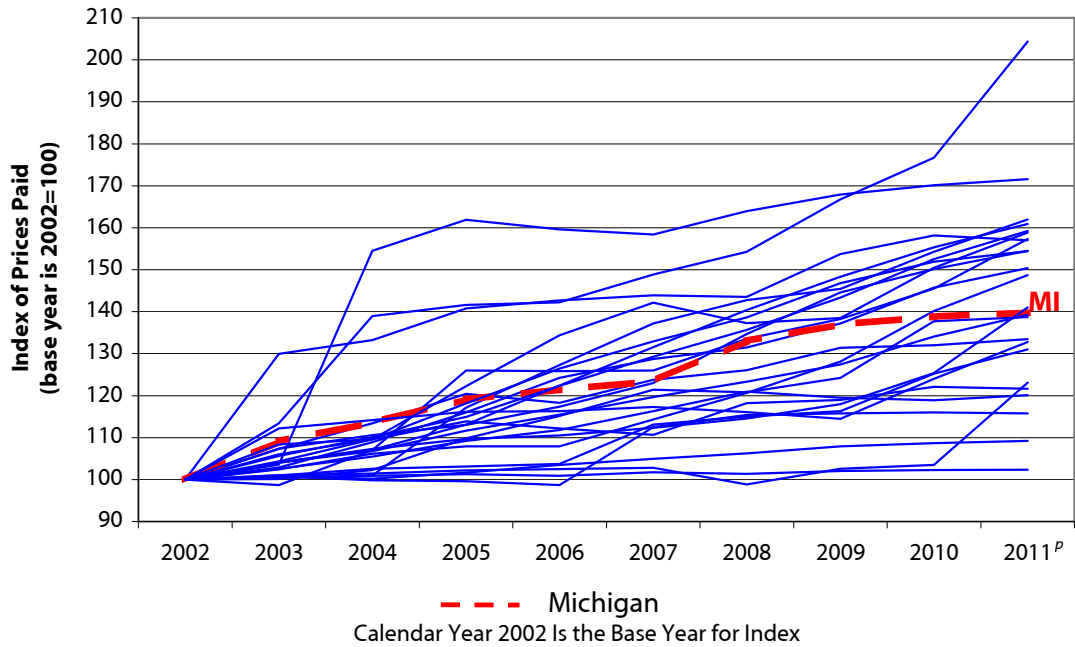


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Maryland increased fee schedule rates for evaluation and management and physical medicine services, and decreased rates for surgery, in September 2004. In February 2006, Maryland increased fee schedule rates for neurological and orthopedic surgeries. Starting in March 2008, Maryland allowed annual increases in fee schedule rates for professional services based on changes in the Medicare Economic Index. The most recent update covered in the study period in this report was effective January 1, 2011.



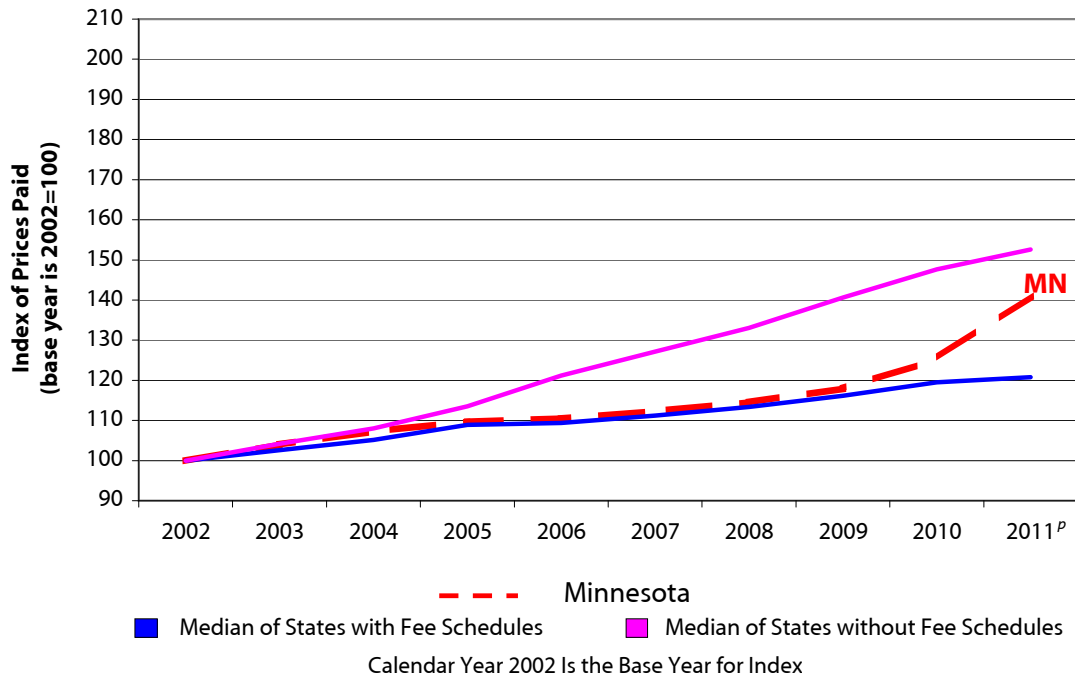
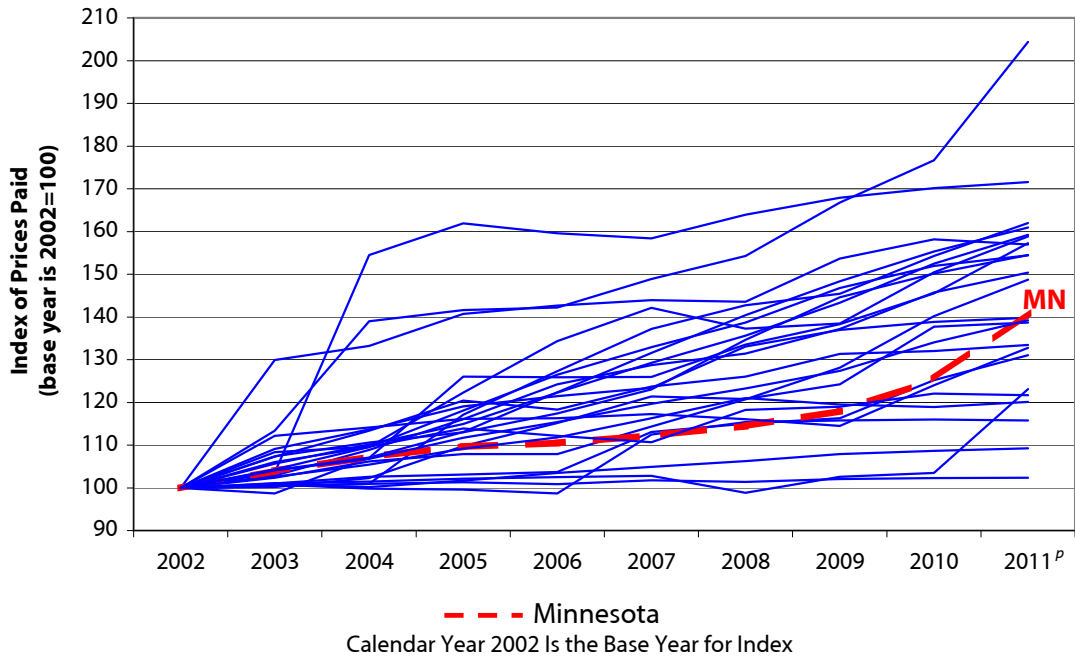
**Figure B.14 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Michigan updates its fee schedule for professional services annually. The most recent update covered in the study period in this report was effective December 8, 2010.

**Figure B.15 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

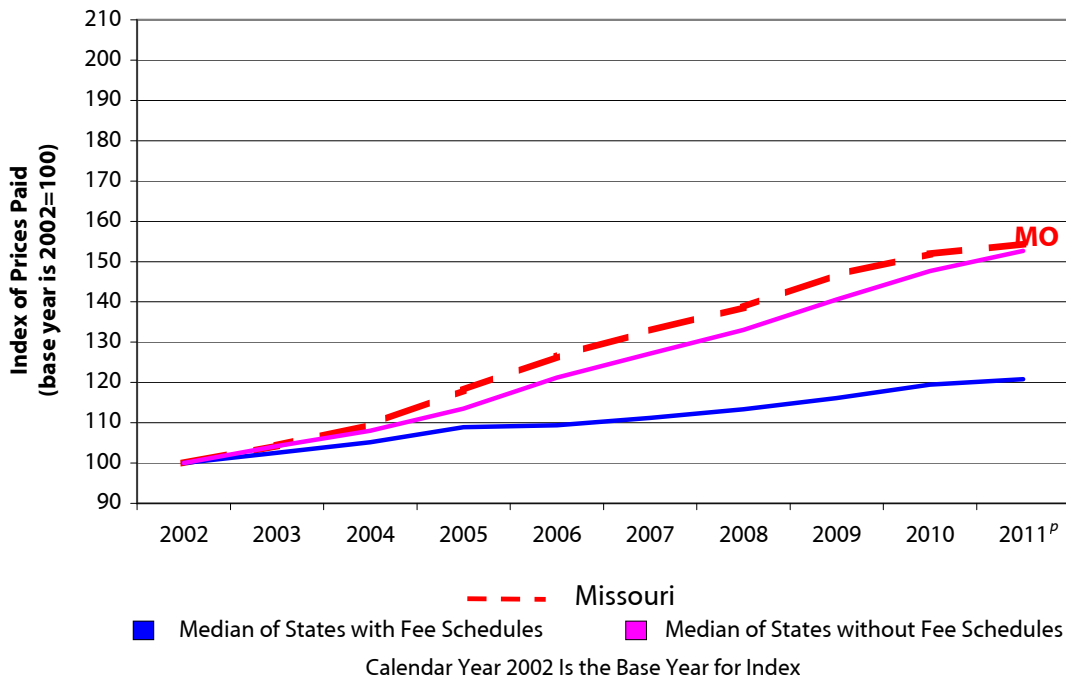
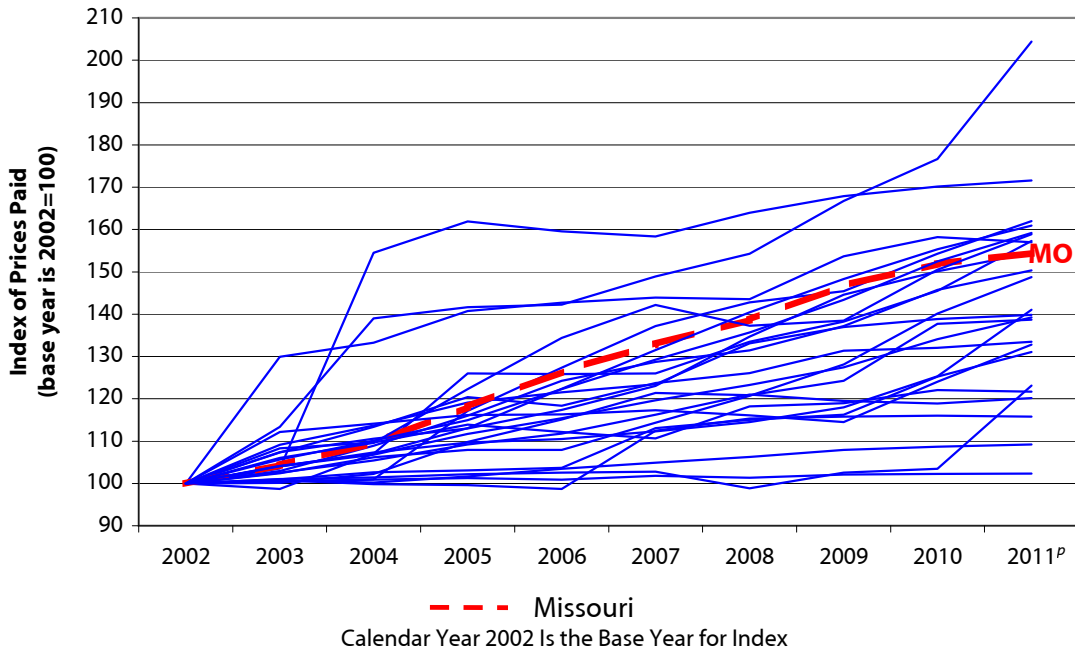


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Minnesota's fee schedule for professional services from 2002 to September 2010 was based on 1998 Medicare RVUs, with annual updates in the conversion factor. Effective October 1, 2010, Minnesota updated its fee schedule by using 2009 Medicare RVUs, and meanwhile decreased the state conversion factor.

*Key:* RVUs: Relative value units.

**Figure B.16 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



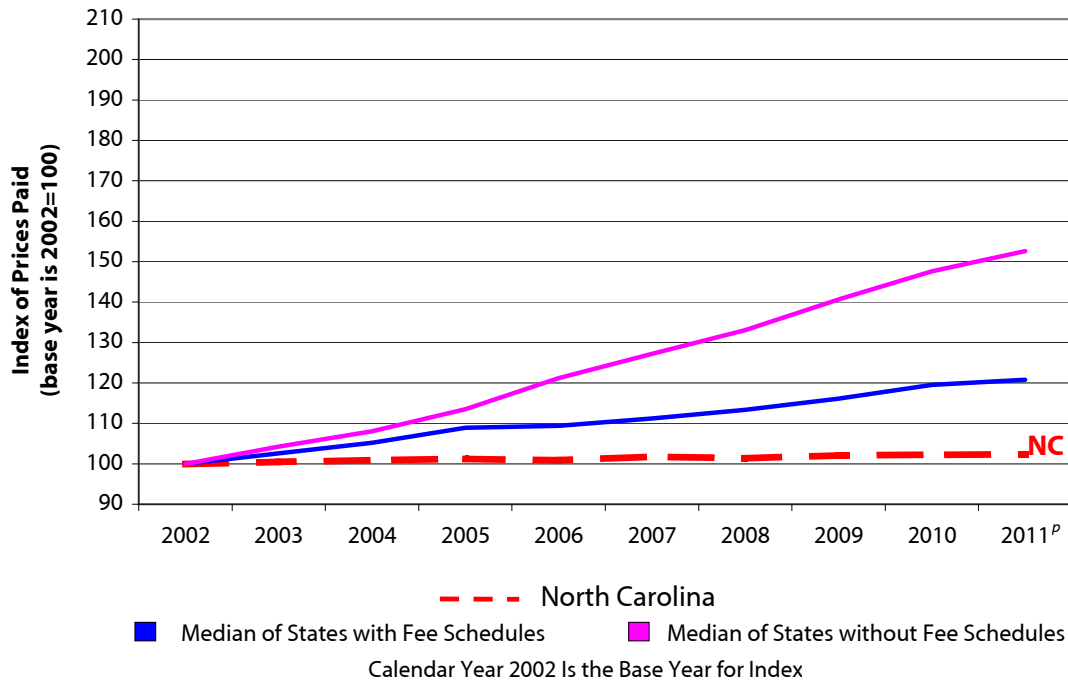
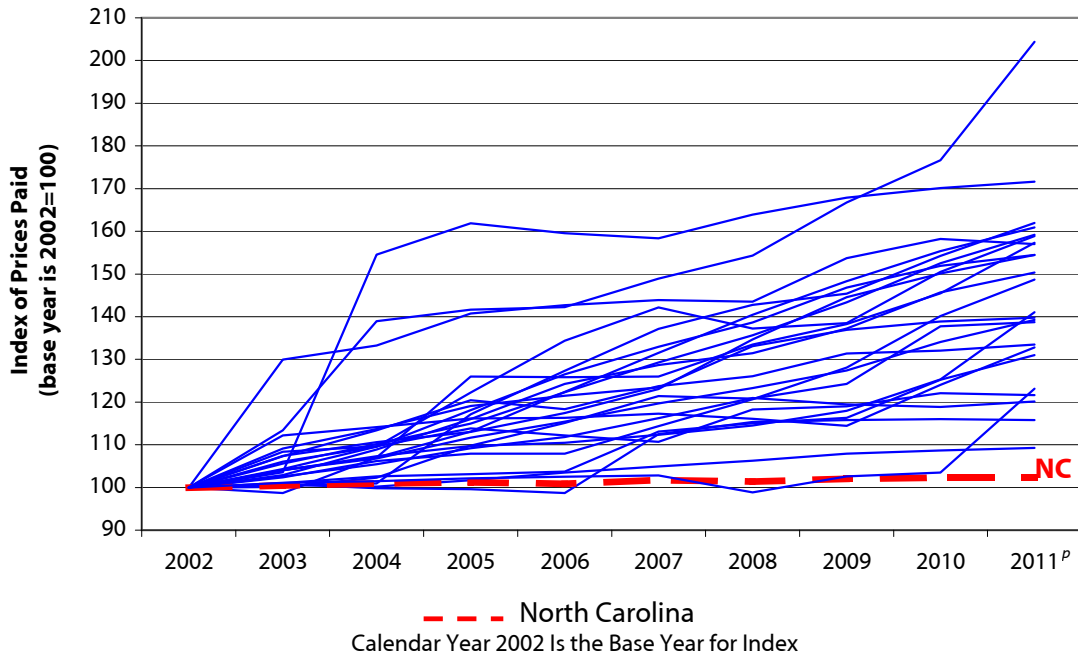
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

**Notes:**

The data for this state 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 2011.

**Figure B.17 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

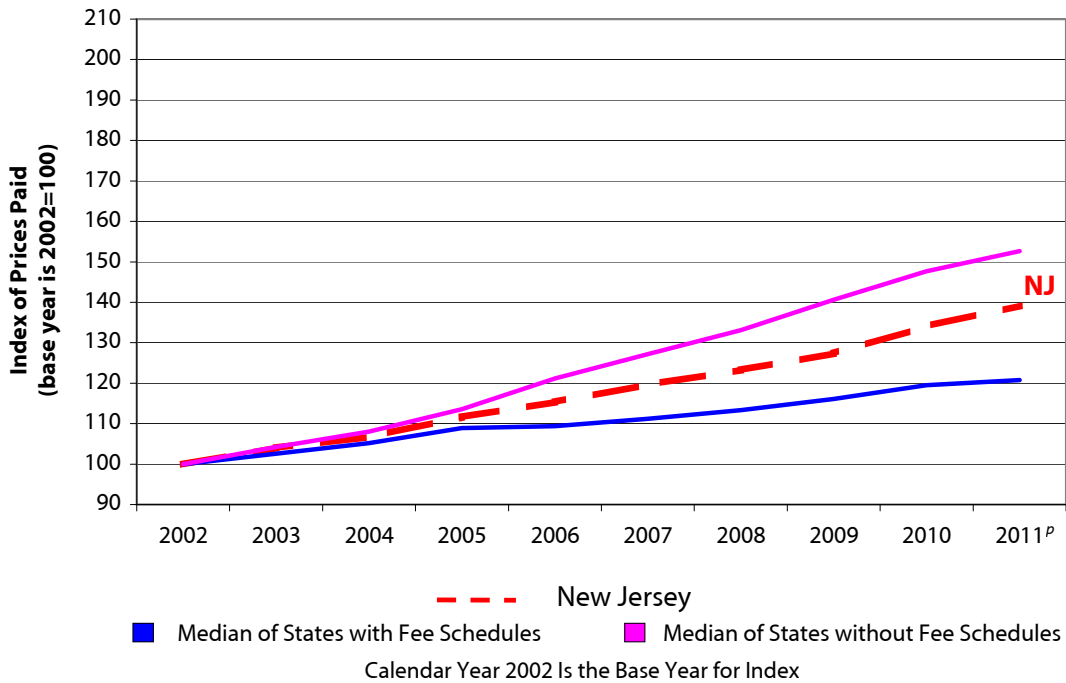
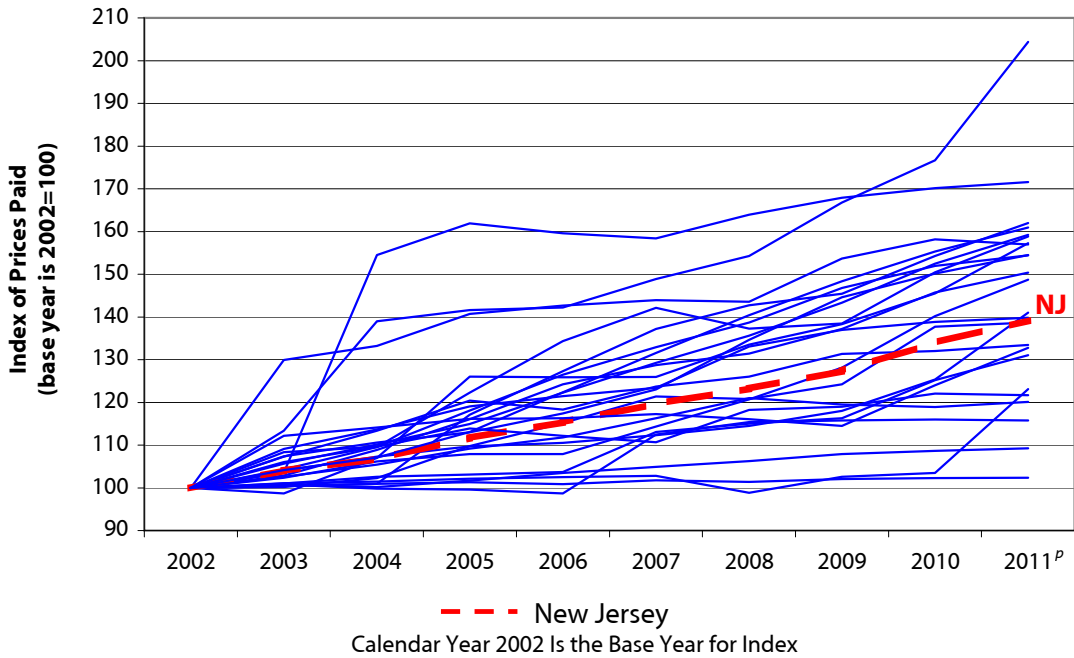


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*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. North Carolina updates its fee schedule annually in January to account for new and discontinued CPT codes published by the AMA.

*Key:* AMA: American Medical Association; CPT: Current Procedural Terminology.

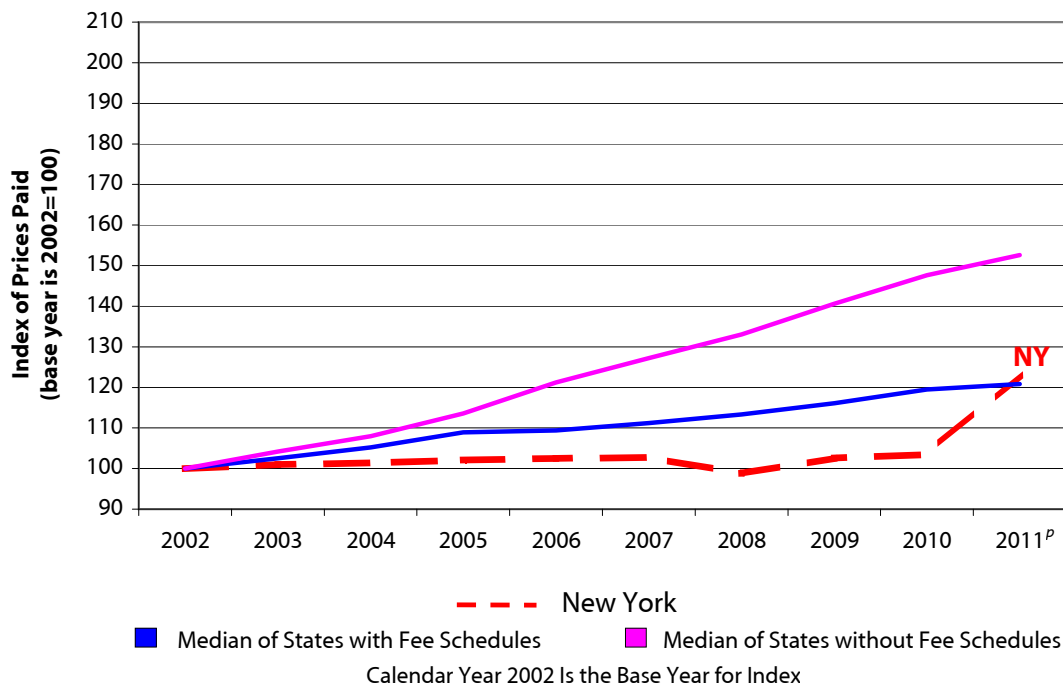
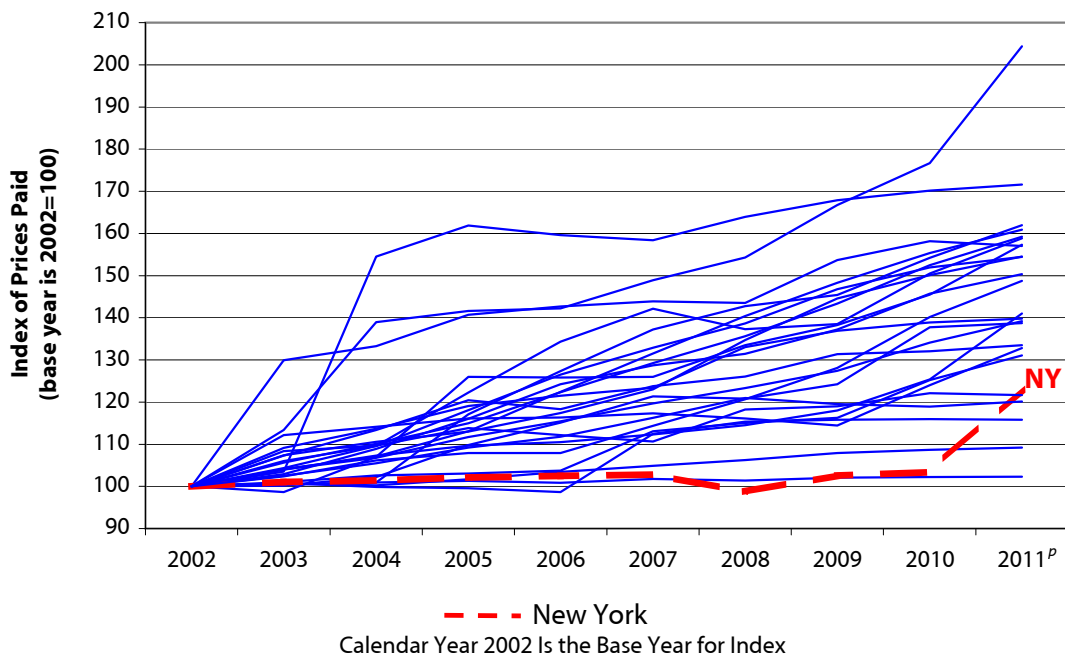
**Figure B.18 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* New Jersey did not have a workers' compensation fee schedule as of 2011.

**Figure B.19 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



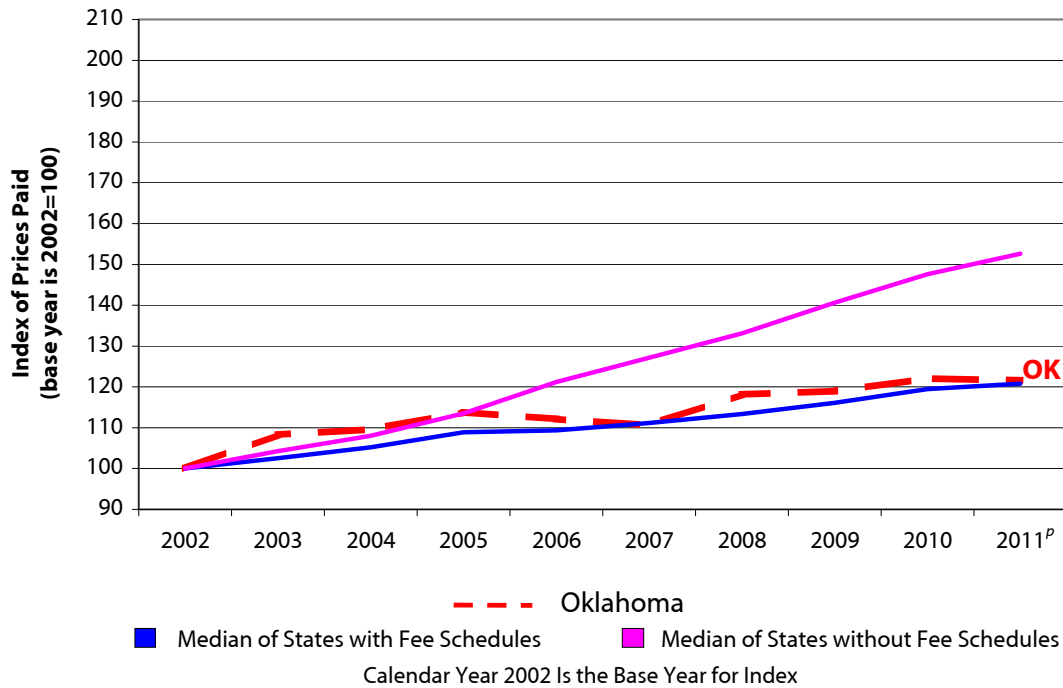
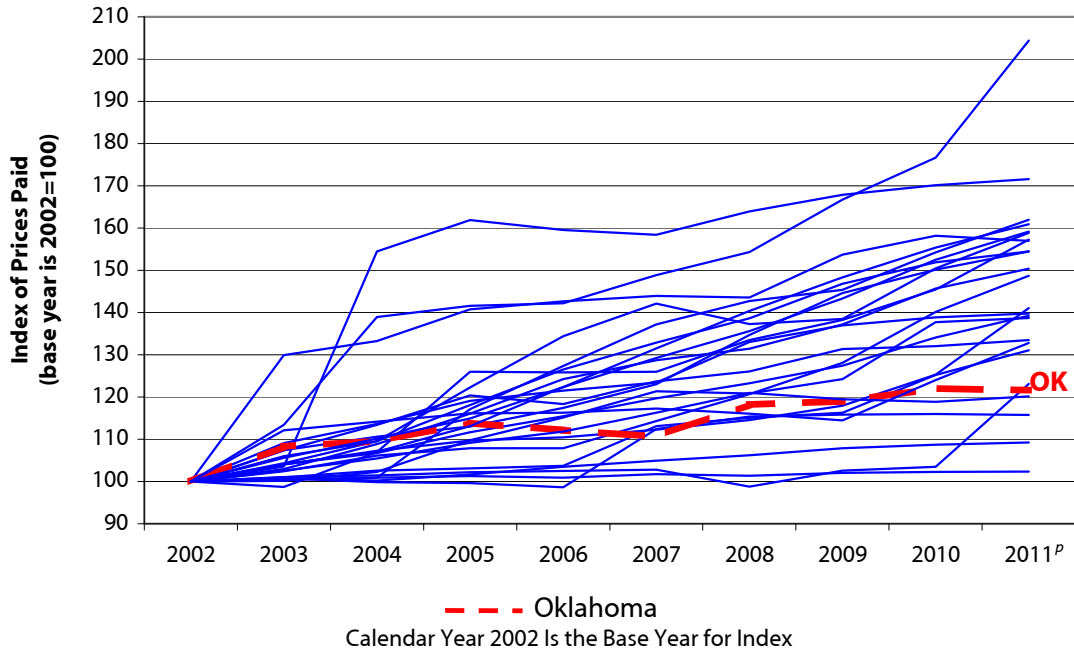
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

**Notes:**

The data for this state 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.

New York periodically updates its fee schedule for professional services; however, the maximum allowable reimbursement rates for most procedures 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.

**Figure B.20 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



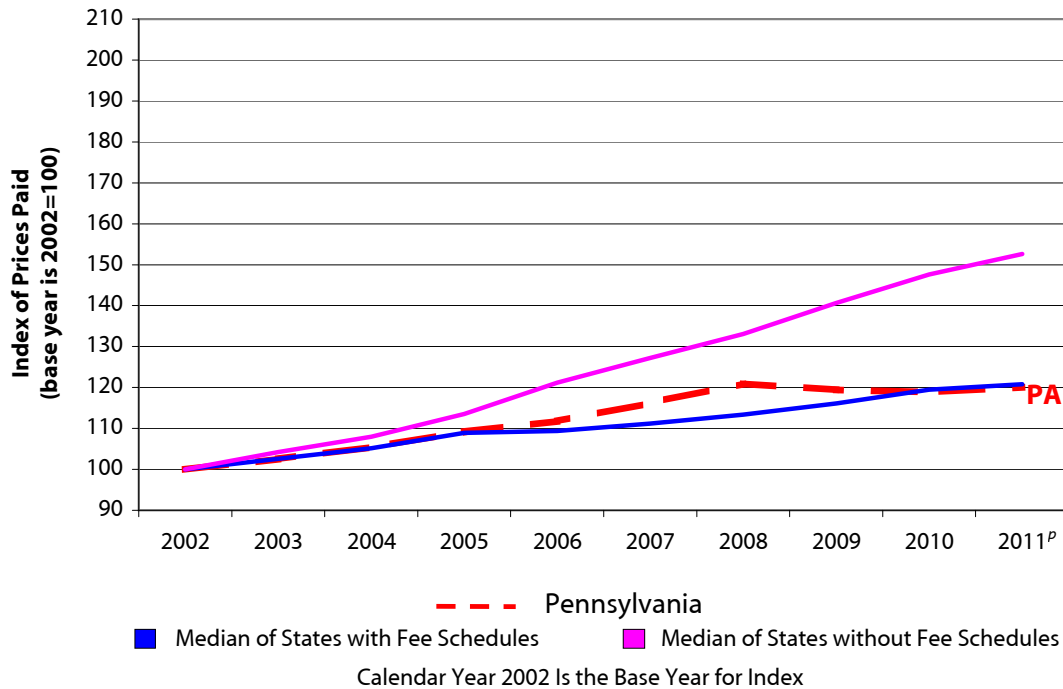
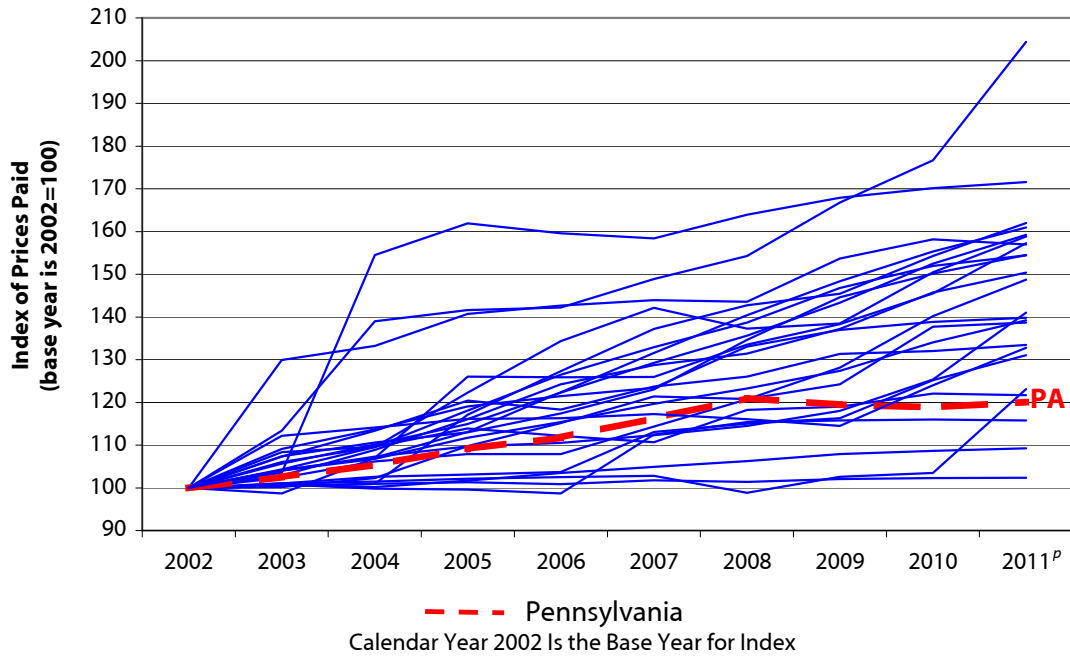
*Special notation:* <sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:*

The data for this state 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.

Oklahoma had regular updates to its fee schedule for professional services over the study period. For example, in 2006 the fee schedule rates had material increases in many pain management injection procedures and decreases in many services, such as emergency, radiology, neurological and neuromuscular testing, and many surgery procedures. The most recent update during the period covered by this study was effective January 1, 2011.

**Figure B.21 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

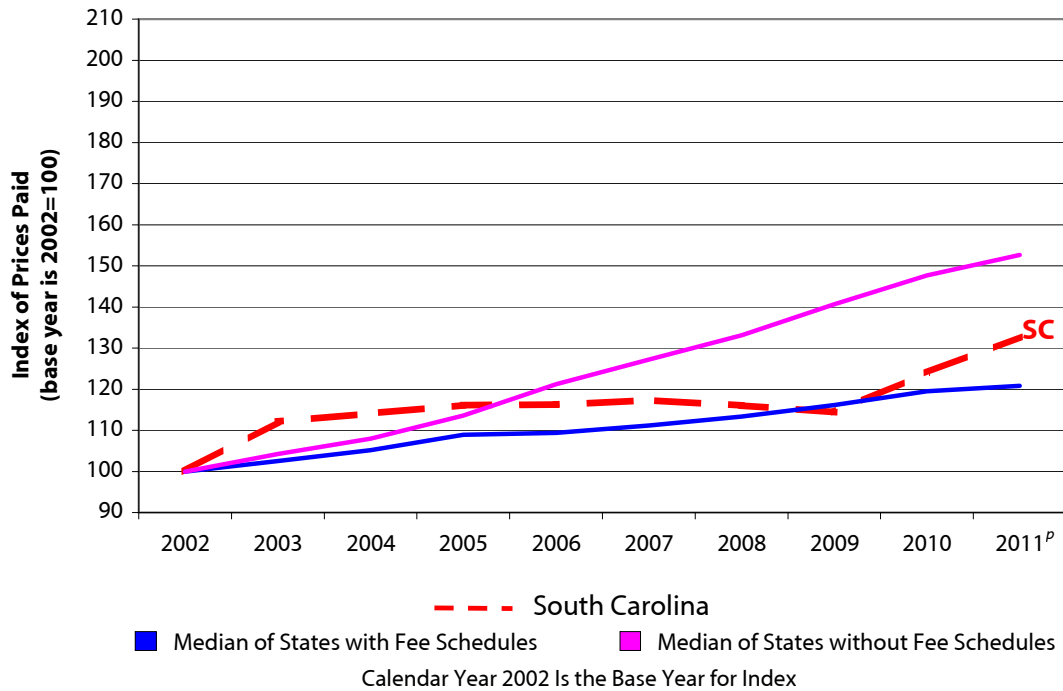
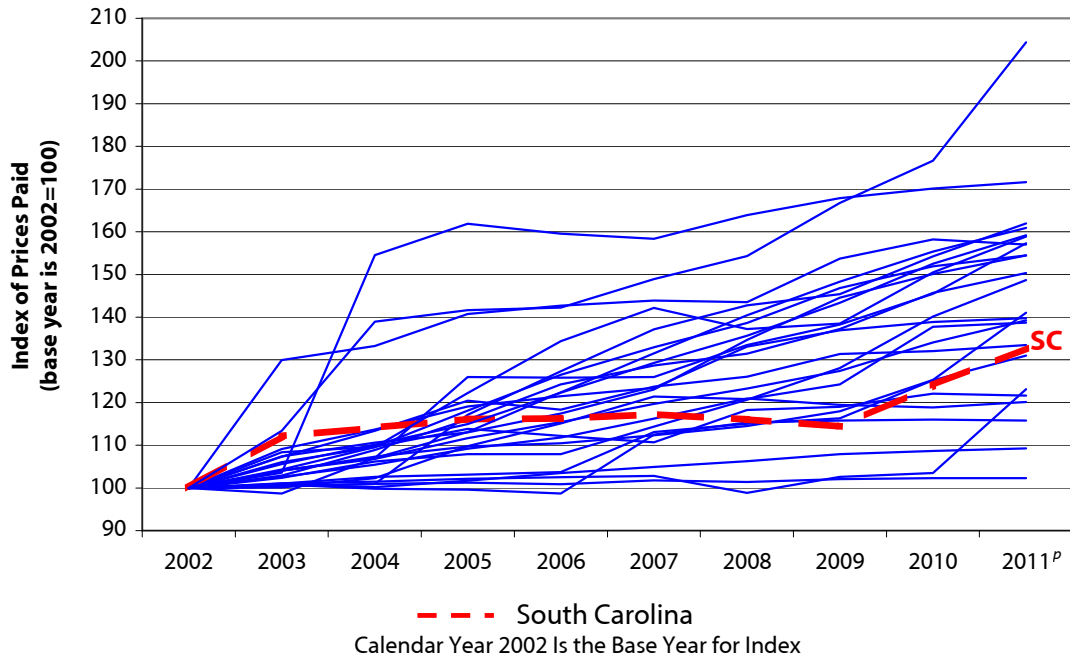


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Pennsylvania updates its fee schedule for professional services annually, based on the percentage change in the statewide average weekly wage.



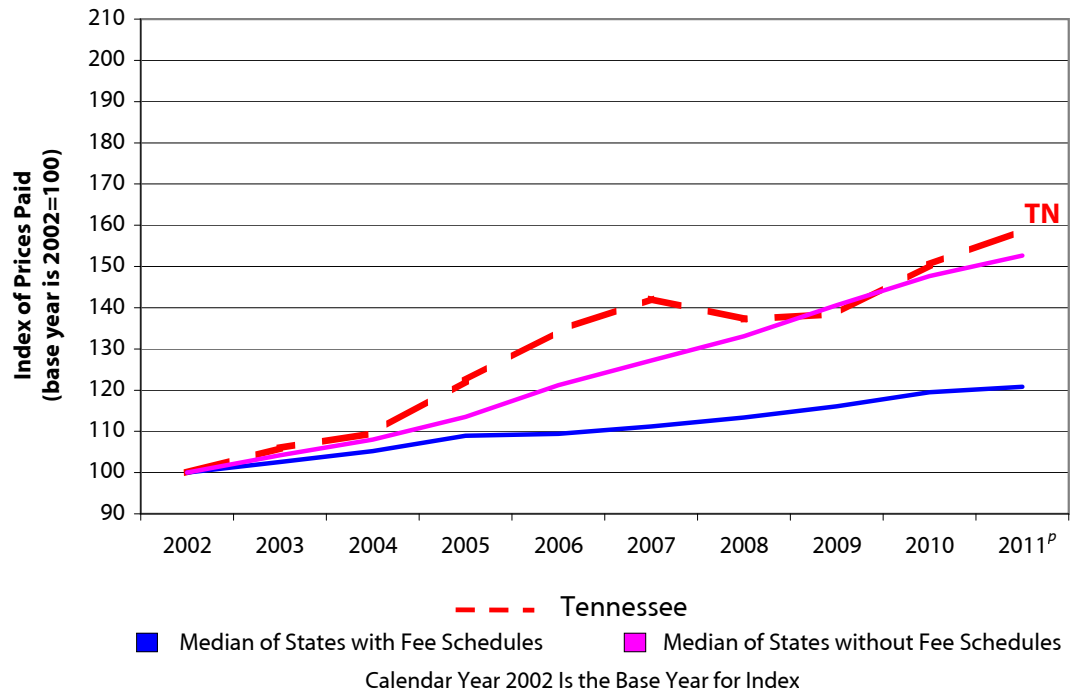
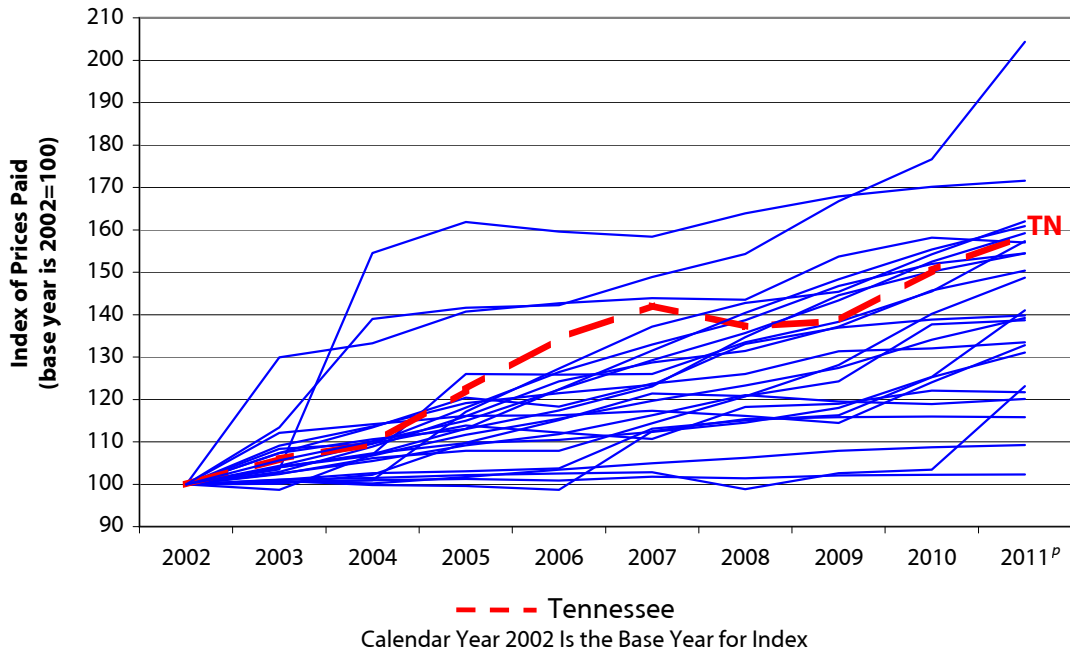
**Figure B.22 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* South Carolina's fee schedule for professional services remained unchanged after the 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 (such as evaluation and management, emergency, etc.) and decreased the rates for others (such as pain management injections, radiology services, etc.).

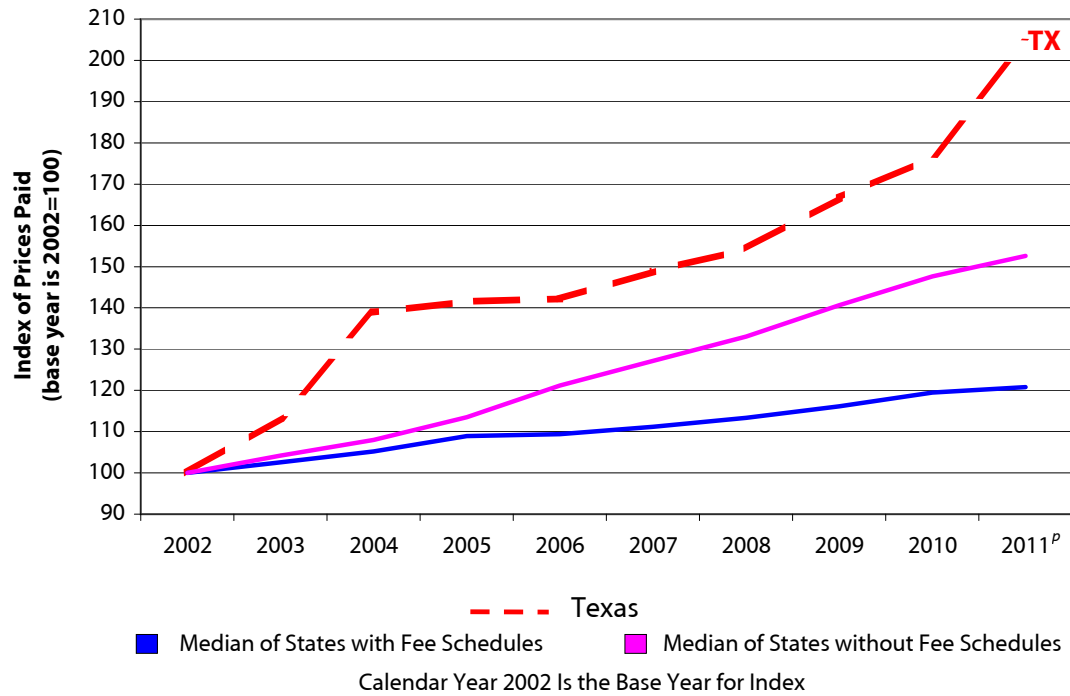
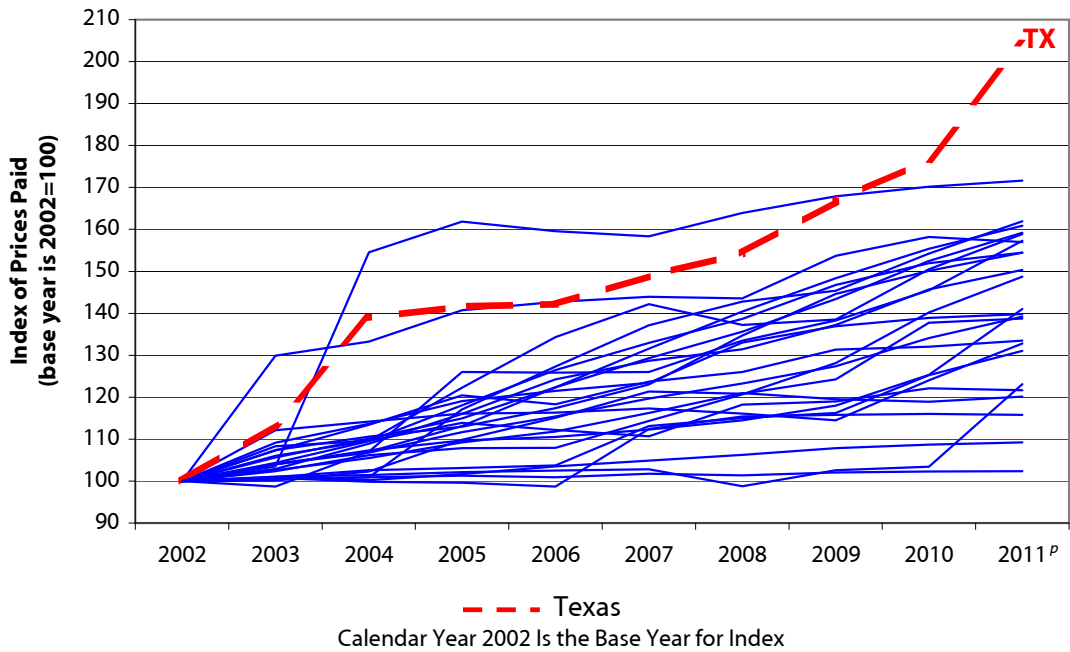
**Figure B.23 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Tennessee implemented a fee schedule in July 2005 and had regular updates in the following years.

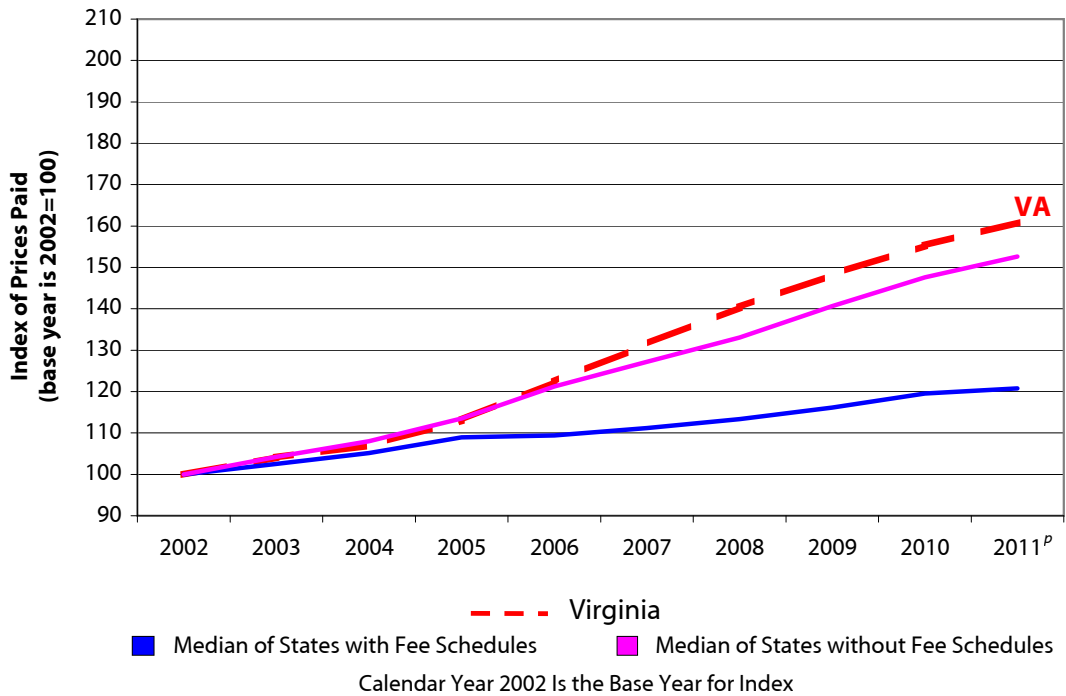
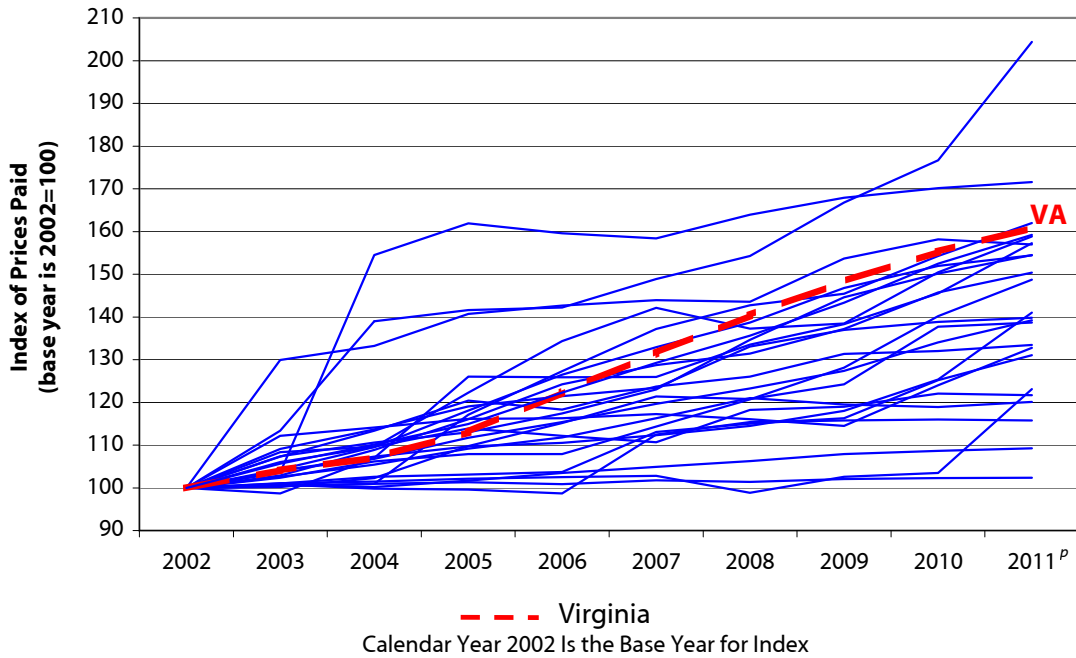
**Figure B.24 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Texas decreased fee schedule rates for surgery and radiology and increased rates for evaluation and management services in August 2003. 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.

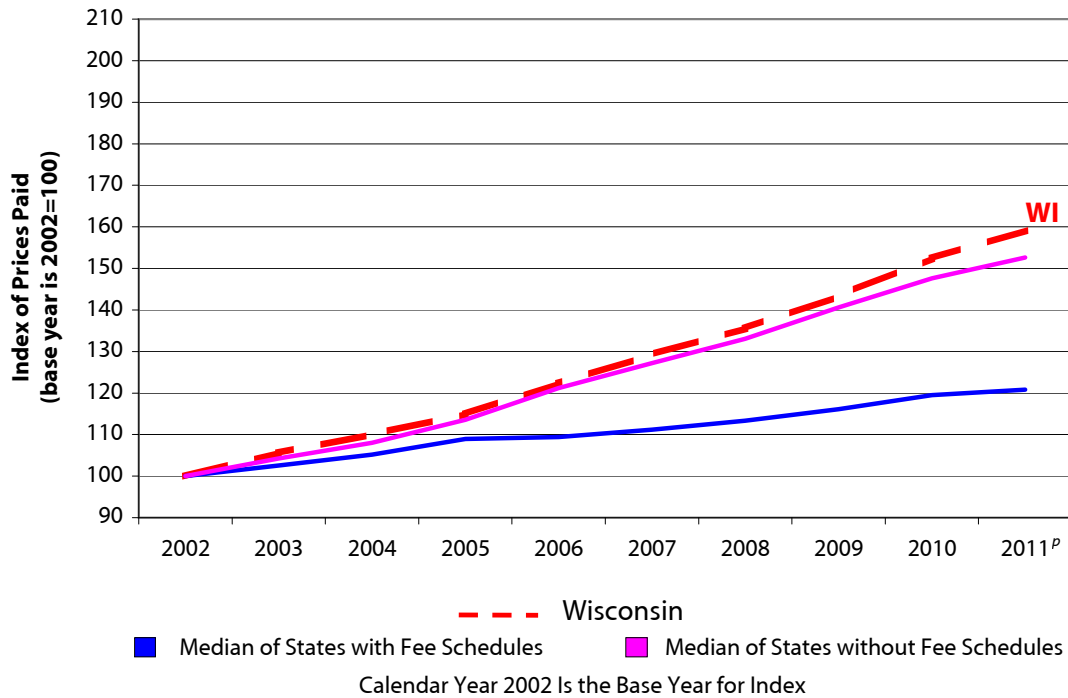
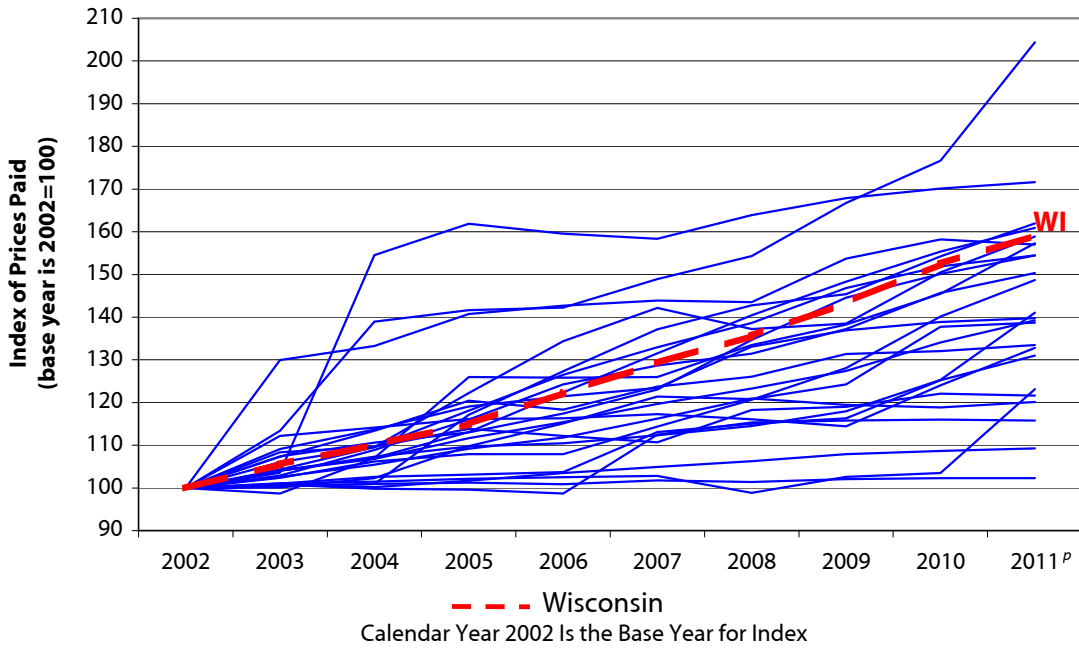
**Figure B.25 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Virginia did not have a workers' compensation fee schedule as of 2011.

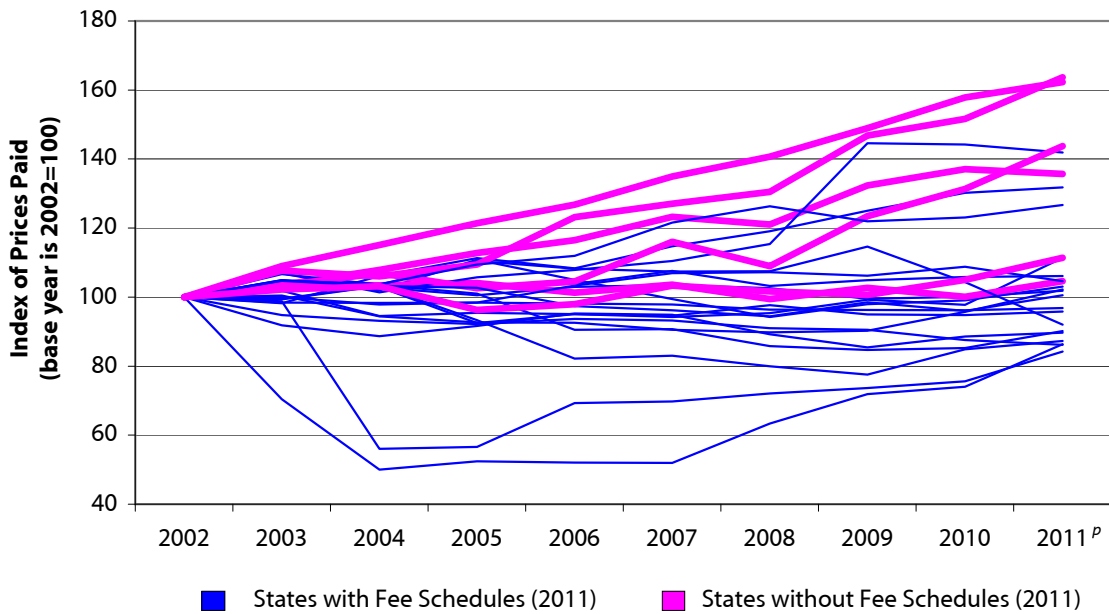
**Figure B.26 Professional Evaluation and Management Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Wisconsin did not have a conventional workers' compensation fee schedule as of 2011.

**Figure C.1 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



**Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
AR	100	100	94	93	93	91	90	90	96	102
AZ <sup>a,b</sup>	100	100	103	104	104	108	103	105	106	106
CA	100	102	95	95	95	95	98	95	95	96
CT <sup>b</sup>	100	103	103	101	103	103	103	99	100	102
FL	100	105	102	111	105	99	94	98	99	103
GA	100	103	103	92	95	94	95	99	98	111
IA <sup>c</sup>	100	104	103	104	101	104	99	103	100	105
IL <sup>b</sup>	100	98	106	111	108	115	119	125	130	132
IN <sup>c</sup>	100	104	108	113	116	123	121	132	137	136
LA	100	98	98	98	103	107	107	106	109	105
MA	100	107	101	106	108	110	115	145	144	142
MD <sup>b</sup>	100	99	56	57	69	70	72	74	76	84
MI	100	92	89	92	95	95	89	85	89	90
MN	100	107	104	110	108	107	107	115	104	92
MO <sup>a,c</sup>	100	103	107	103	104	116	109	123	131	144
NC	100	105	103	103	97	96	94	99	96	101
NJ <sup>c</sup>	100	108	106	109	123	127	130	147	152	164
NY <sup>a</sup>	100	100	98	98	98	98	96	96	96	97
OK <sup>a,b</sup>	100	105	104	101	90	91	86	85	85	90
PA <sup>b</sup>	100	105	104	109	112	122	126	122	123	127
SC	100	95	93	92	94	93	91	91	88	86
TN <sup>b</sup>	100	99	103	93	82	83	80	78	85	87
TX <sup>b</sup>	100	70	50	52	52	52	63	72	74	86
VA <sup>c</sup>	100	102	103	96	98	103	102	101	105	111
WI <sup>c</sup>	100	109	115	121	127	135	141	149	158	162

*continued*

**Figure C.1 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011  
(continued)**

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*Special notation:*<sup>p</sup> We use the notation *p* to indicate the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

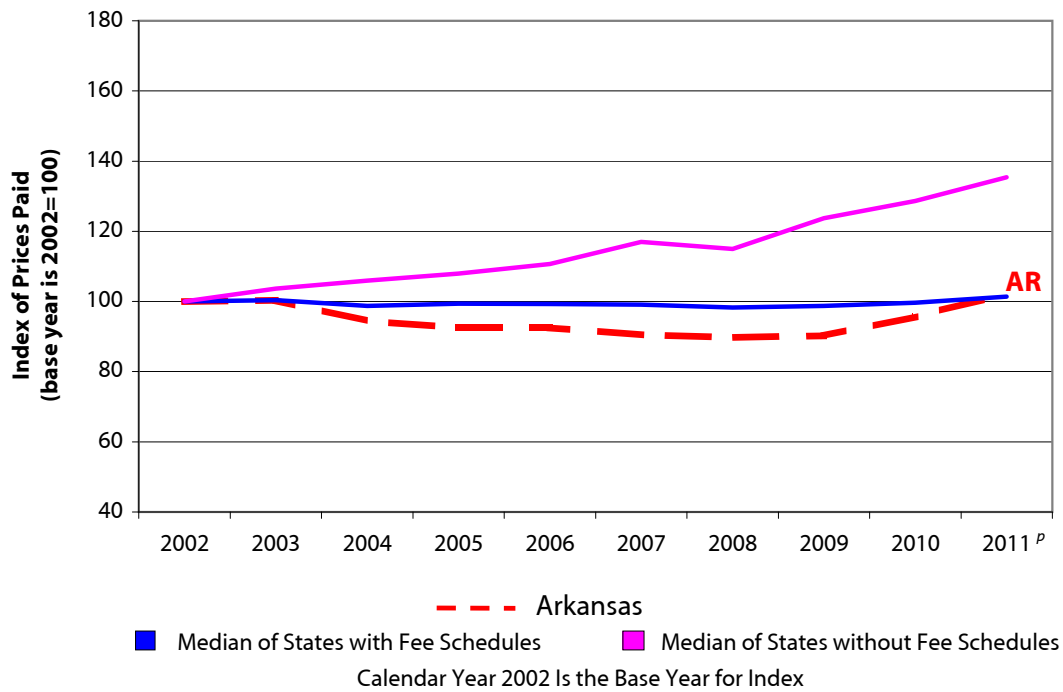
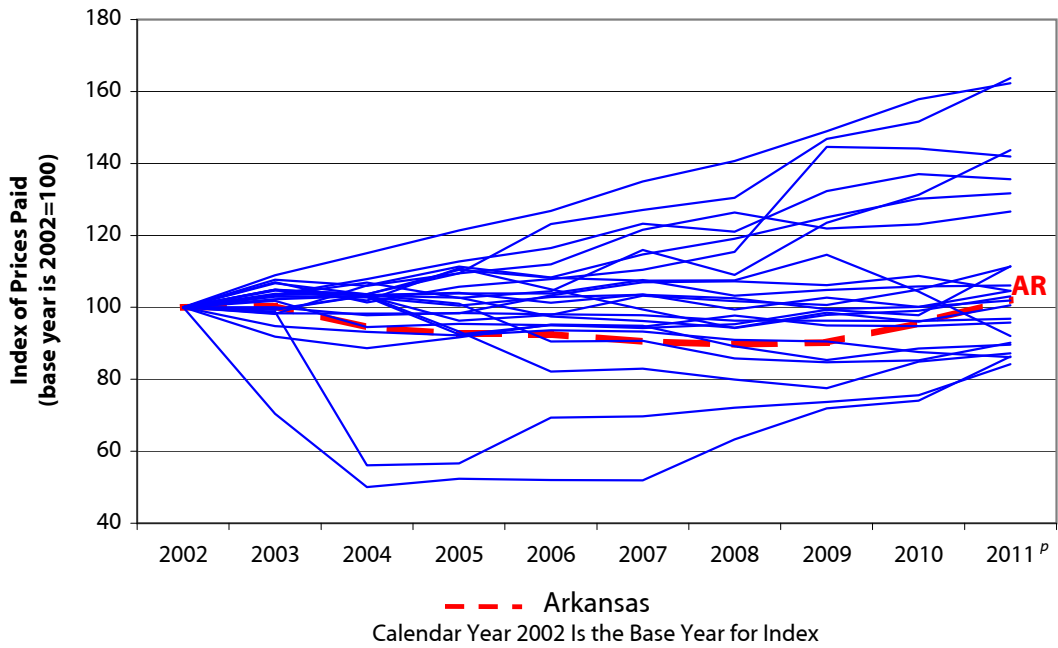
*Note:* Calendar year 2002 is the base year, which is equal to 100 in the index.

<sup>a</sup> The data for this state 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 to other data sources in the state, this may lead to under- or overestimations in the results.

<sup>b</sup> This state had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.

<sup>c</sup> This state had no workers' compensation fee schedule in 2011.

**Figure C.2 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011<sup>P</sup>**



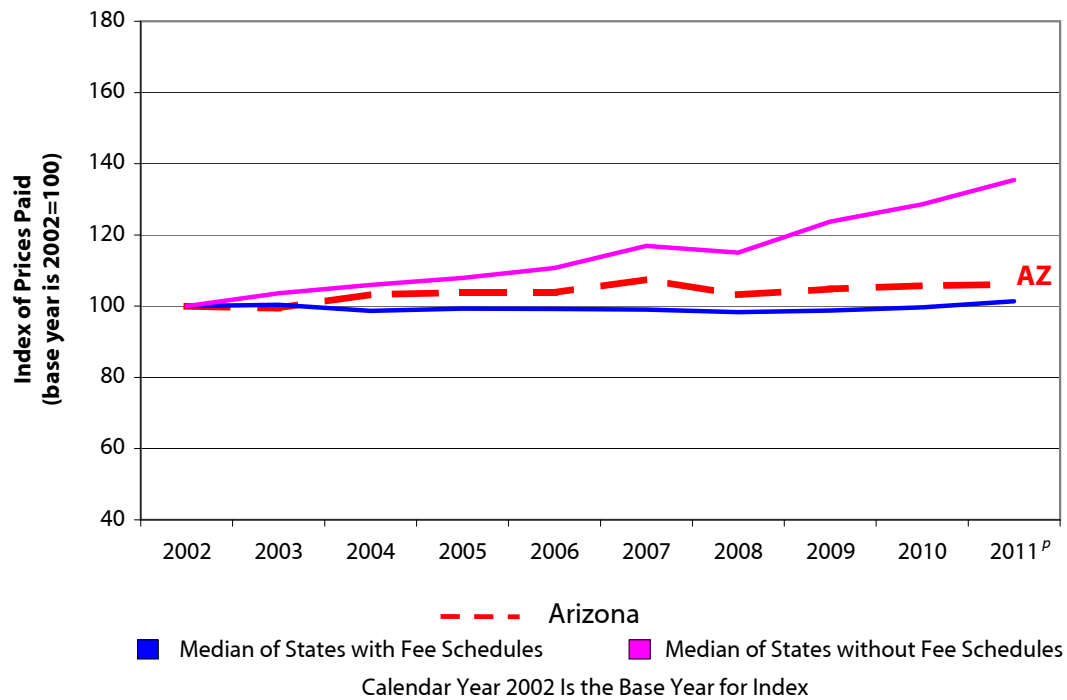
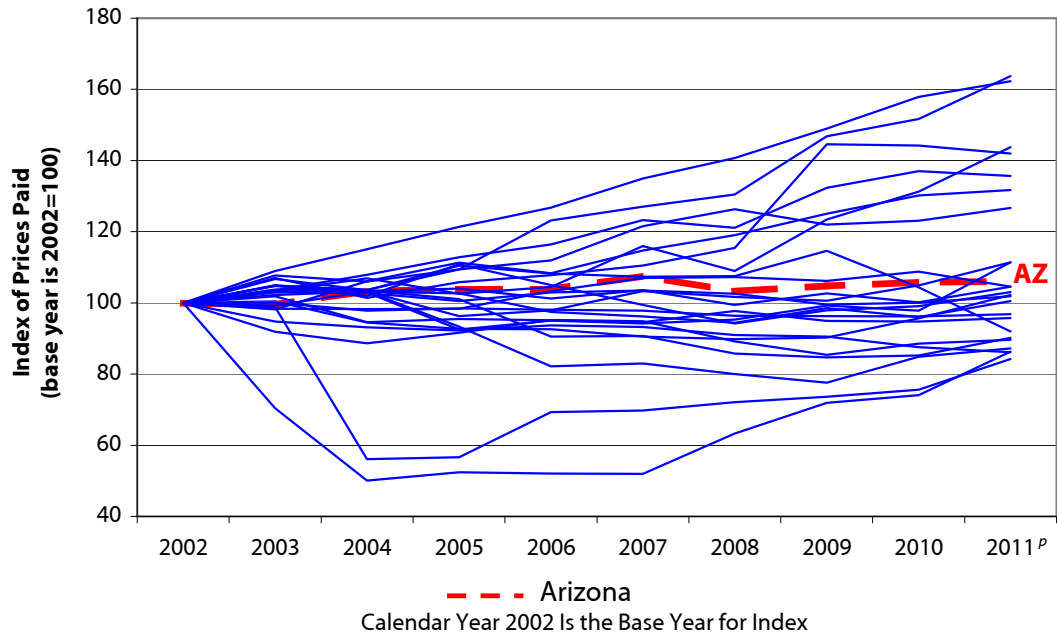
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Arkansas' fee schedule for professional services has regular updates on the RVUs tied to the most recent Medicare 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, 2011.

*Key:* RBRVS: resource-based relative value scale; RVUs: relative value units.



**Figure C.3 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



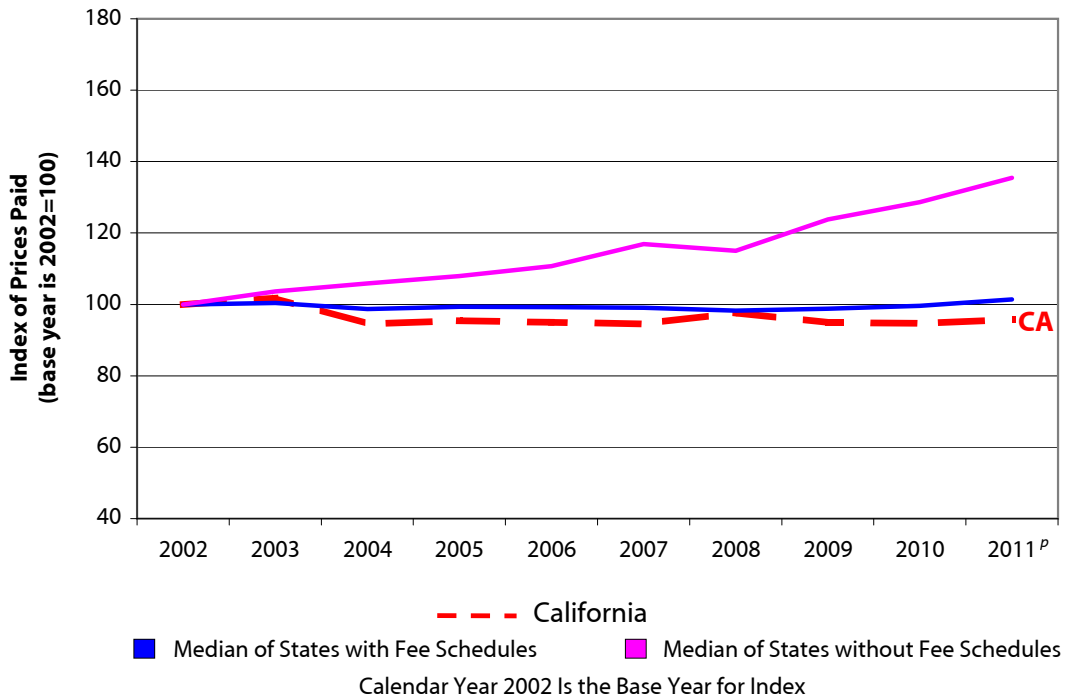
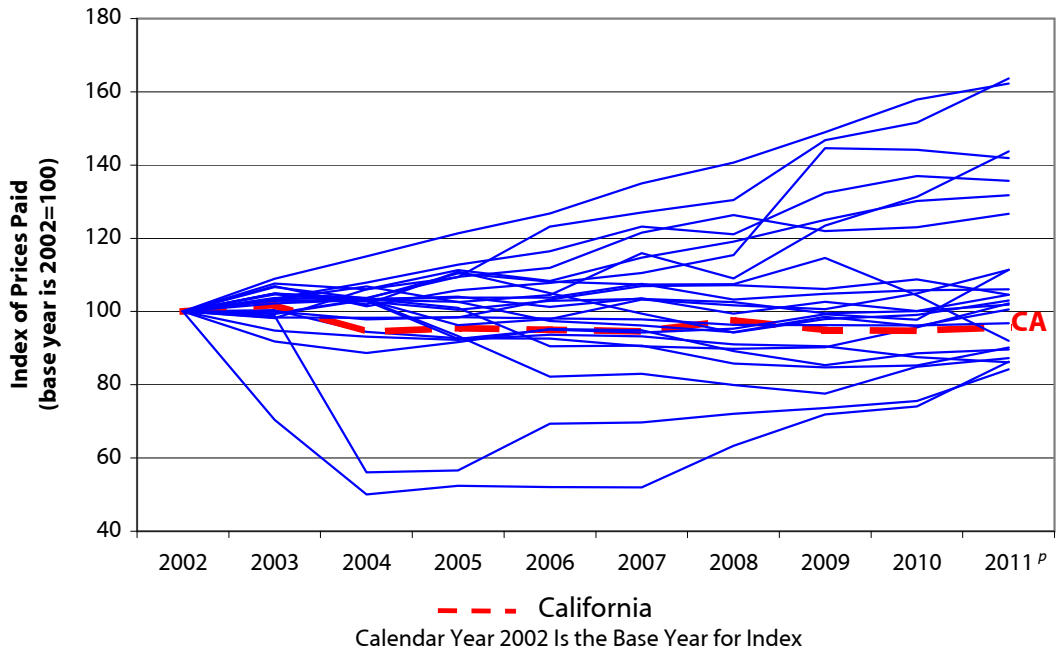
*Special notation:* <sup>p</sup> We use the notation <sup>p</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

**Notes:**

The data for this state 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.

Arizona updates its fee schedule for professional services annually in October. The most recent update covered in the study period in this report was effective October 1, 2010.

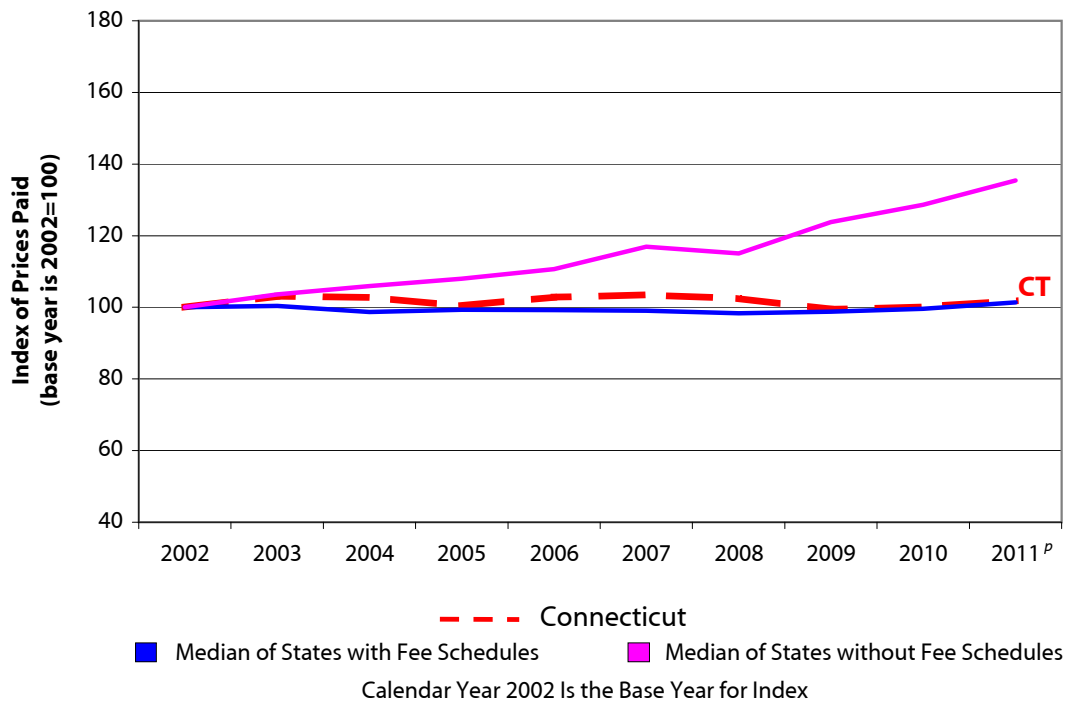
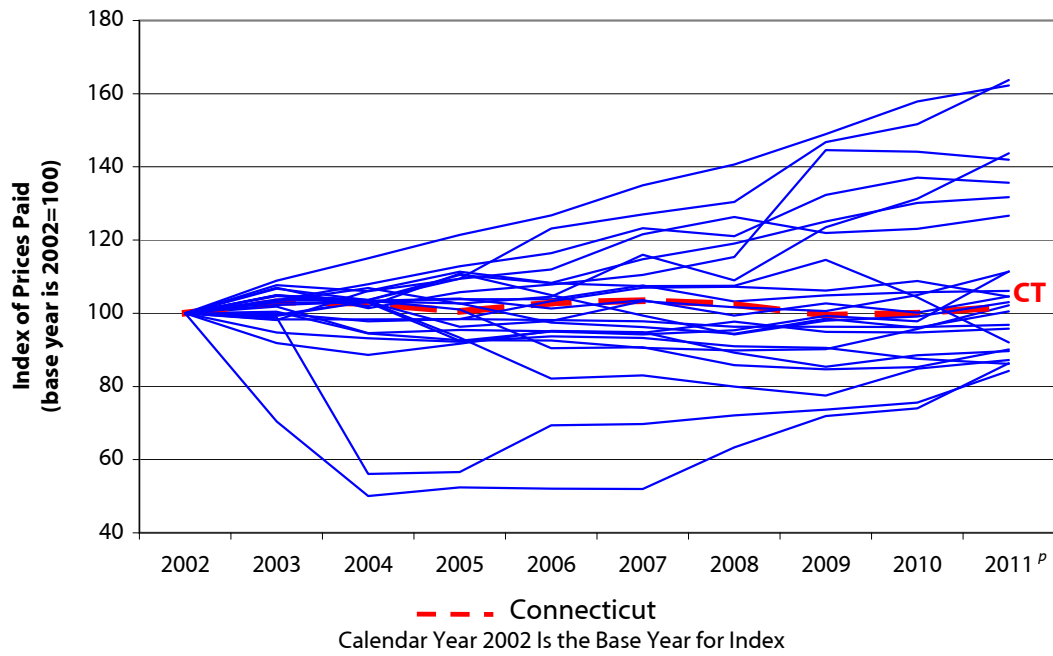
**Figure C.4 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation <sup>p</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* California had a reduction of 5 percent in fee schedule rates for professional services in 2004; except for increases in fee schedule rates for evaluation and management services in February 15, 2007, there have not been additional updates.

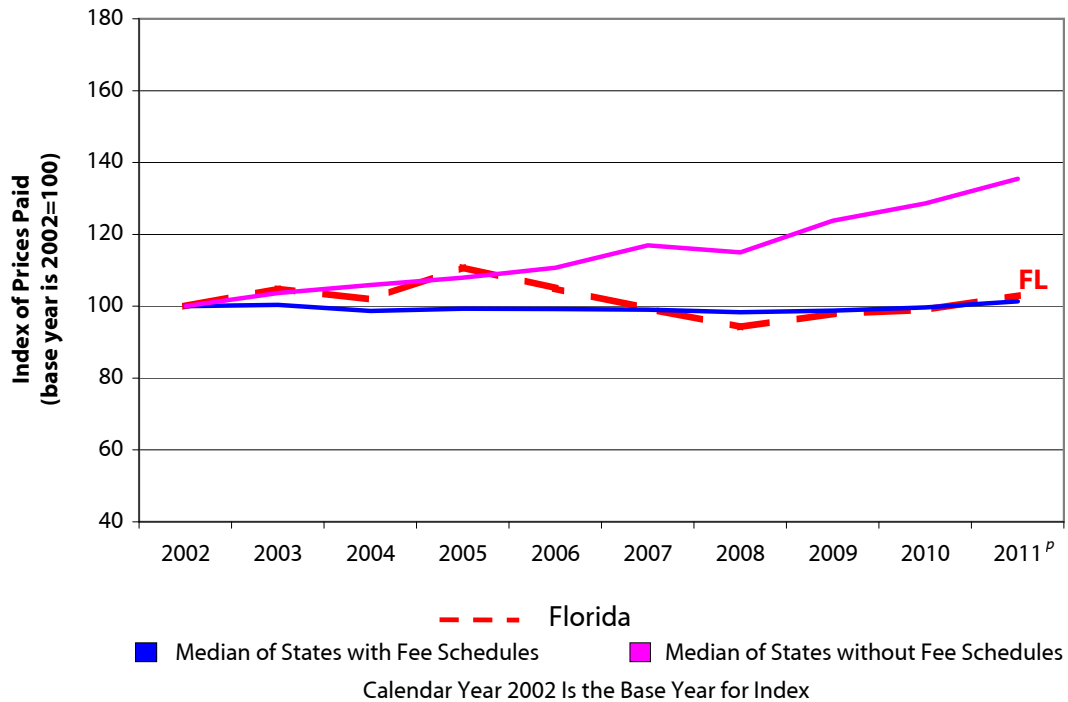
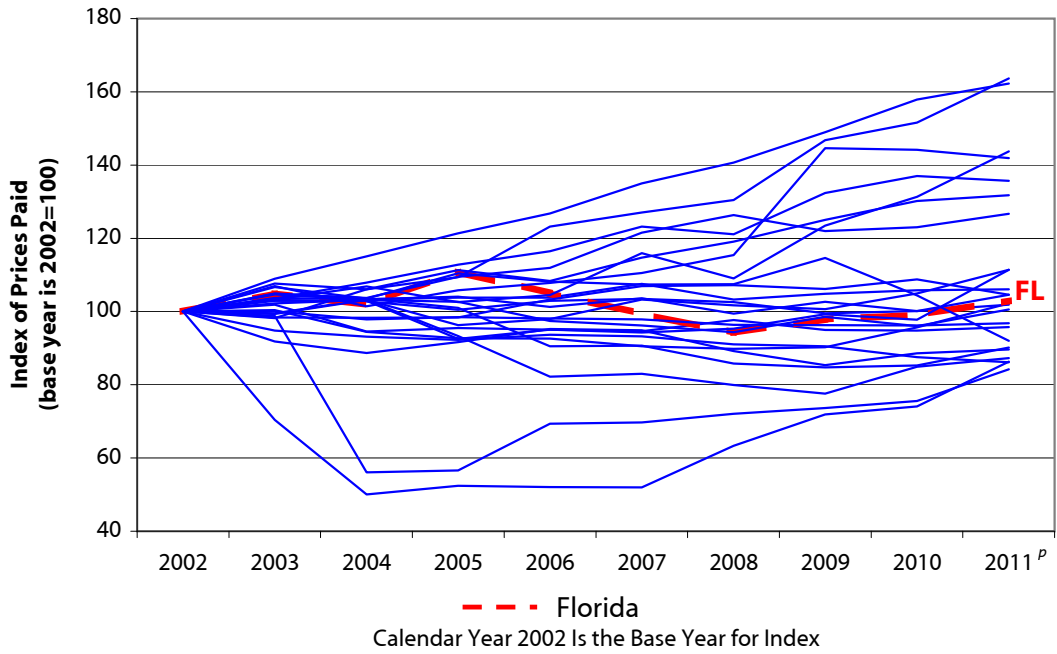
**Figure C.5 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Connecticut has updated its fee schedule for professional services annually in July since 2008; in prior years, updates were effective in April. The most recent update covered in the study period in this report was effective July 15, 2010.

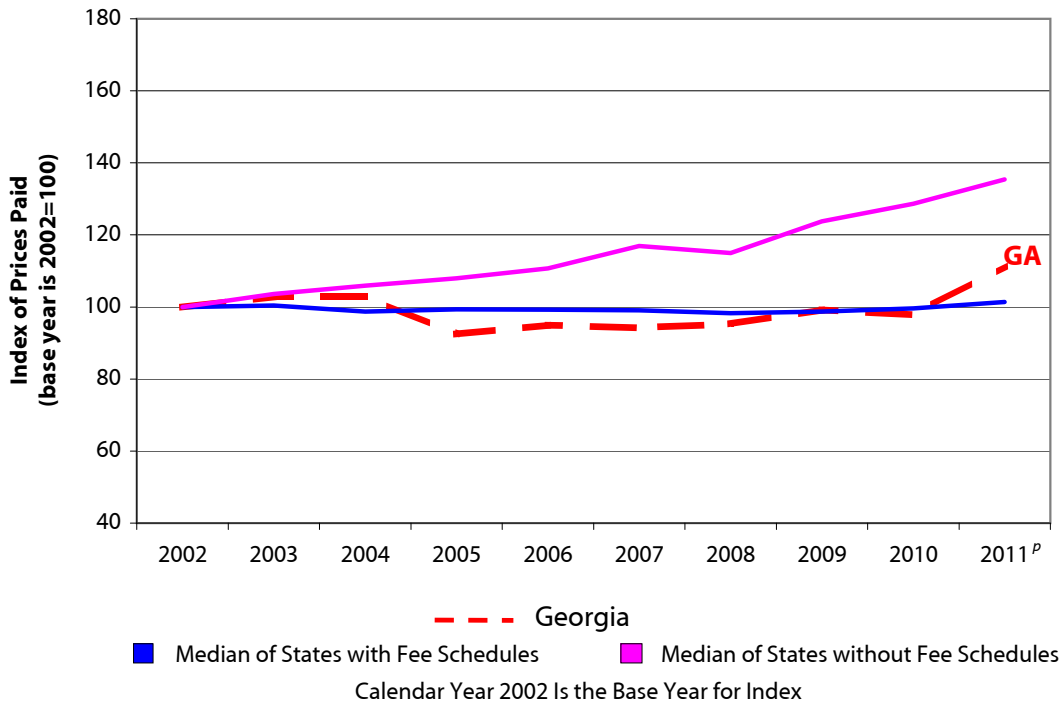
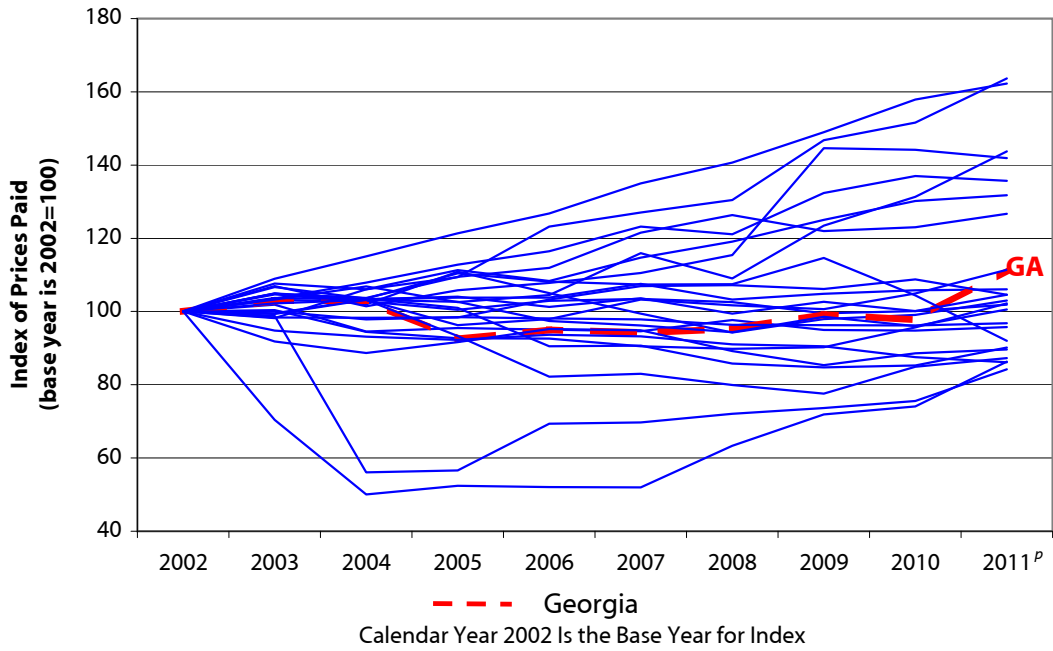
**Figure C.6 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation <sup>p</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Florida had significant increases in fee schedule rates for physician services in January 2004 and increases in fee schedule rates for services provided by chiropractors and physical/occupational therapists in May 2005. After that, Florida had fee schedule updates for professional services in 2006, 2007, and 2009.

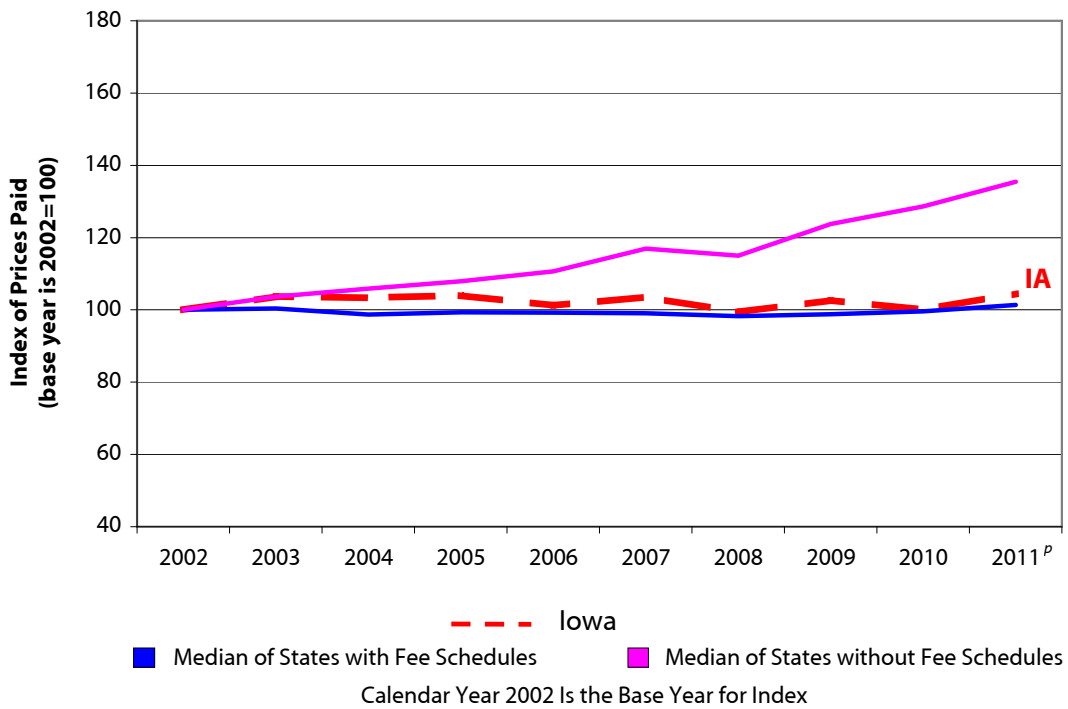
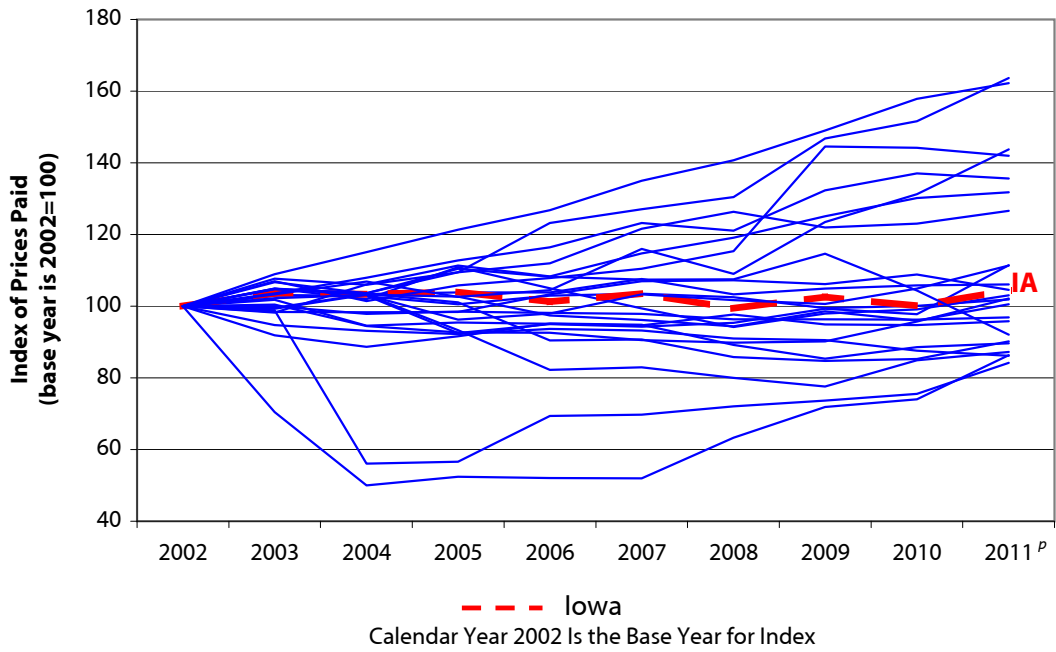
**Figure C.7 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Georgia updates its fee schedule for professional services annually in April. For example, in 2005, the fee schedule rates had material increases in certain evaluation and management and physical medicine services and decreases in many services, such as emergency, minor radiology, neurological and neuromuscular testing, and certain major surgery procedures. The most recent update covered in the study period in this report was effective April 1, 2011.

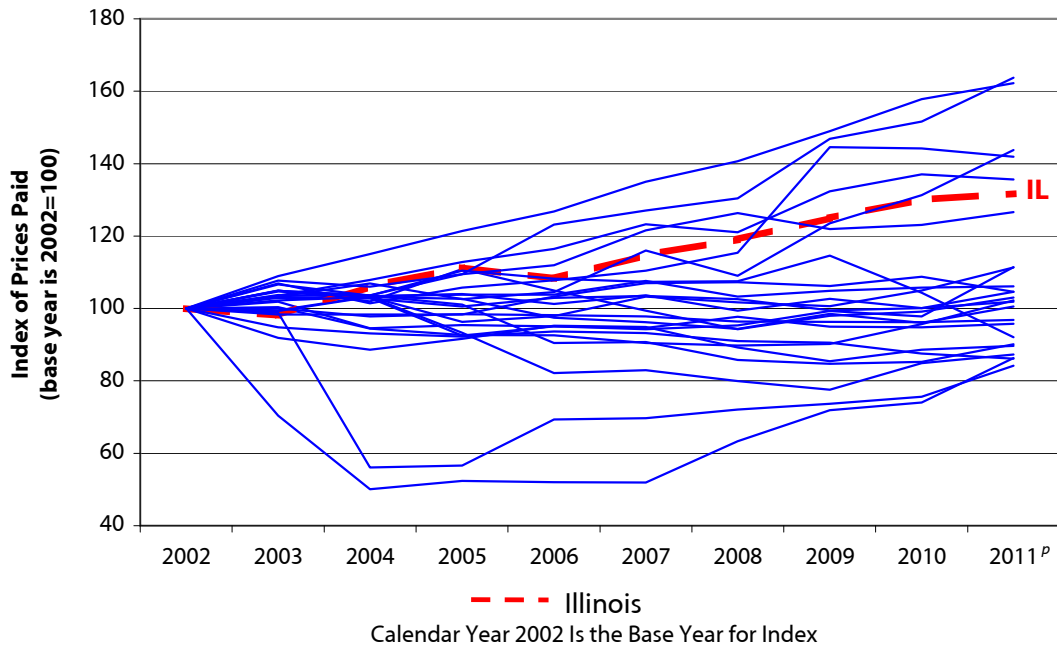
**Figure C.8 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Iowa did not have a workers' compensation fee schedule as of 2011.

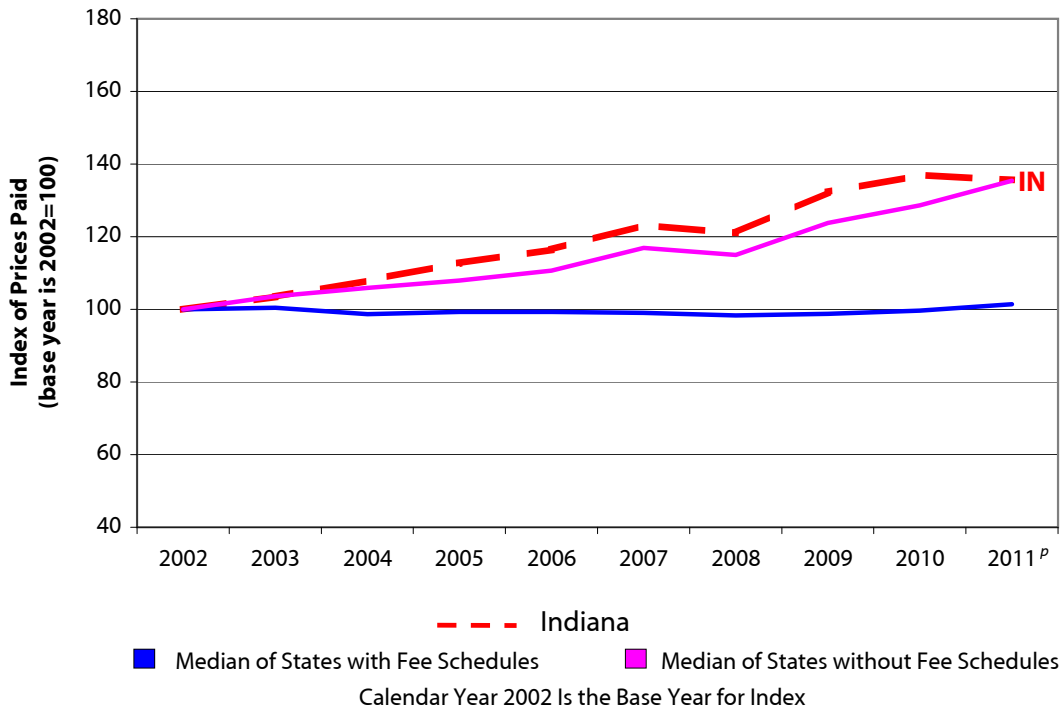
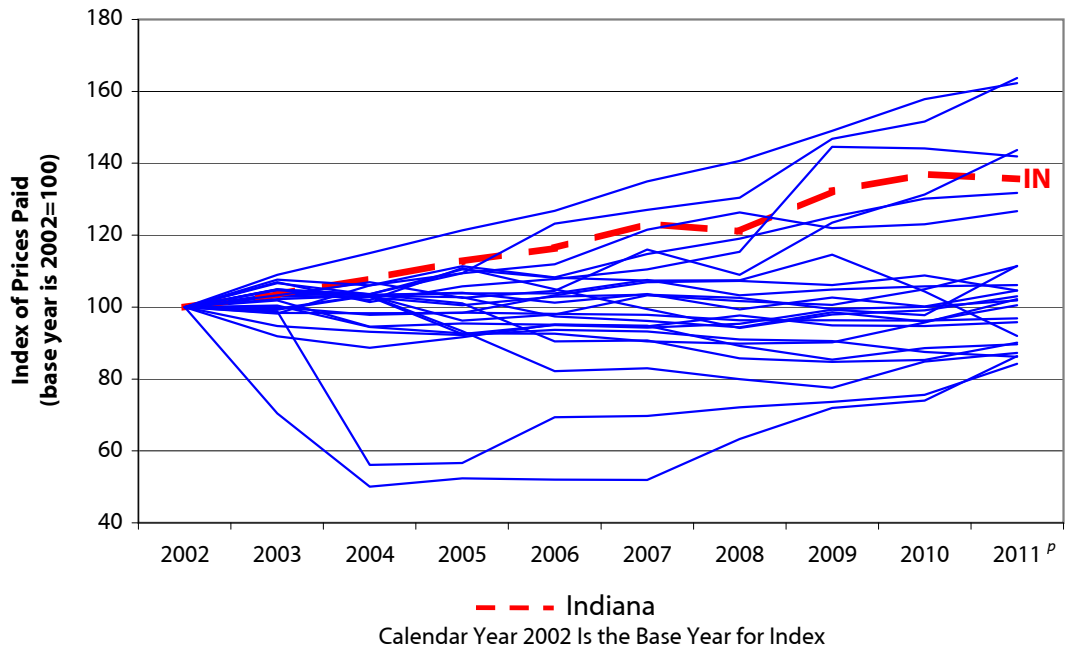
**Figure C.9 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*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 geo-zip areas; therefore, the price trends after 2006 could be influenced by the potential behavior changes of the providers. In September 2011, Illinois enacted a new legislation that introduced a 30 percent decrease in the fee schedule rates. The results in this report do not reflect this most recent change.

**Figure C.10 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

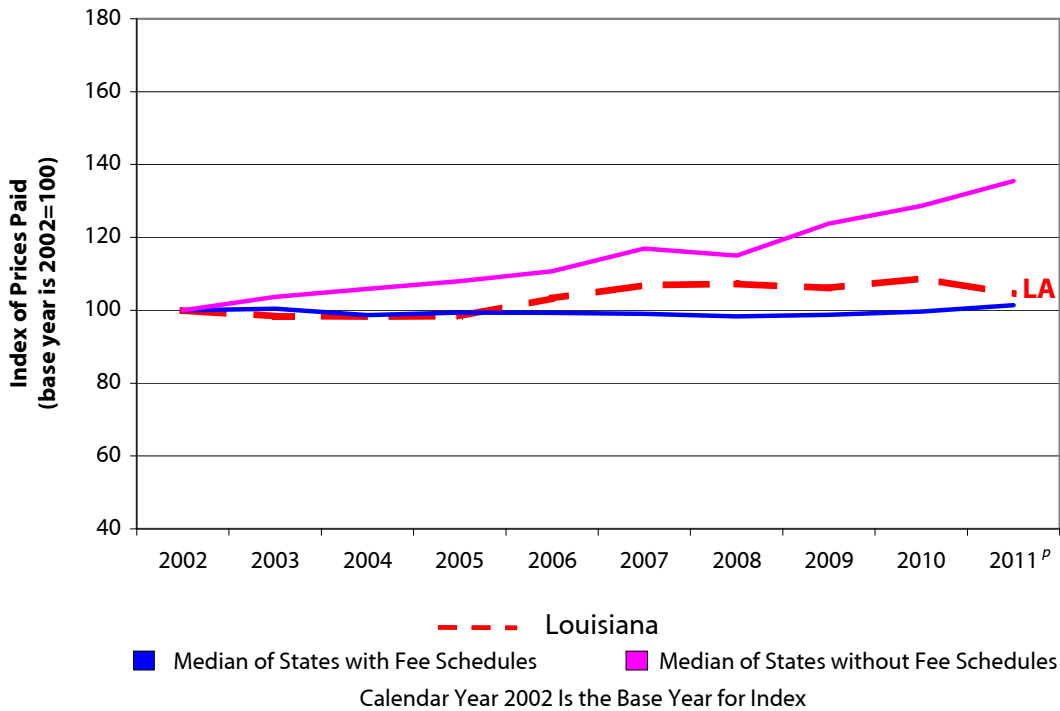
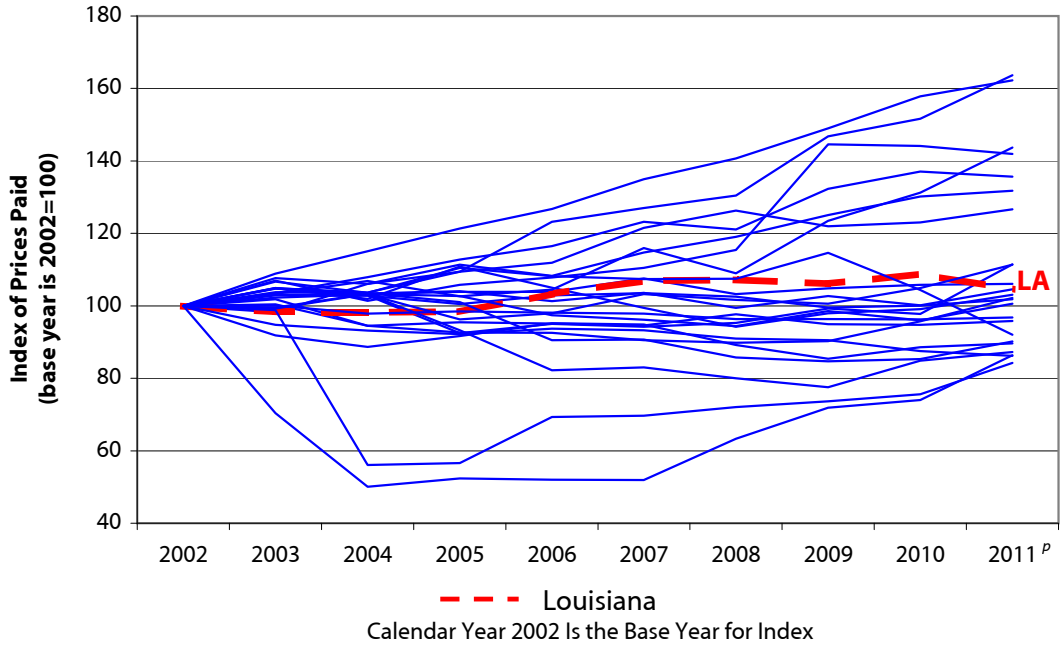


*Special notation:* <sup>P</sup> We use the notation <sup>p</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Indiana did not have a workers' compensation fee schedule as of 2011.



**Figure C.11 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011<sup>P</sup>**

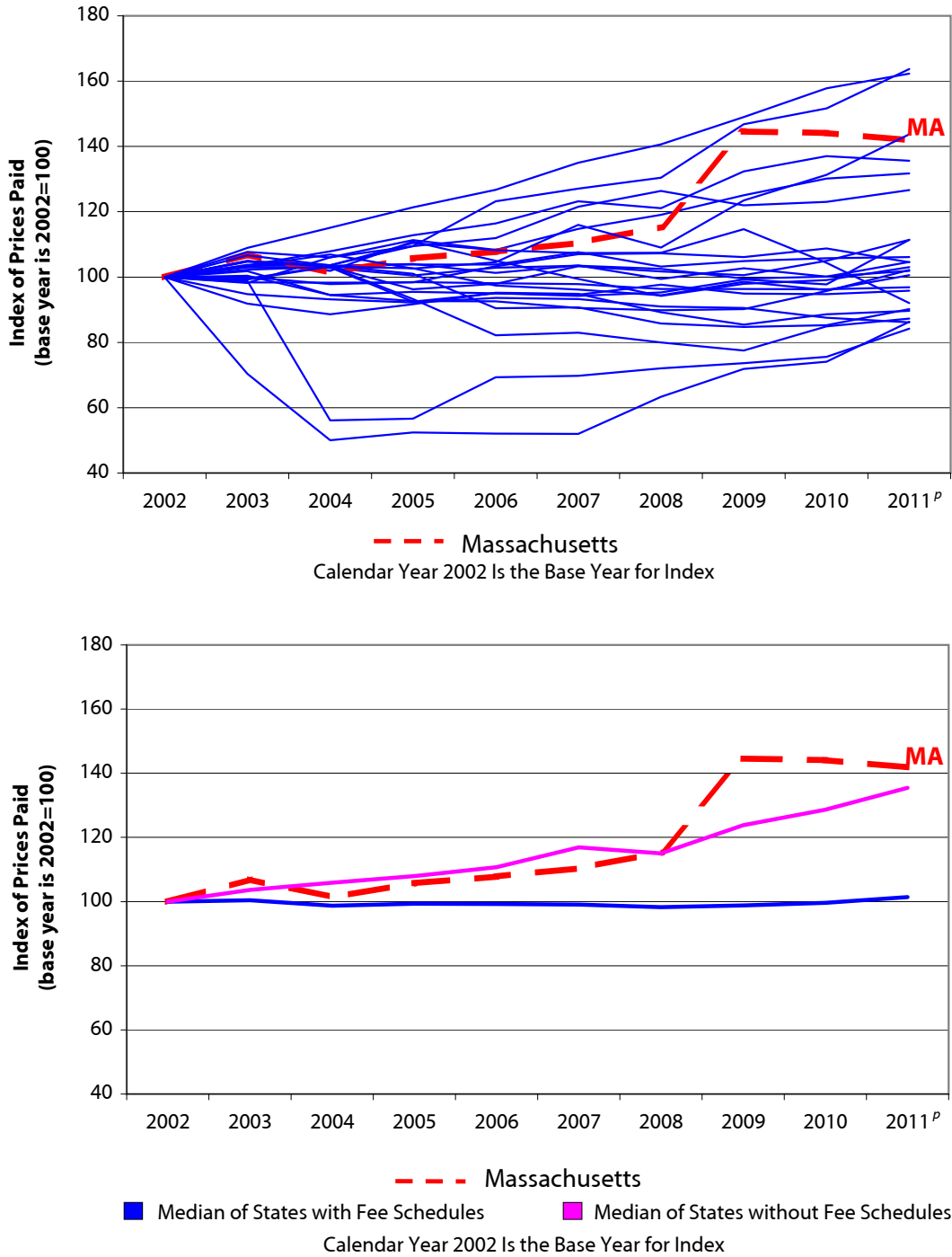


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Louisiana's fee schedule for professional services uses the 1999 CPT list published by the AMA and the maximum allowable reimbursement rates effective as of March 2001.

*Key:* AMA: American Medical Association; CPT: Current Procedural Terminology.

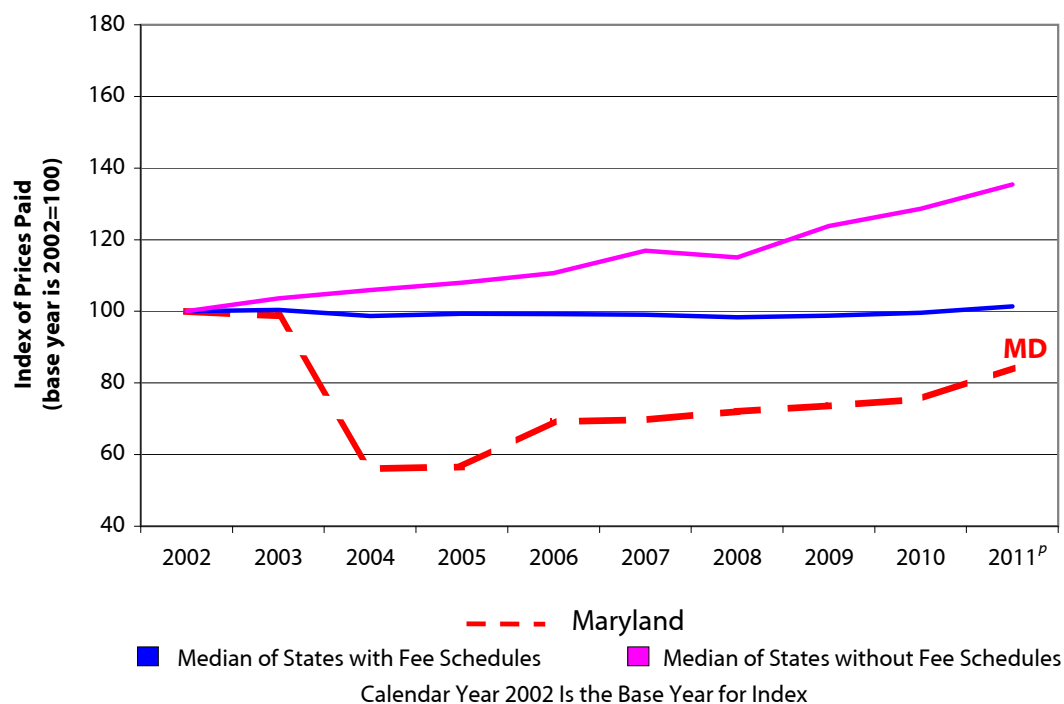
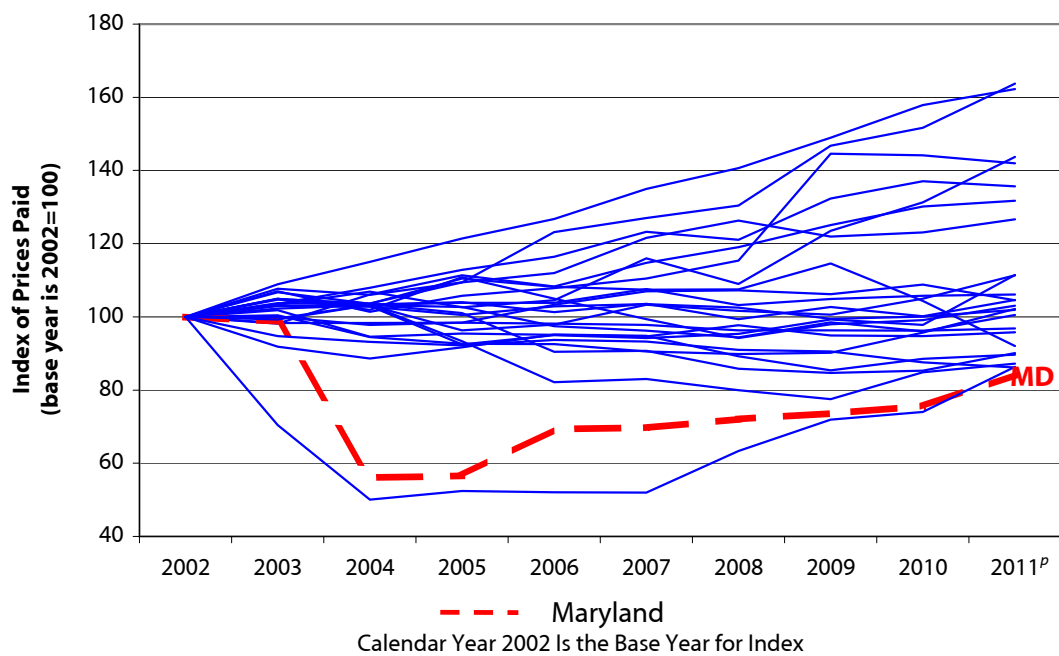
**Figure C.12 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Massachusetts increased the fee schedule rates for many professional services, effective April 2009. The fee schedule increases for major surgeries were especially significant; the rates for some procedures increased two to three times above the previous rates. Prior to that, the fee schedule for professional services had not been updated since September 2004.

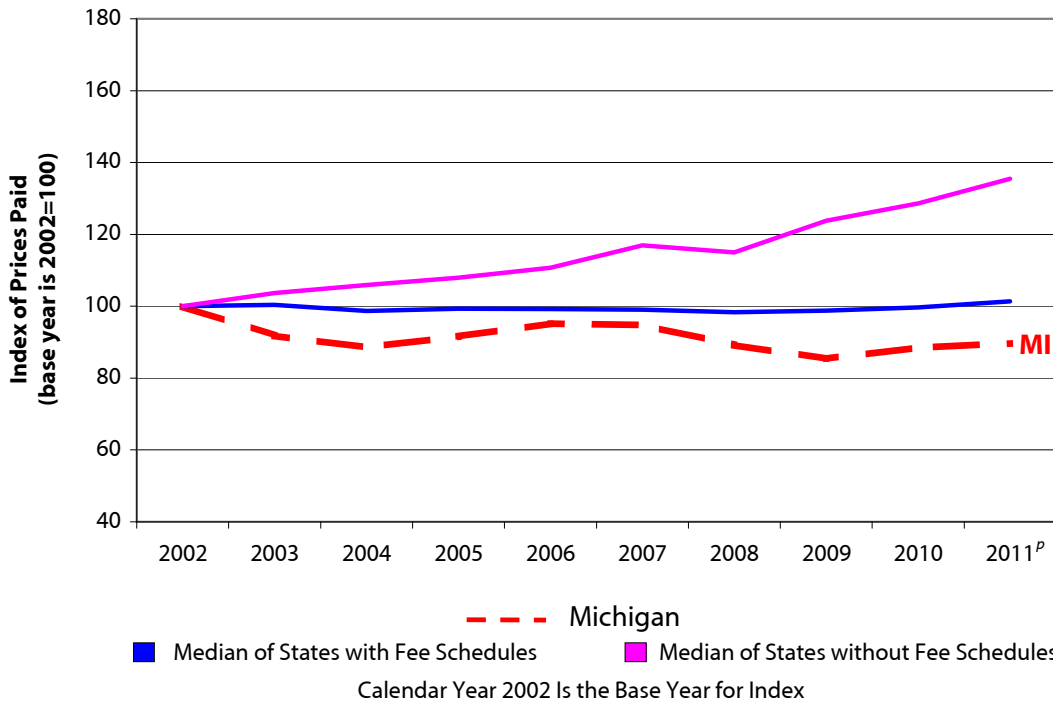
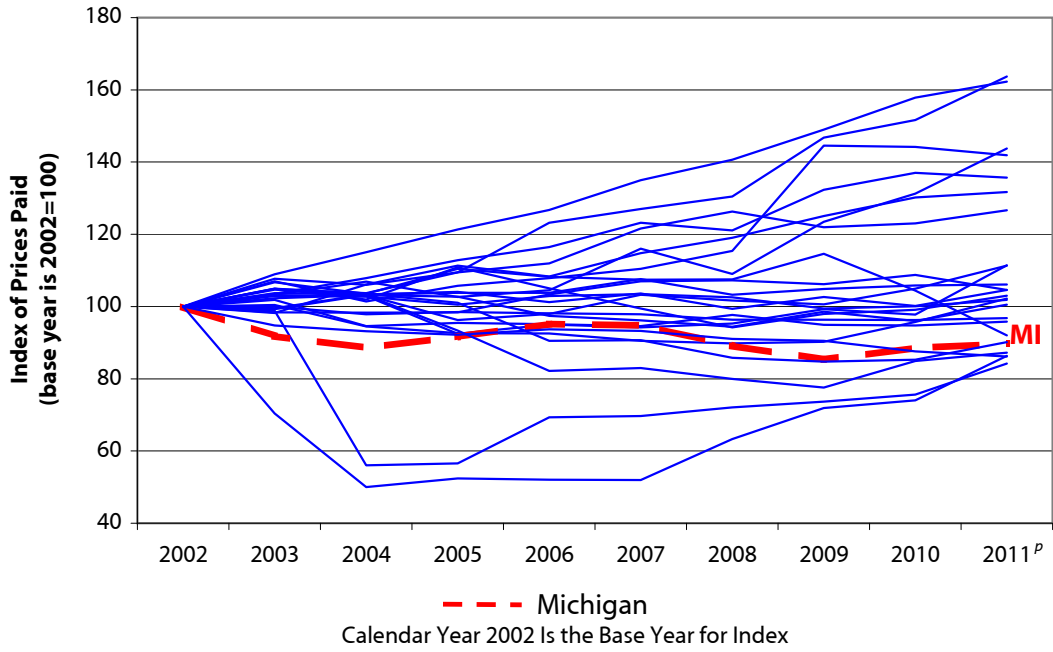
**Figure C.13 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Maryland increased fee schedule rates for evaluation and management and physical medicine services, and decreased rates for surgery, in September 2004. In February 2006, Maryland increased fee schedule rates for neurological and orthopedic surgeries. Starting in March 2008, Maryland allowed annual increases in fee schedule rates for professional services based on changes in the Medicare Economic Index. The most recent update covered in the study period in this report was effective January 1, 2011.

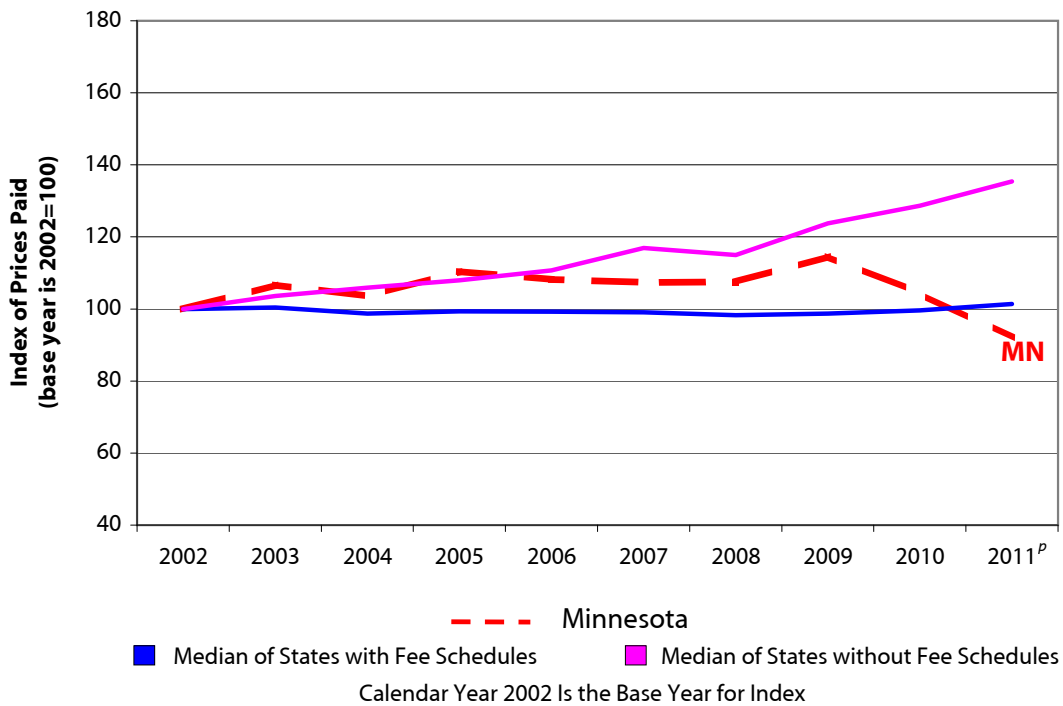
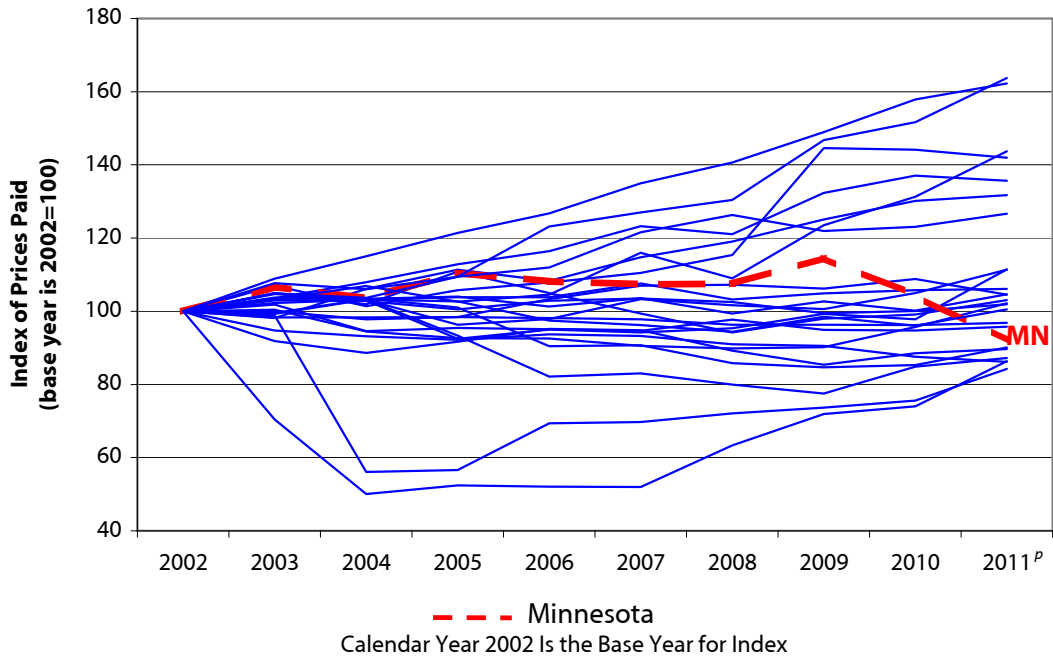
**Figure C.14 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation <sup>p</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Michigan updates its fee schedule for professional services annually. The most recent update covered in the study period in this report was effective December 8, 2010.

**Figure C.15 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

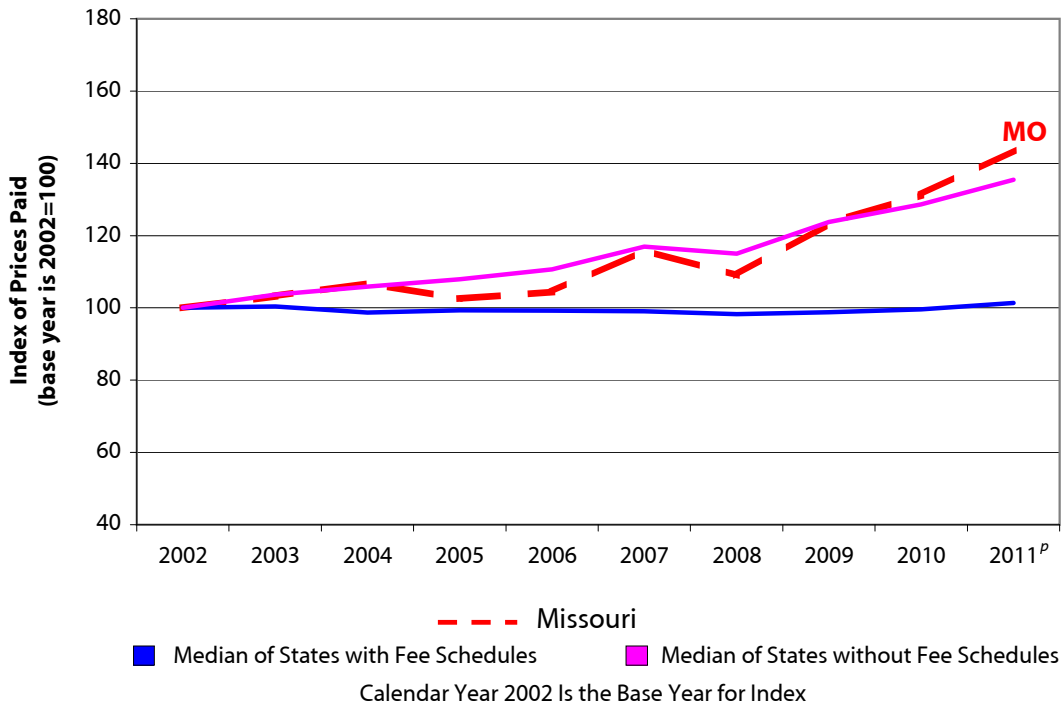
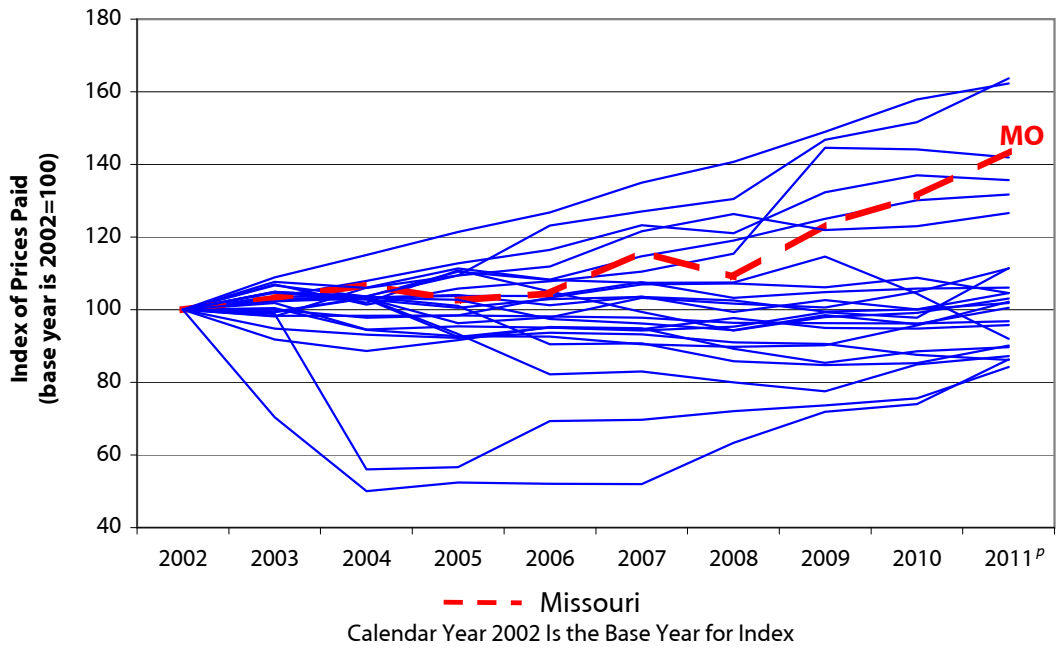


*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Minnesota's fee schedule for professional services from 2002 to September 2010 was based on 1998 Medicare RVUs, with annual updates in the conversion factor. Effective October 1, 2010, Minnesota updated its fee schedule by using 2009 Medicare RVUs, and meanwhile decreased the state conversion factor.

*Key:* RVUs: relative value units.

**Figure C.16 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



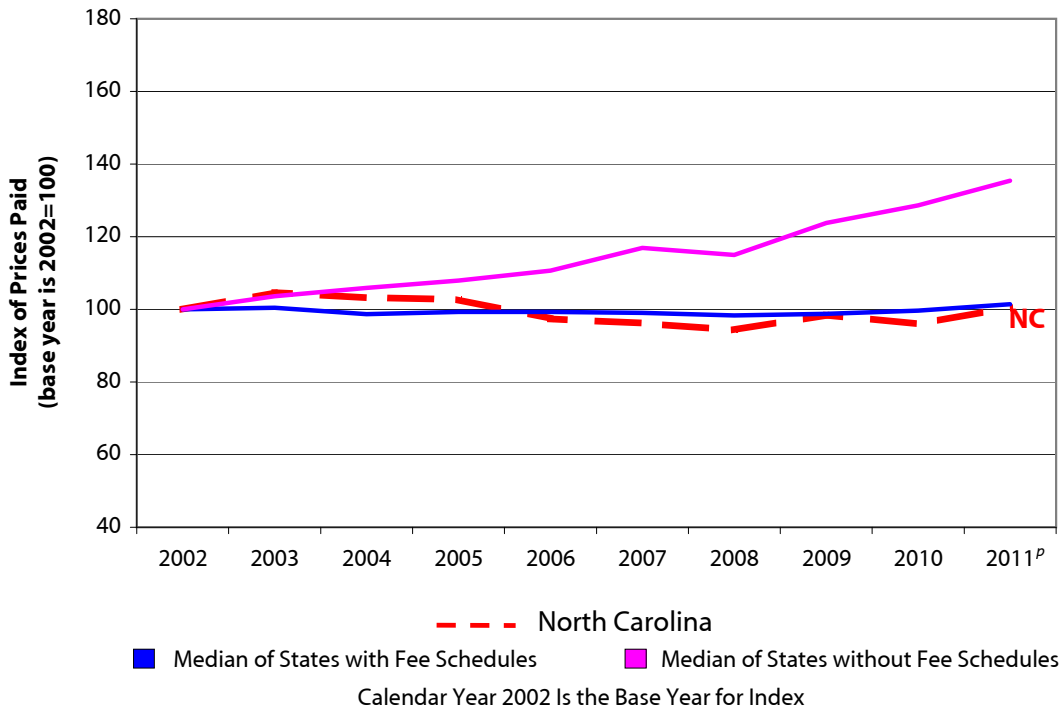
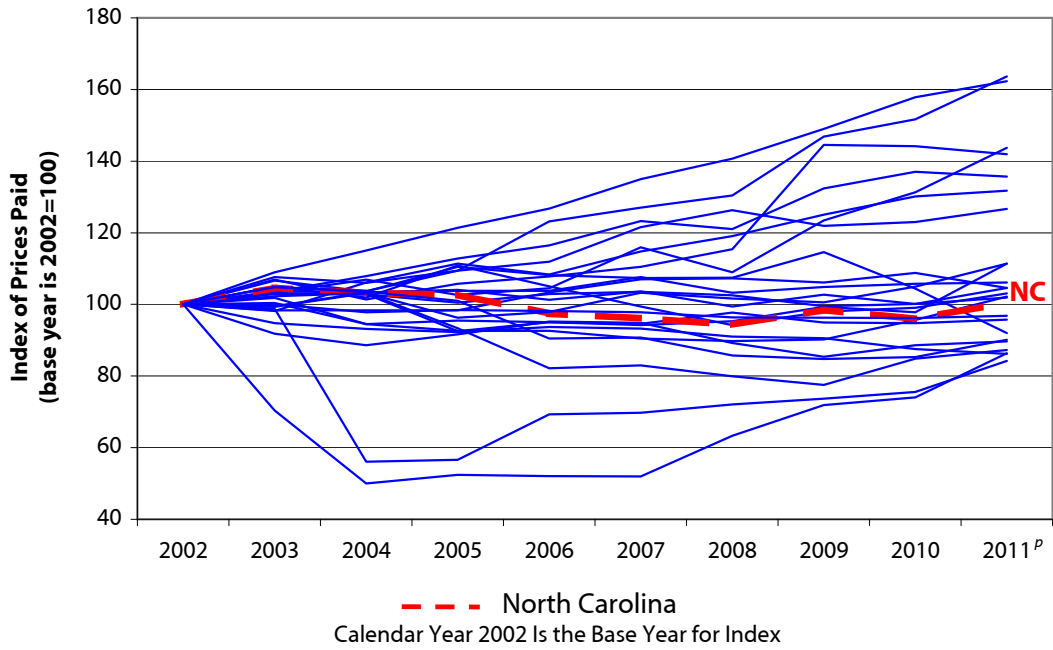
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:*

The data for this state 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 2011.

**Figure C.17 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

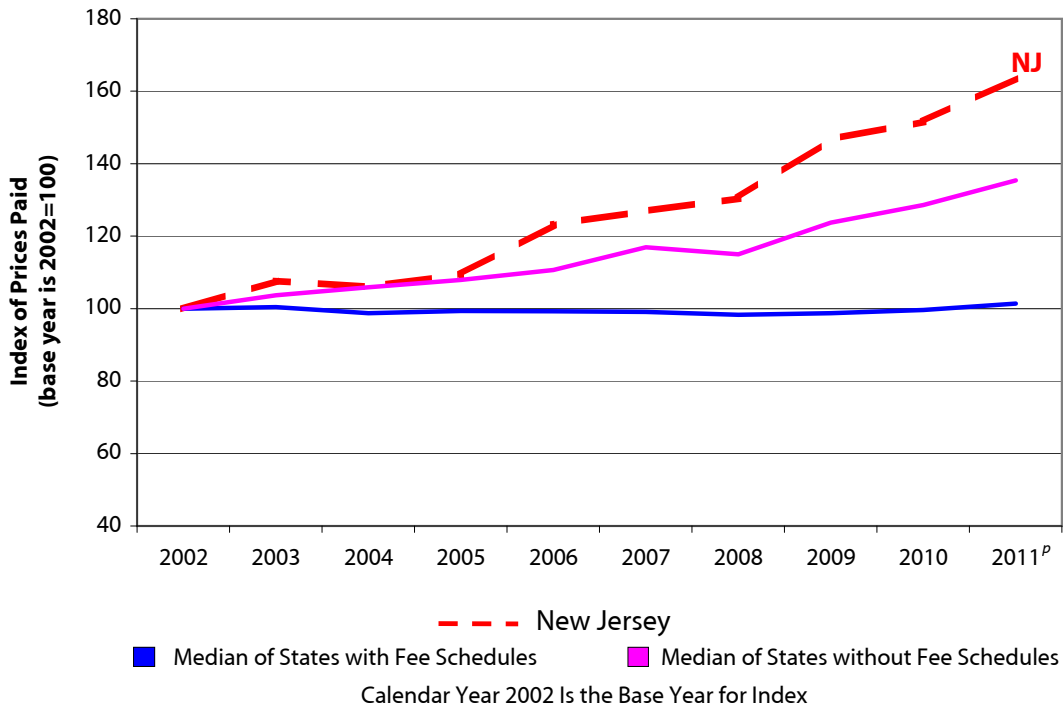
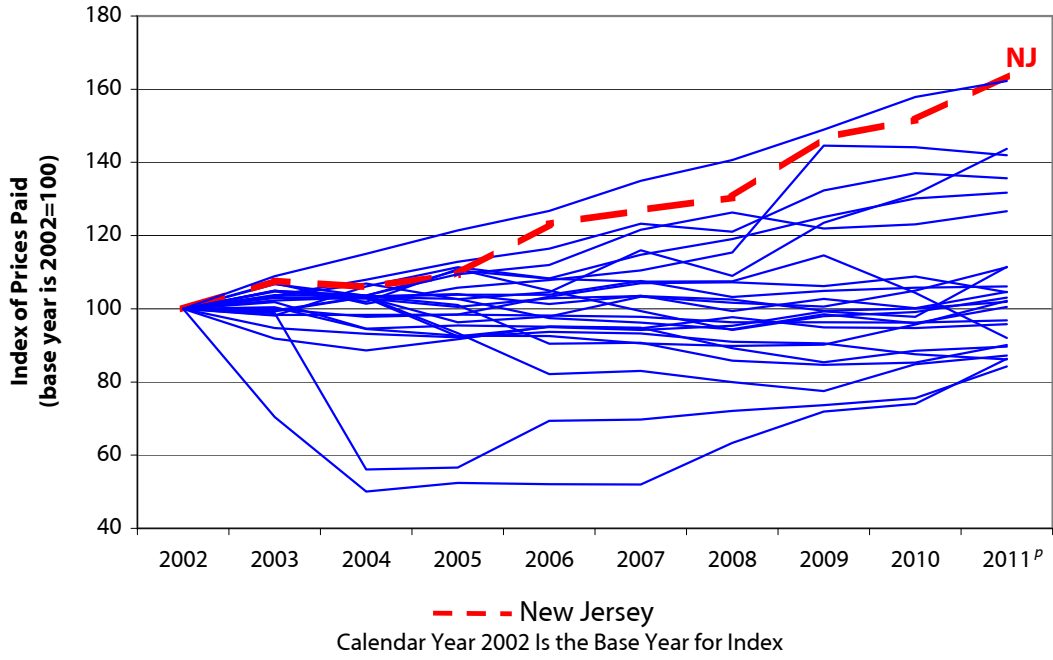


*Special notation:* <sup>P</sup> We use the notation <sup>p</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*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. North Carolina updates its fee schedule annually in January to account for new and discontinued CPT codes published by the AMA.

*Key:* AMA: American Medical Association; CPT: Current Procedural Terminology.

**Figure C.18 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

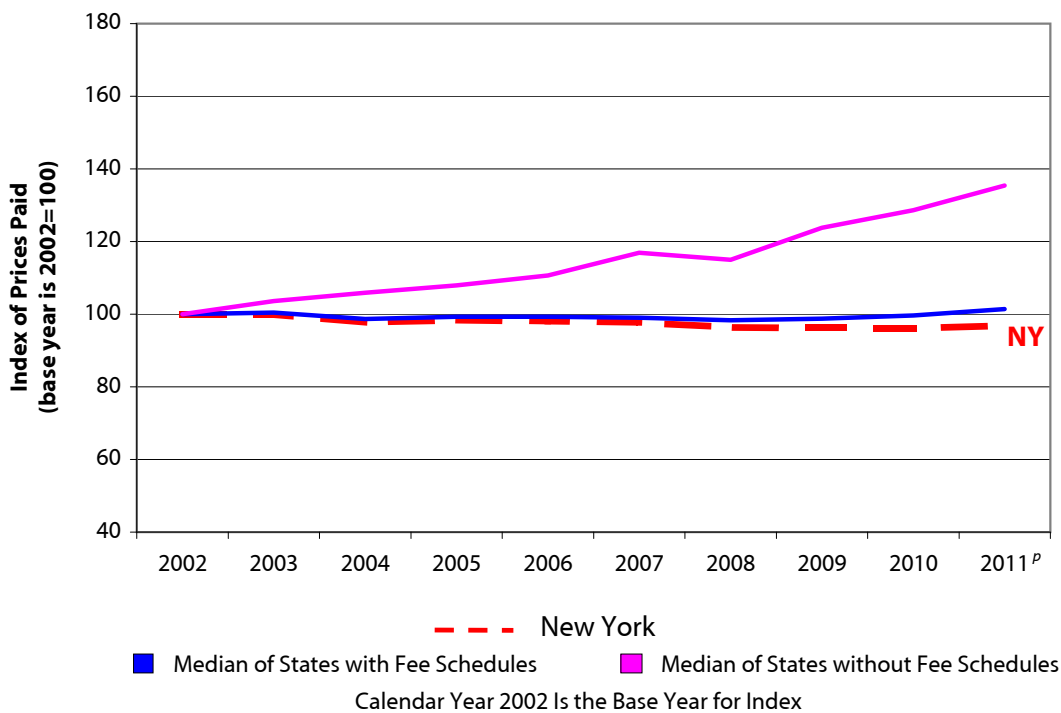
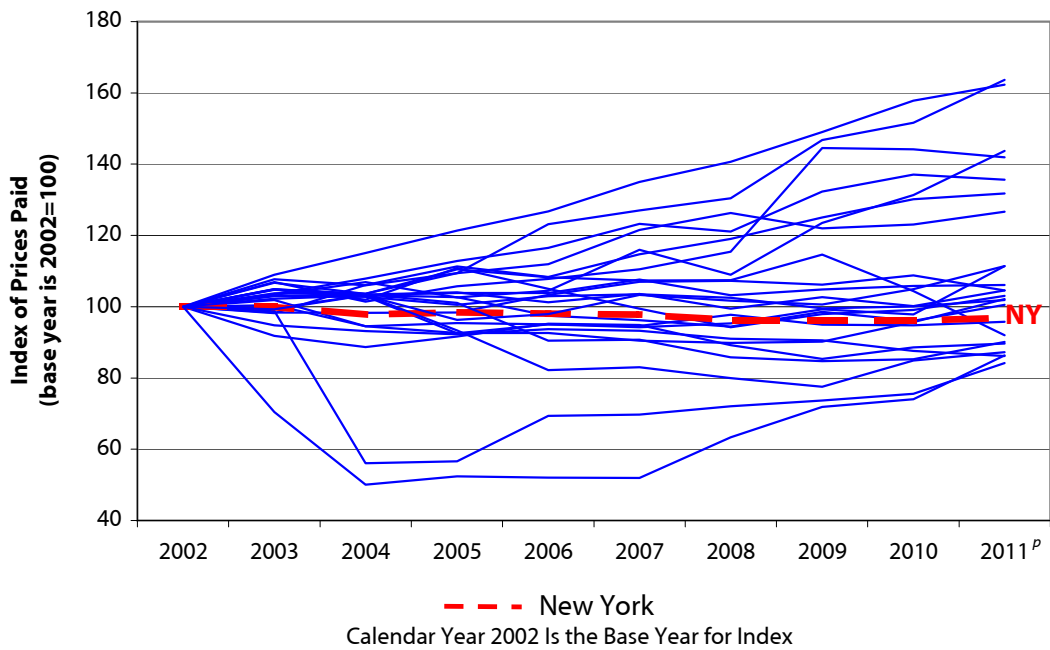


*Special notation:* <sup>P</sup> We use the notation <sup>p</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* New Jersey did not have a workers' compensation fee schedule as of 2011.



**Figure C.19 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



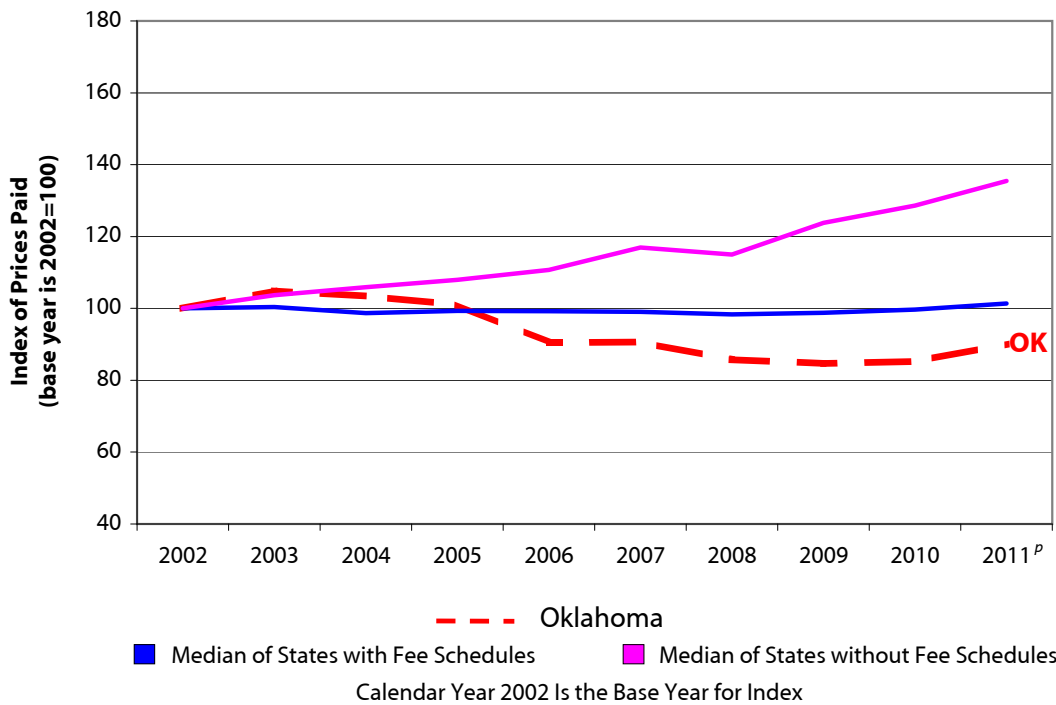
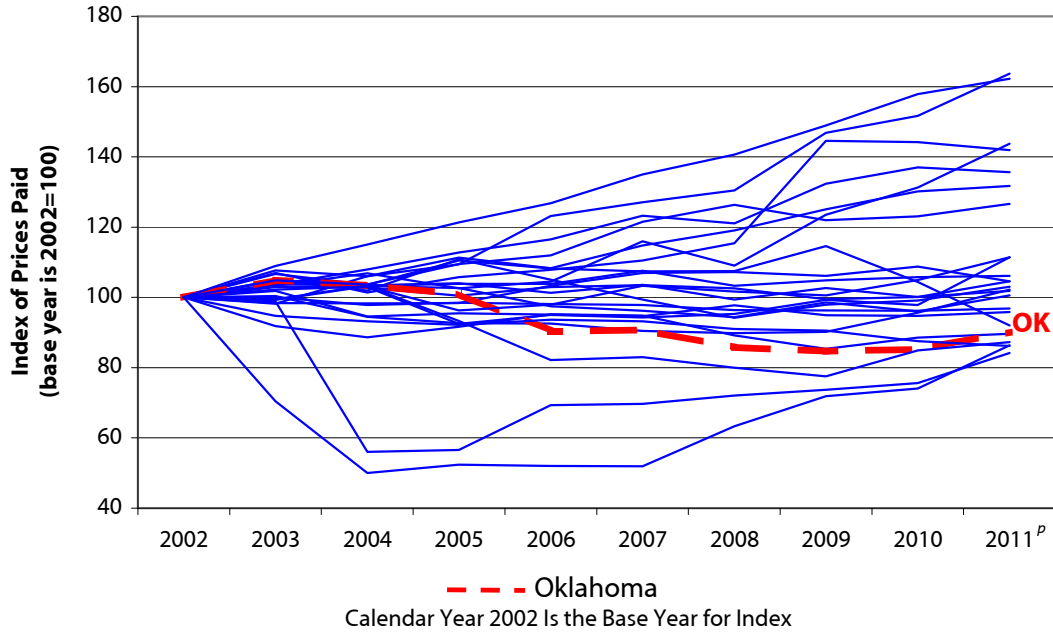
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

**Notes:**

The data for this state 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.

New York periodically updates its fee schedule for professional services; however, the maximum allowable reimbursement rates for most procedures 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.

**Figure C.20 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



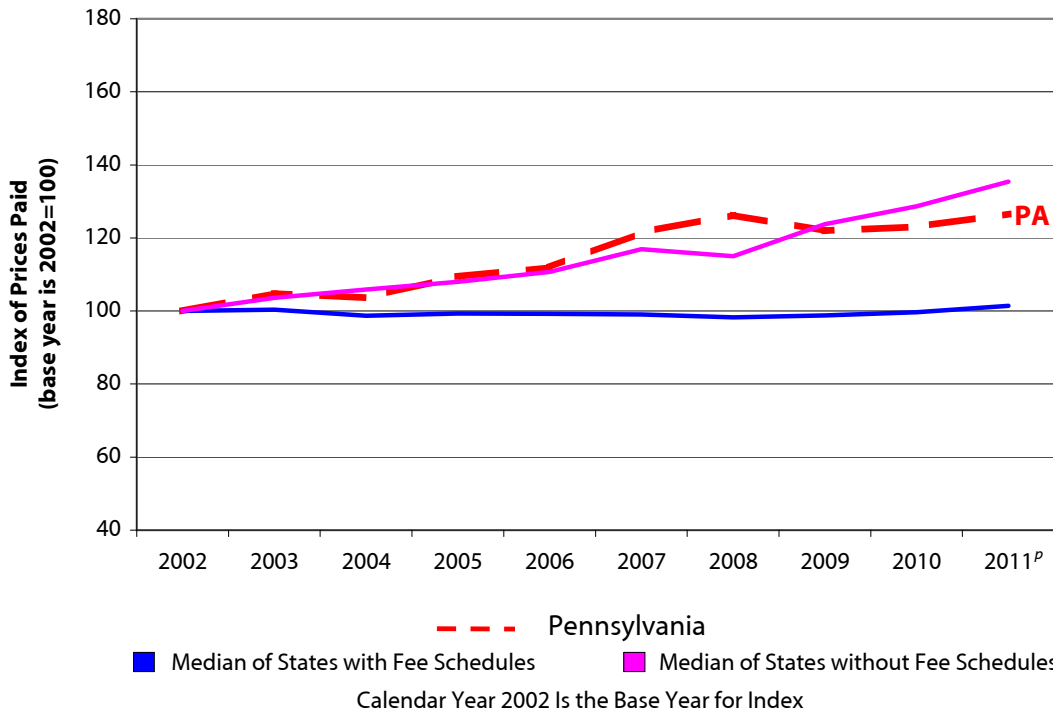
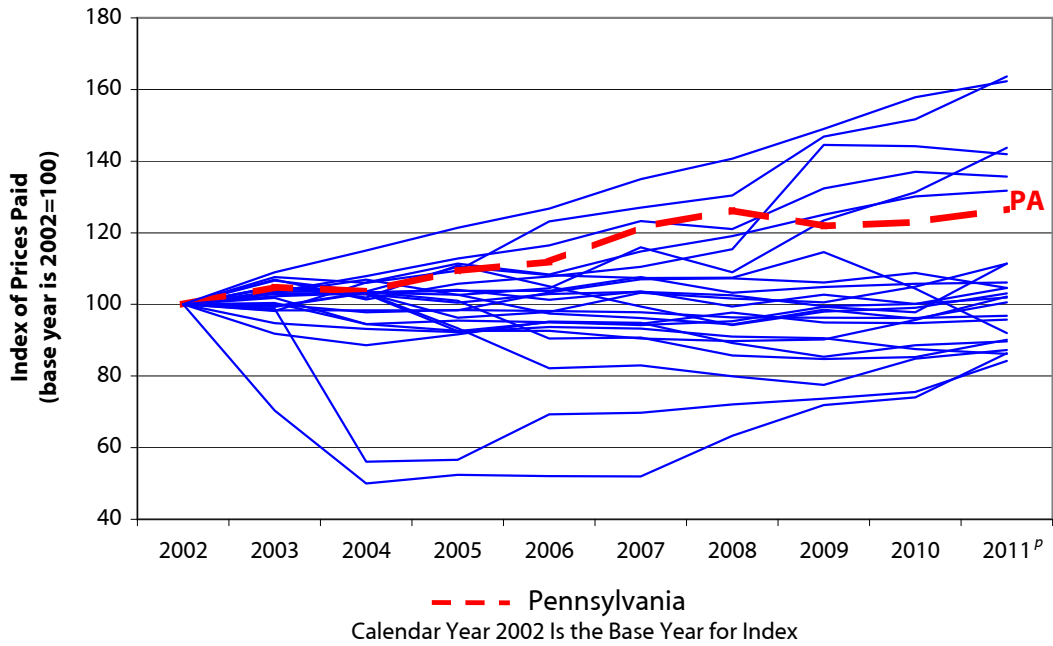
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

**Notes:**

The data for this state 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.

Oklahoma had regular updates to its fee schedule for professional services over the study period. For example, in 2006 the fee schedule rates had material increases in many pain management injection procedures and decreases in many services, such as emergency, radiology, neurological and neuromuscular testing, and many surgery procedures. The most recent update during the period covered by this study was effective January 1, 2011.

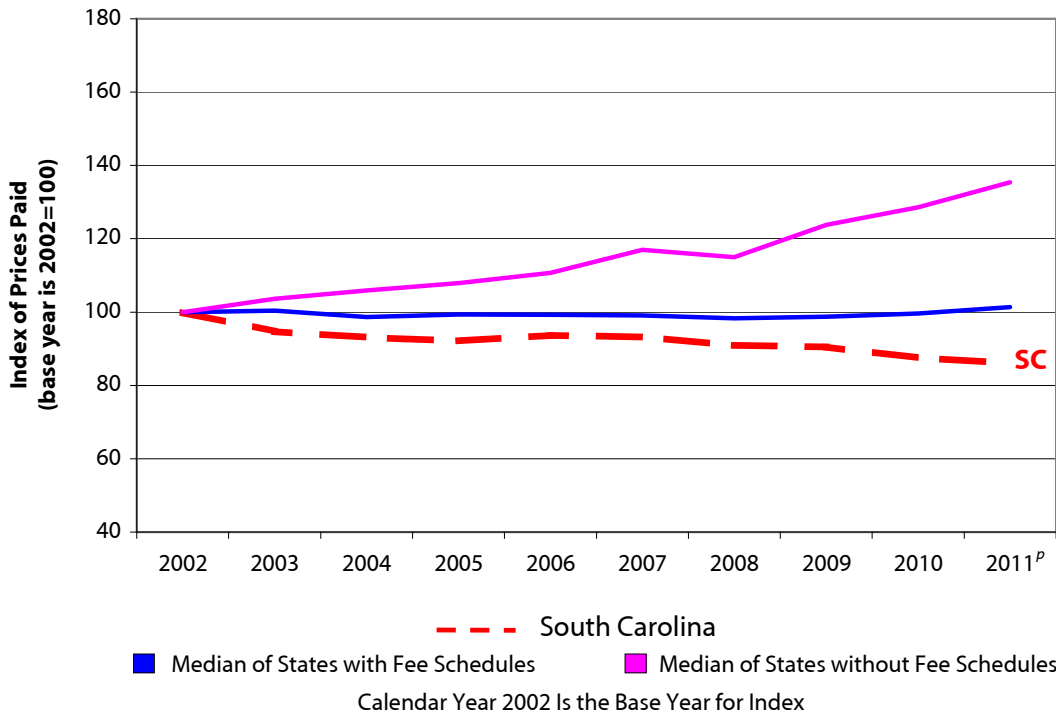
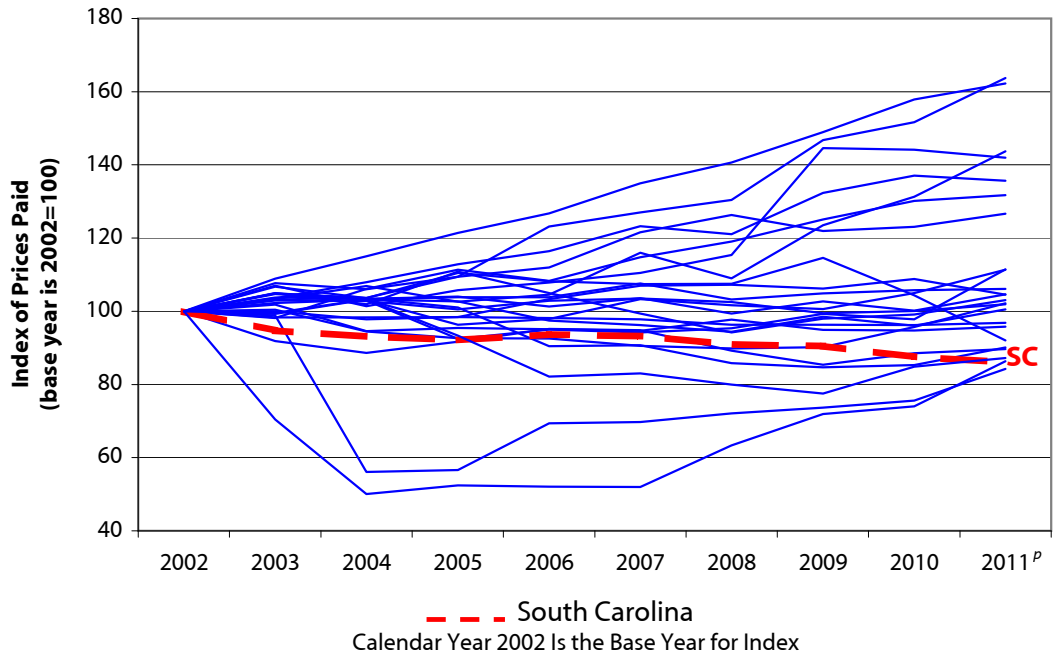
**Figure C.21 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation <sup>P</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Pennsylvania updates its fee schedule for professional services annually, based on the percentage change in the statewide average weekly wage.

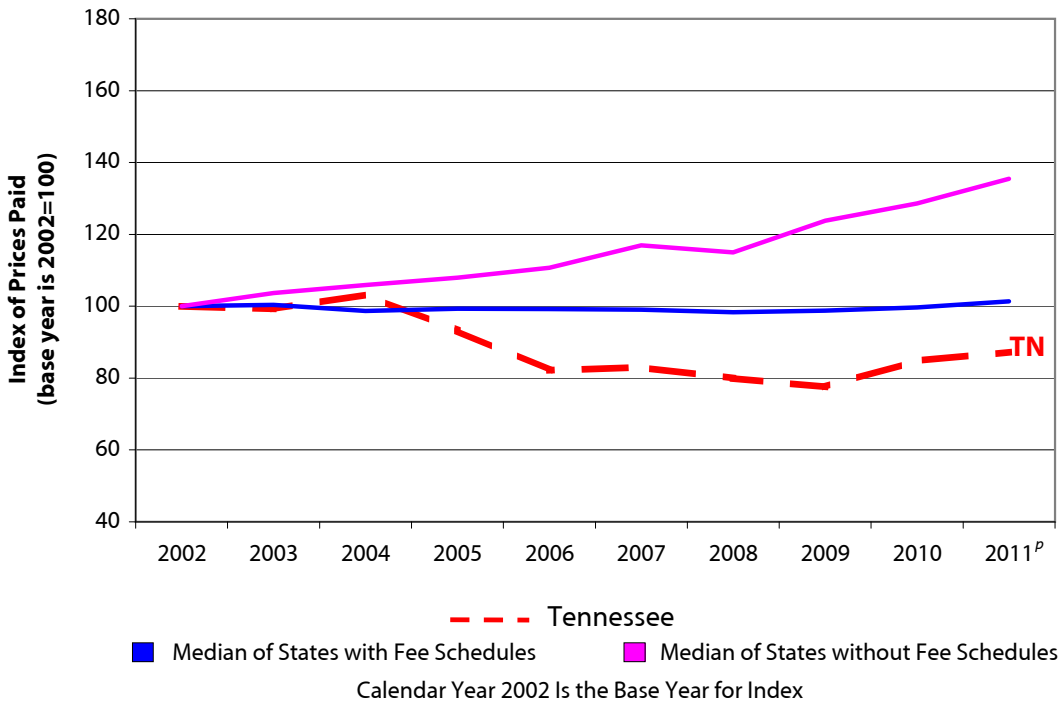
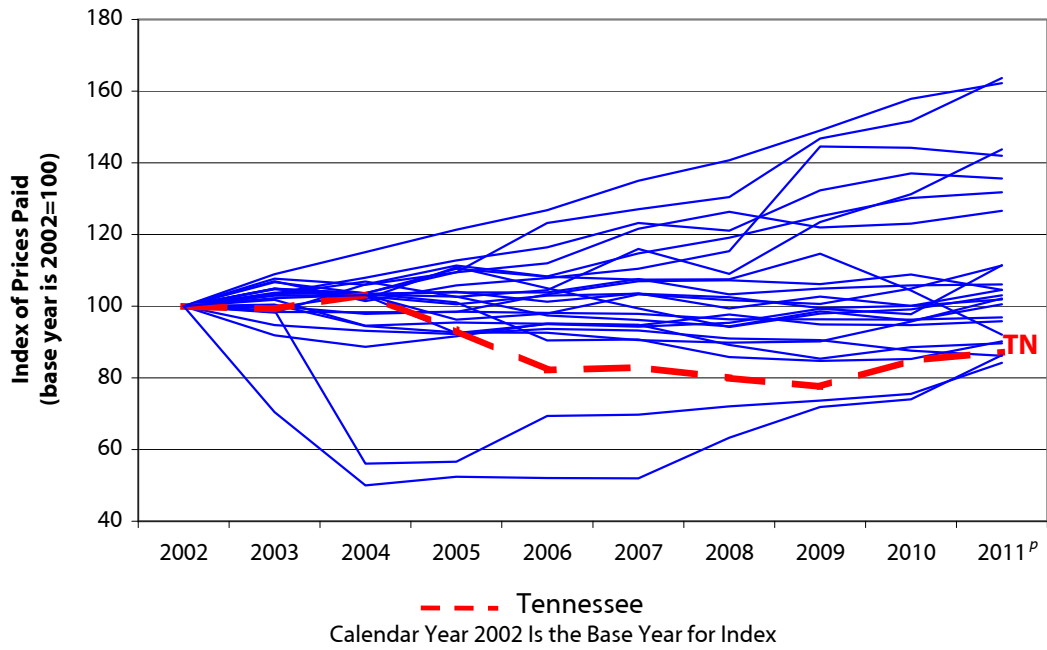
**Figure C.22 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* South Carolina's fee schedule for professional services remained unchanged after the 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 (such as evaluation and management, emergency, etc.) and decreased the rates for others (such as pain management injections, radiology services, etc.).

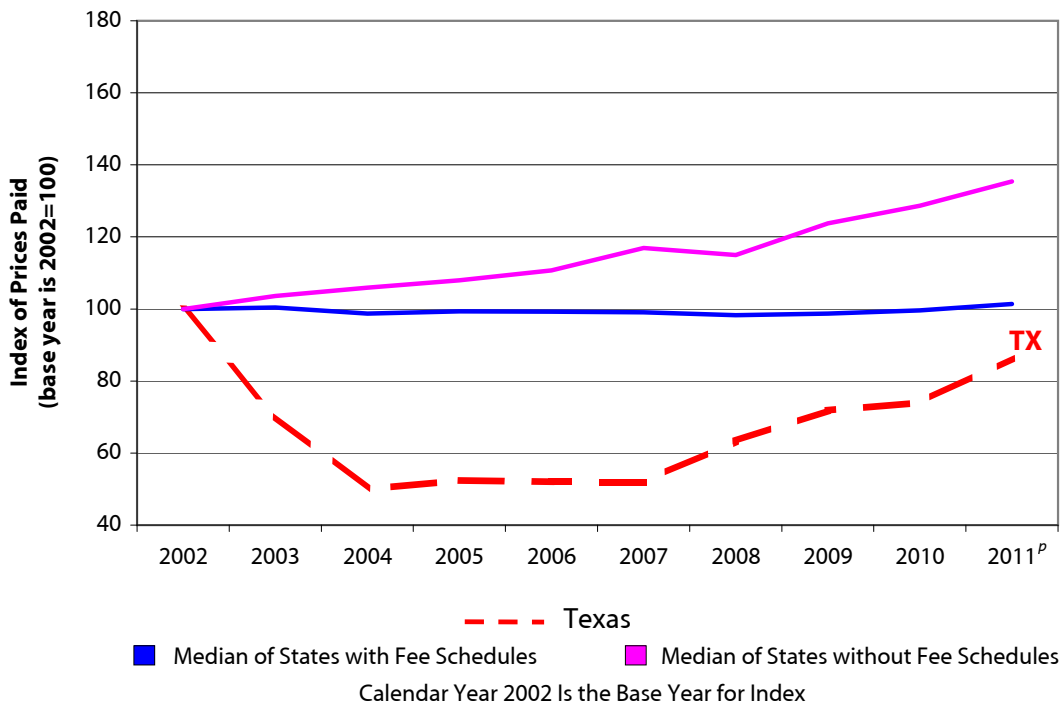
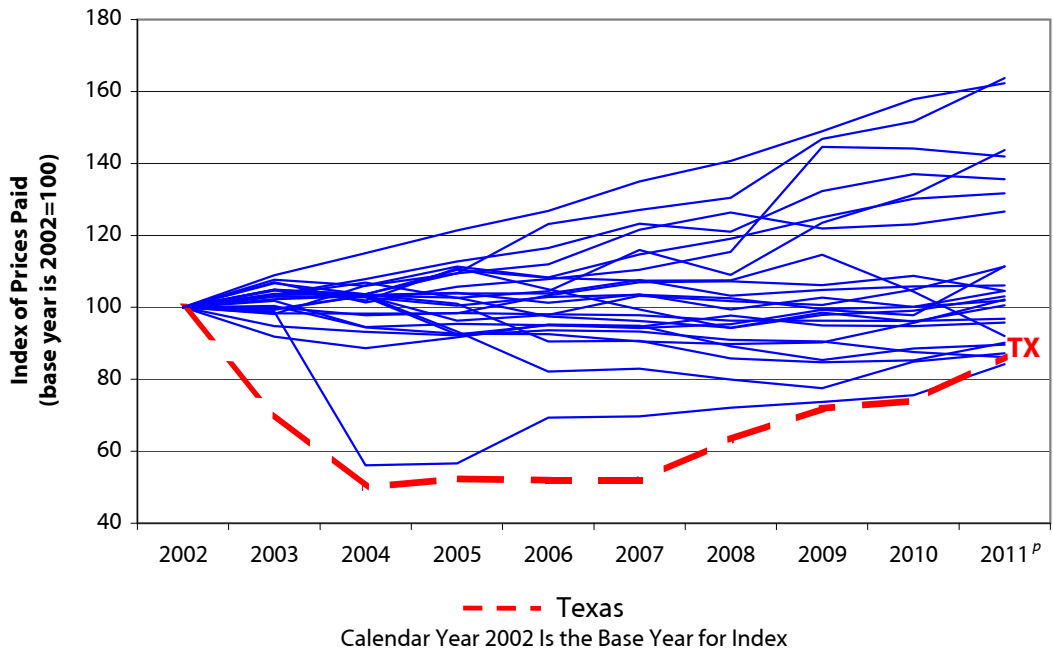
**Figure C.23 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation <sup>p</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Tennessee implemented a fee schedule in July 2005 and had regular updates in the following years.

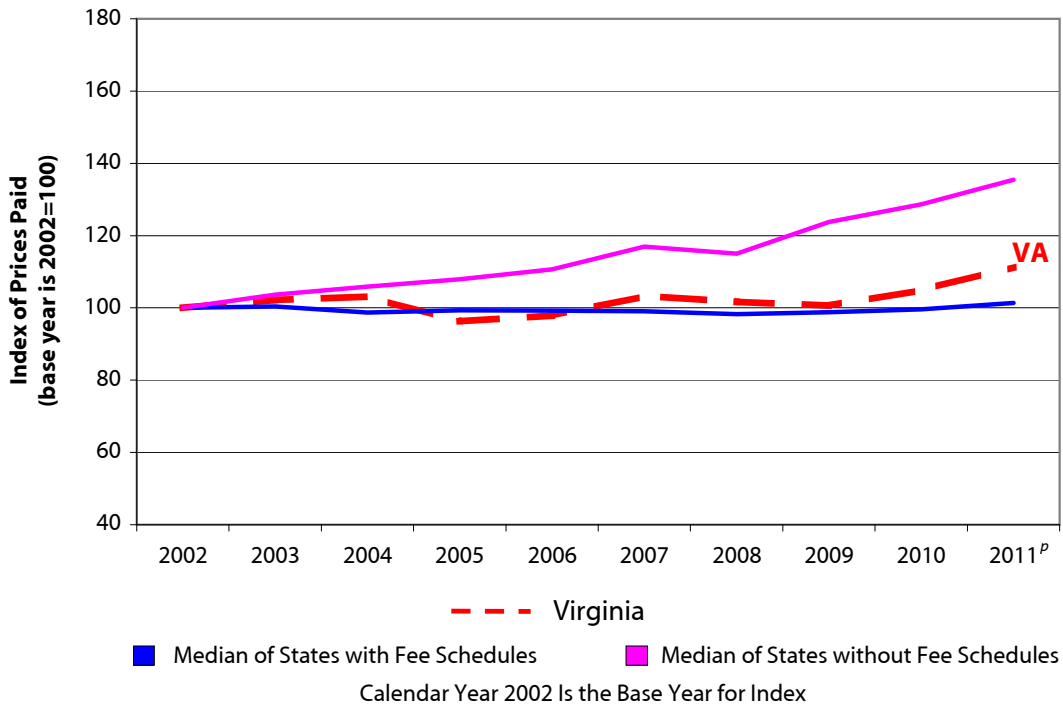
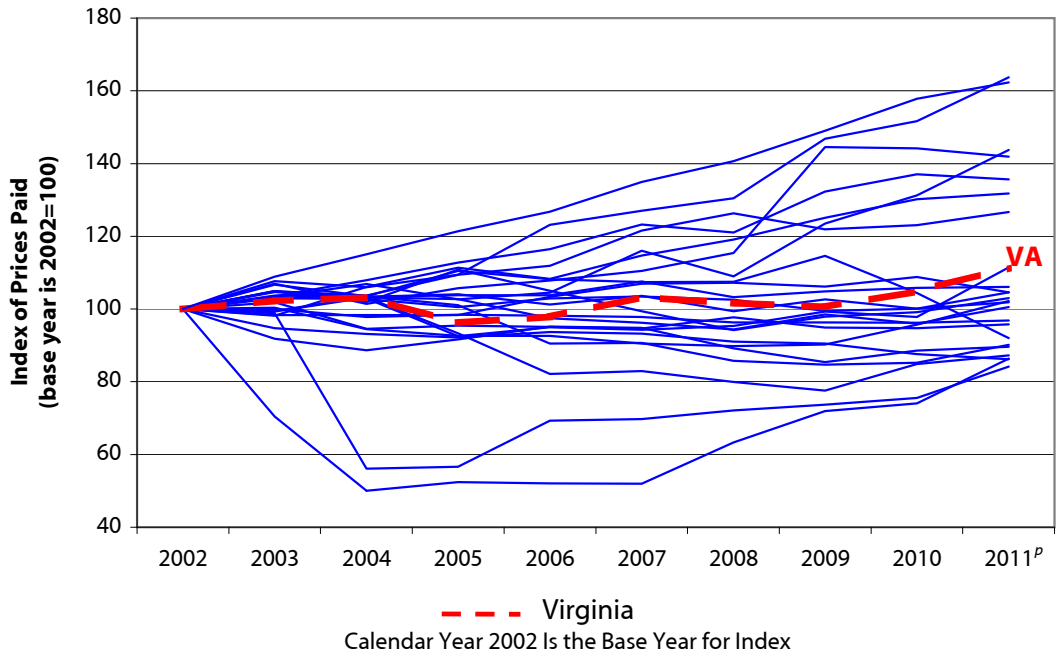
**Figure C.24 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation <sup>p</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Texas decreased fee schedule rates for surgery and radiology and increased rates for evaluation and management services in August 2003. 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.

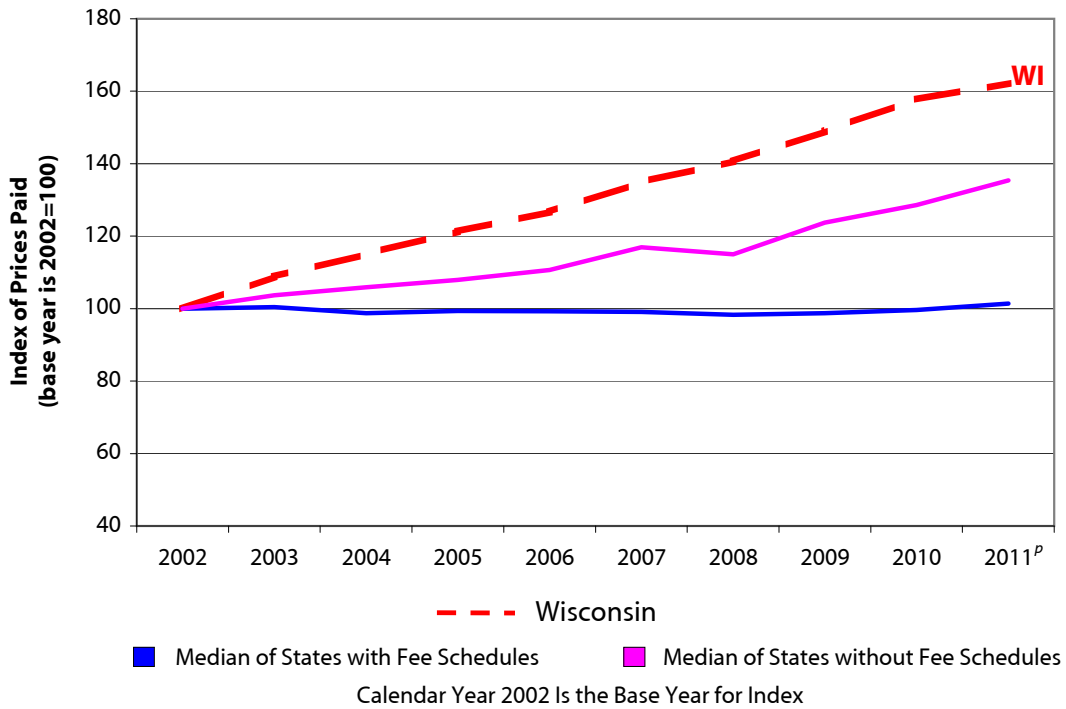
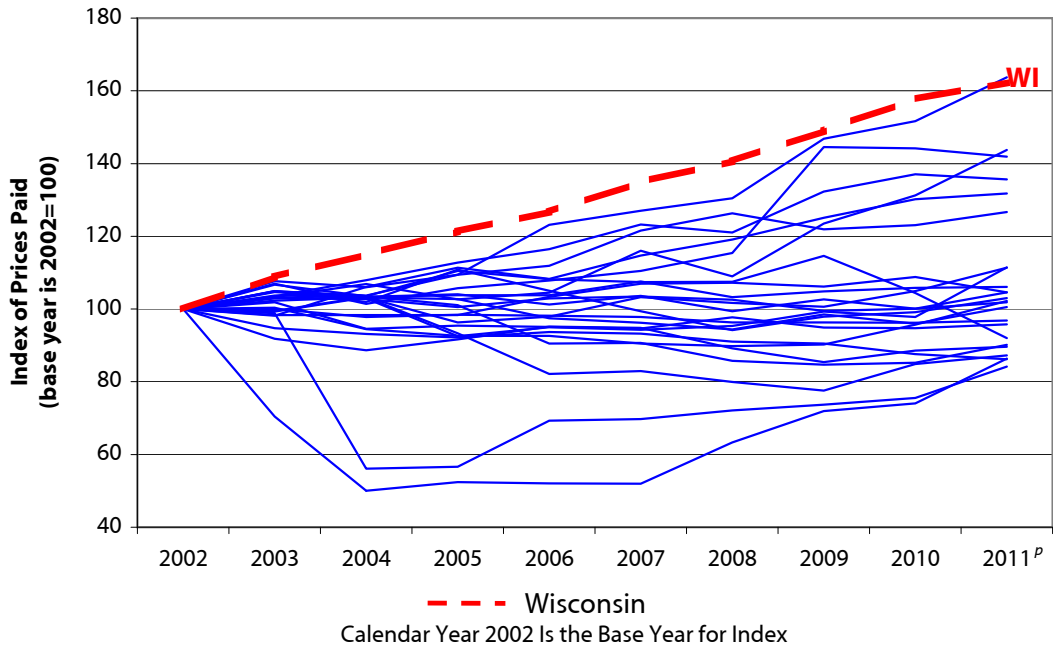
**Figure C.25 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**



*Special notation:* <sup>P</sup> We use the notation <sup>P</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Virginia did not have a workers' compensation fee schedule as of 2011.

**Figure C.26 Professional Surgery Services, WCRI MPI-WC Trends in Medical Prices Paid, 2002 to 2011**

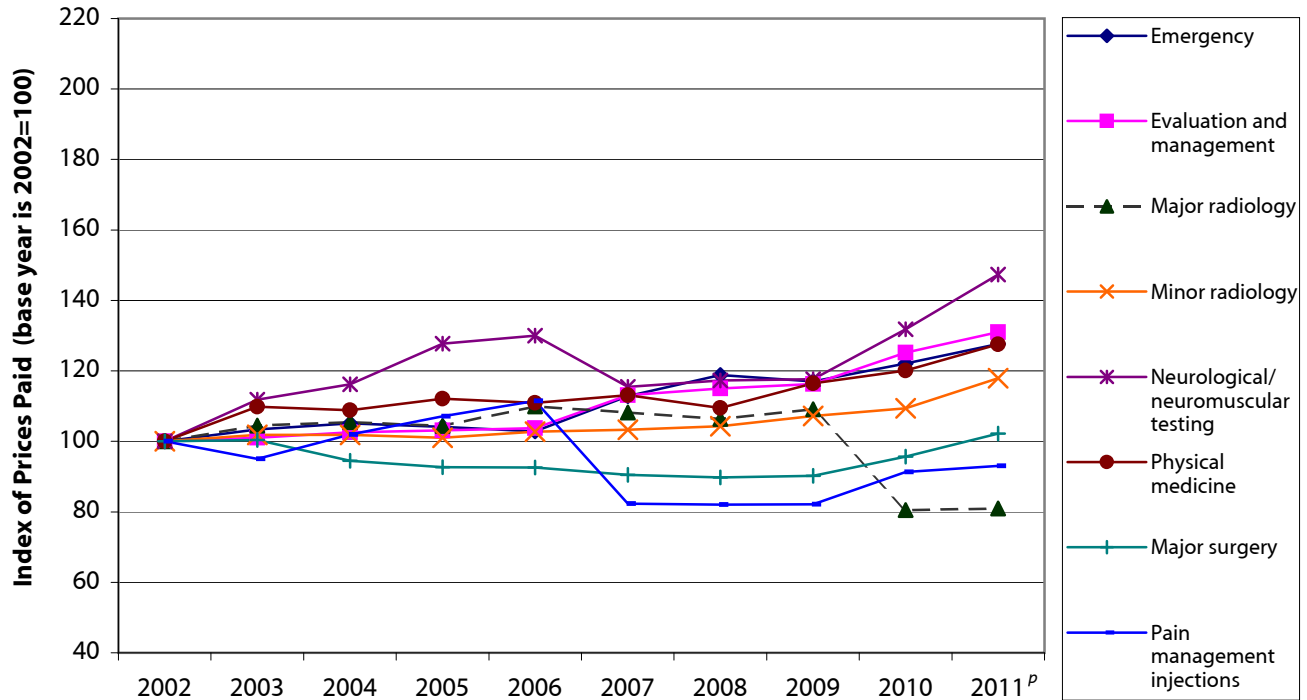


*Special notation:* <sup>P</sup> We use the notation <sup>p</sup> to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Wisconsin did not have a conventional workers' compensation fee schedule as of 2011.



**Figure D.1 Arkansas Trend in Professional Prices Paid by Service Group, 2002 to 2011**



**Arkansas Trend in Professional Prices Paid by Service Group, 2002 to 2011**

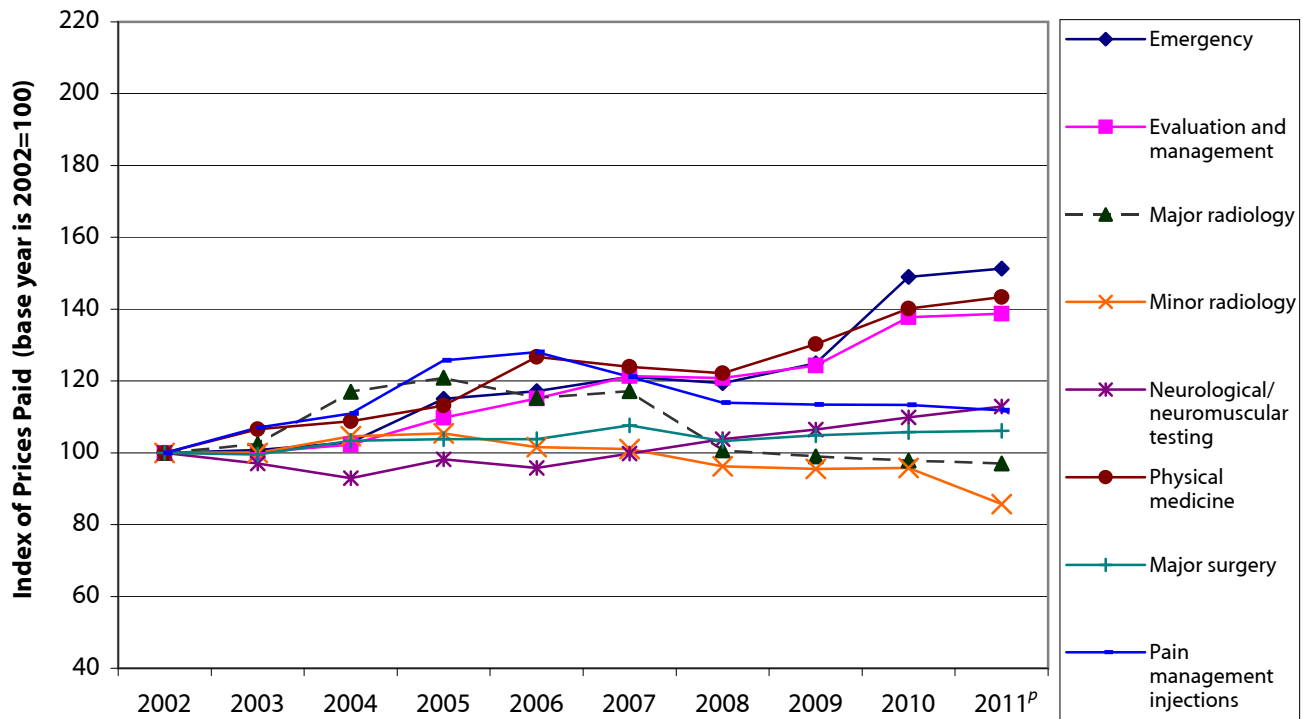
Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	103	105	104	103	113	119	117	122	128
Evaluation and management	100	101	103	103	104	113	115	116	125	131
Major radiology	100	104	105	104	110	108	106	109	81	81
Minor radiology	100	102	102	101	103	103	104	107	109	118
Neurological/neuromuscular testing	100	112	116	128	130	115	117	118	132	147
Physical medicine	100	110	109	112	111	113	109	116	120	128
Major surgery	100	100	94	93	93	91	90	90	96	102
Pain management injections	100	95	102	107	112	82	82	82	91	93
Overall	100	104	104	105	106	107	106	109	111	117

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Arkansas' fee schedule for professional services has regular updates on the RVUs tied to the most recent Medicare 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, 2011.

*Key:* RBRVS: resource-based relative value scale; RVUs: relative value units.

**Figure D.2 Arizona Trend in Professional Prices Paid by Service Group, 2002 to 2011**



**Arizona Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	101	103	115	117	121	119	125	149	151
Evaluation and management	100	100	102	110	115	121	121	124	138	139
Major radiology	100	102	117	121	115	117	101	99	98	97
Minor radiology	100	100	105	105	102	101	96	96	96	86
Neurological/neuromuscular testing	100	97	93	98	96	100	104	106	110	113
Physical medicine	100	107	109	113	127	124	122	130	140	143
Major surgery	100	100	103	104	104	108	103	105	106	106
Pain management injections	100	107	111	126	128	121	114	113	113	112
Overall	100	102	106	110	115	116	113	116	124	125

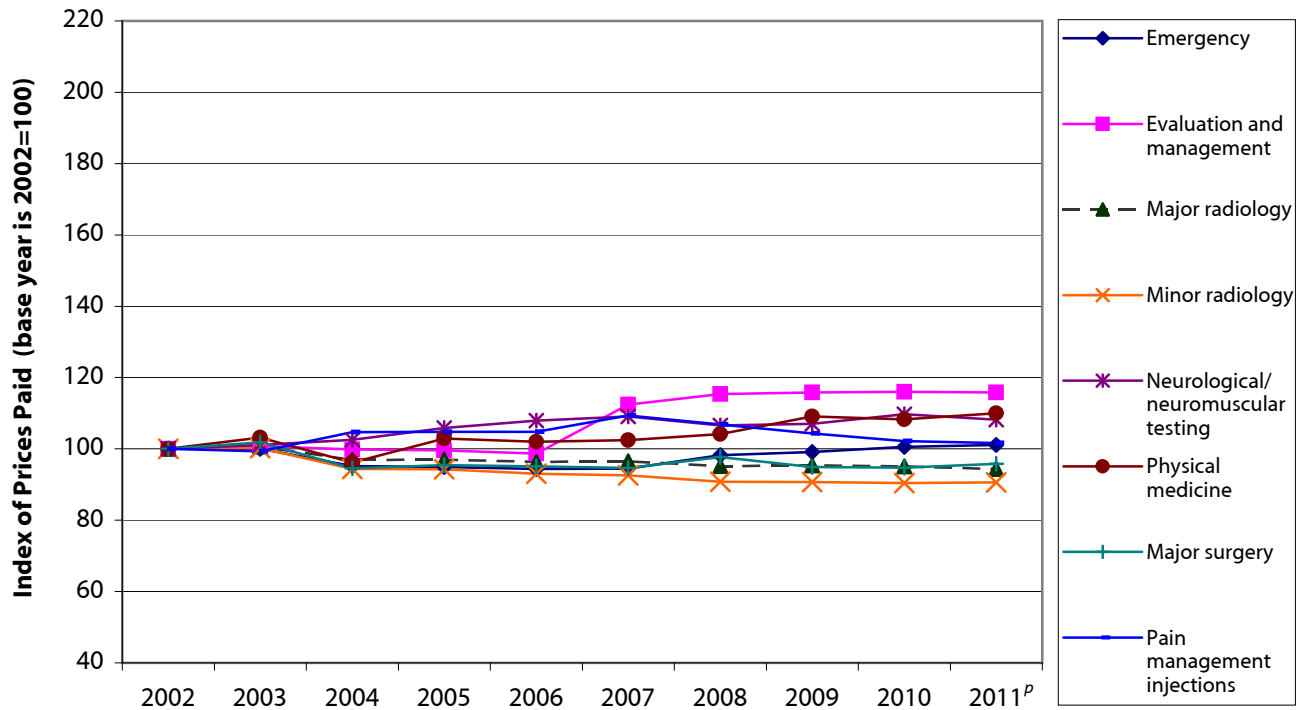
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

**Notes:**

The data for this state 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.

Arizona updates its fee schedule for professional services annually in October. The most recent update covered in the study period in this report was effective October 1, 2010.

**Figure D.3 California Trend in Professional Prices Paid by Service Group, 2002 to 2011**



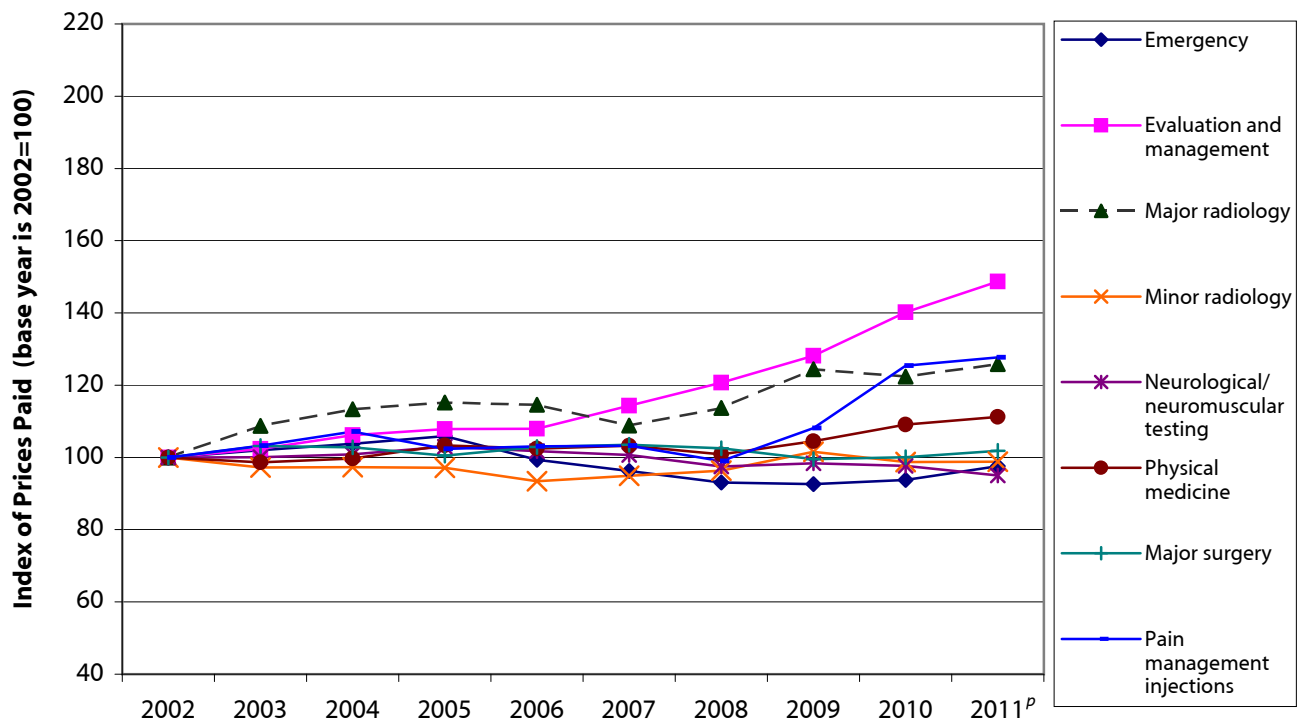
**California Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>p</sup>
Emergency	100	100	95	95	94	94	98	99	101	101
Evaluation and management	100	101	100	100	99	112	115	116	116	116
Major radiology	100	101	97	97	96	96	95	95	95	94
Minor radiology	100	100	94	94	93	93	91	91	90	91
Neurological/neuromuscular testing	100	101	103	106	108	109	107	107	110	108
Physical medicine	100	103	96	103	102	102	104	109	108	110
Major surgery	100	102	95	95	95	95	98	95	95	96
Pain management injections	100	99	105	105	105	109	107	104	102	102
Overall	100	102	97	100	99	102	104	105	105	105

*Special notation:* <sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* California had a reduction of 5 percent in fee schedule rates for professional services in 2004; except for increases in fee schedule rates for evaluation and management services in February 15, 2007, there have not been additional updates.

**Figure D.4 Connecticut Trend in Professional Prices Paid by Service Group, 2002 to 2011**



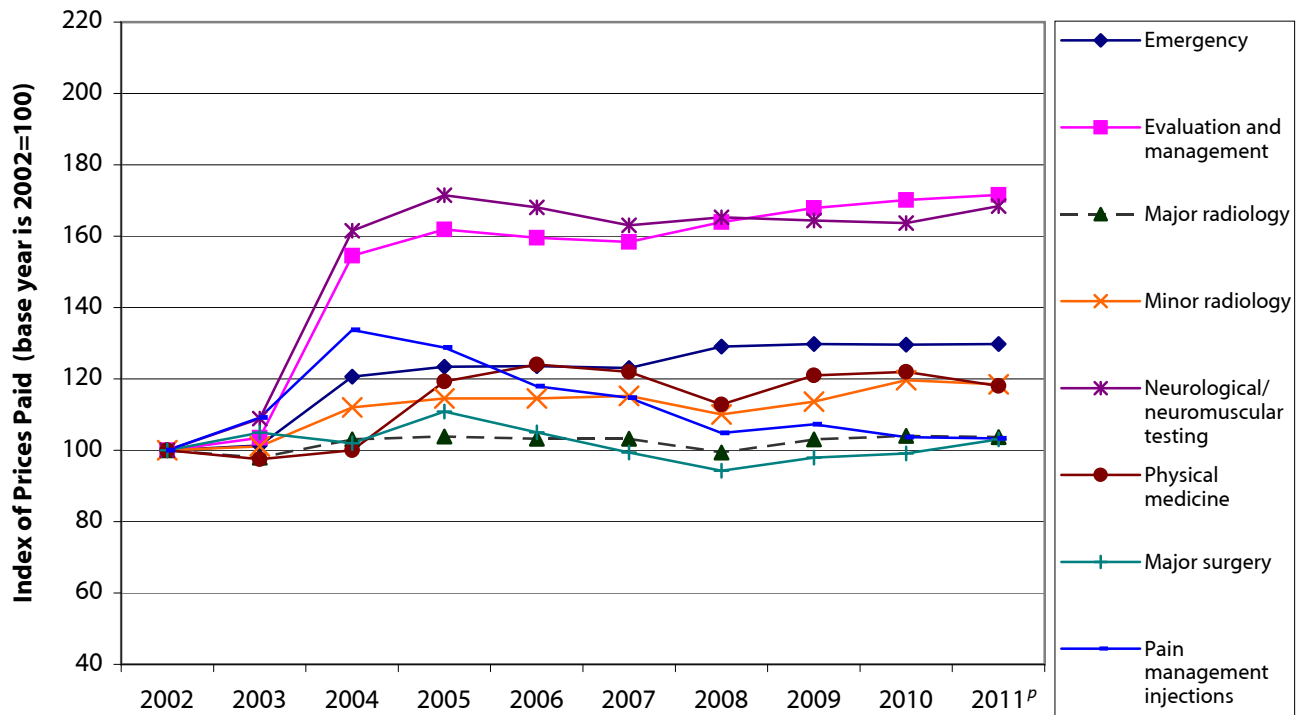
**Connecticut Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	102	104	106	99	96	93	93	94	98
Evaluation and management	100	102	106	108	108	114	121	128	140	149
Major radiology	100	109	113	115	115	109	114	124	122	126
Minor radiology	100	97	97	97	93	95	96	102	99	99
Neurological/neuromuscular testing	100	100	101	103	102	101	97	98	98	95
Physical medicine	100	99	100	103	102	103	101	105	109	111
Major surgery	100	103	103	101	103	103	103	99	100	102
Pain management injections	100	103	107	102	103	103	99	108	125	128
Overall	100	102	103	104	104	105	106	109	113	117

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Connecticut has updated its fee schedule for professional services annually in July since 2008; in prior years, updates were effective in April. The most recent update covered in the study period in this report was effective July 15, 2010.

**Figure D.5 Florida Trend in Professional Prices Paid by Service Group, 2002 to 2011**



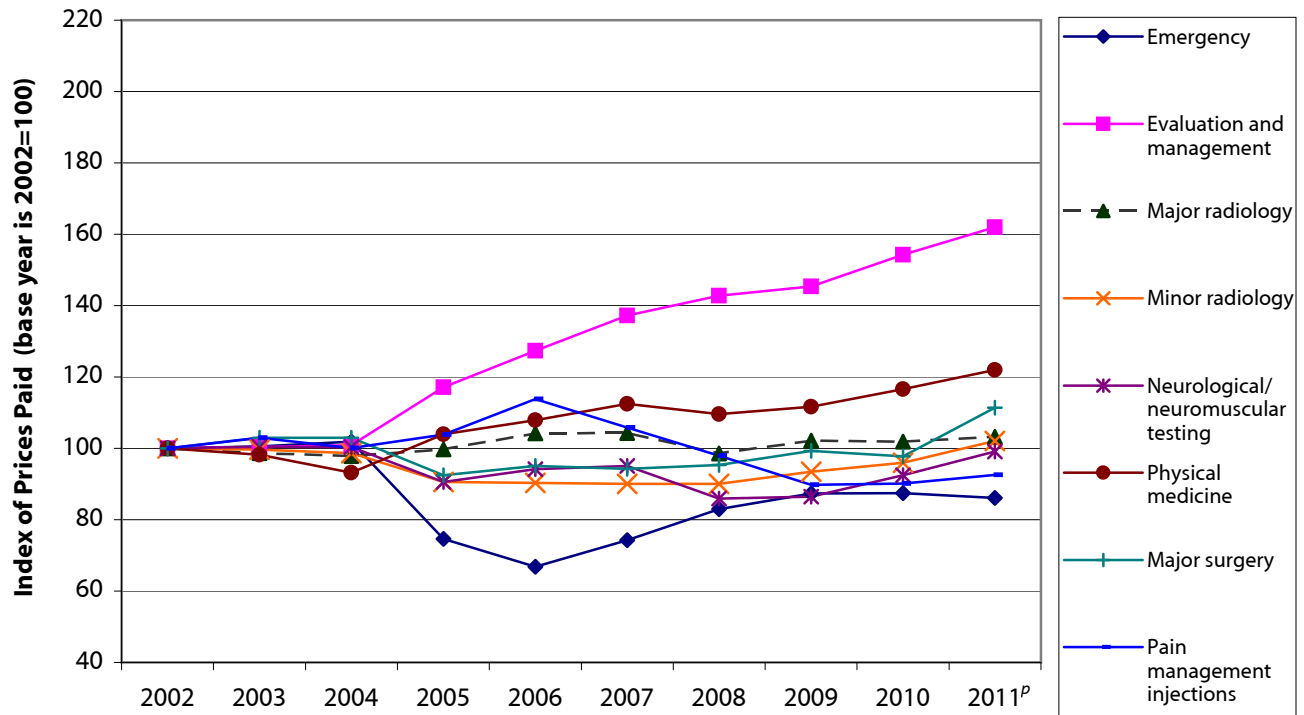
**Florida Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	101	121	123	124	123	129	130	130	130
Evaluation and management	100	104	155	162	160	158	164	168	170	172
Major radiology	100	98	103	104	103	103	99	103	104	104
Minor radiology	100	101	112	114	115	115	110	114	120	118
Neurological/neuromuscular testing	100	109	162	171	168	163	165	164	164	168
Physical medicine	100	97	100	119	124	122	113	121	122	118
Major surgery	100	105	102	111	105	99	94	98	99	103
Pain management injections	100	109	134	129	118	115	105	107	104	103
Overall	100	102	115	126	125	122	118	123	124	124

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Florida had significant increases in fee schedule rates for physician services in January 2004 and increases in fee schedule rates for services provided by chiropractors and physical/occupational therapists in May 2005. After that, Florida had fee schedule updates for professional services in 2006, 2007, and 2009.

**Figure D.6 Georgia Trend in Professional Prices Paid by Service Group, 2002 to 2011**



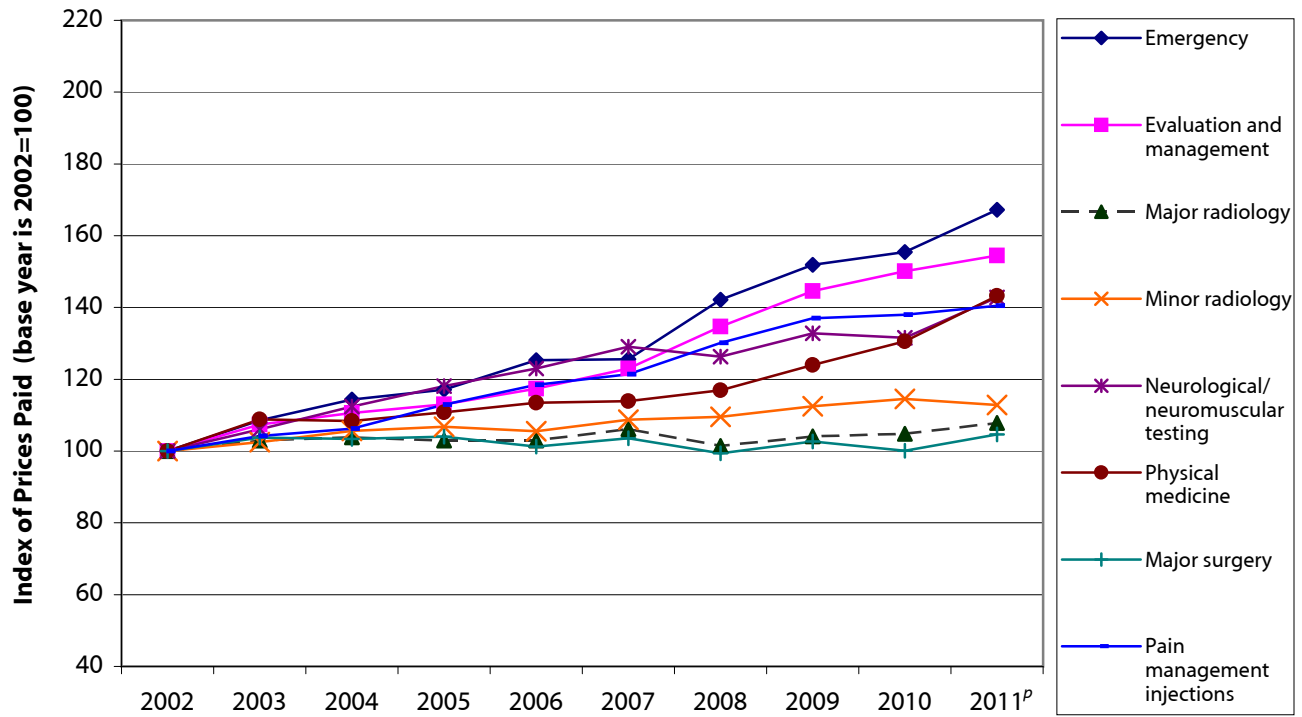
**Georgia Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	101	102	75	67	74	83	87	87	86
Evaluation and management	100	100	101	117	127	137	143	145	154	162
Major radiology	100	99	98	100	104	104	99	102	102	103
Minor radiology	100	100	99	91	90	90	90	93	96	102
Neurological/neuromuscular testing	100	100	100	91	94	95	86	86	92	99
Physical medicine	100	98	93	104	108	112	110	112	117	122
Major surgery	100	103	103	92	95	94	95	99	98	111
Pain management injections	100	103	100	104	114	106	98	90	90	93
Overall	100	100	99	102	106	110	109	112	115	122

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Georgia updates its fee schedule for professional services annually in April. For example, in 2005, the fee schedule rates had material increases in certain evaluation and management and physical medicine services and decreases in many services, such as emergency, minor radiology, neurological and neuromuscular testing, and certain major surgery procedures. The most recent update covered in the study period in this report was effective April 1, 2011.

**Figure D.7 Iowa Trend in Professional Prices Paid by Service Group, 2002 to 2011**



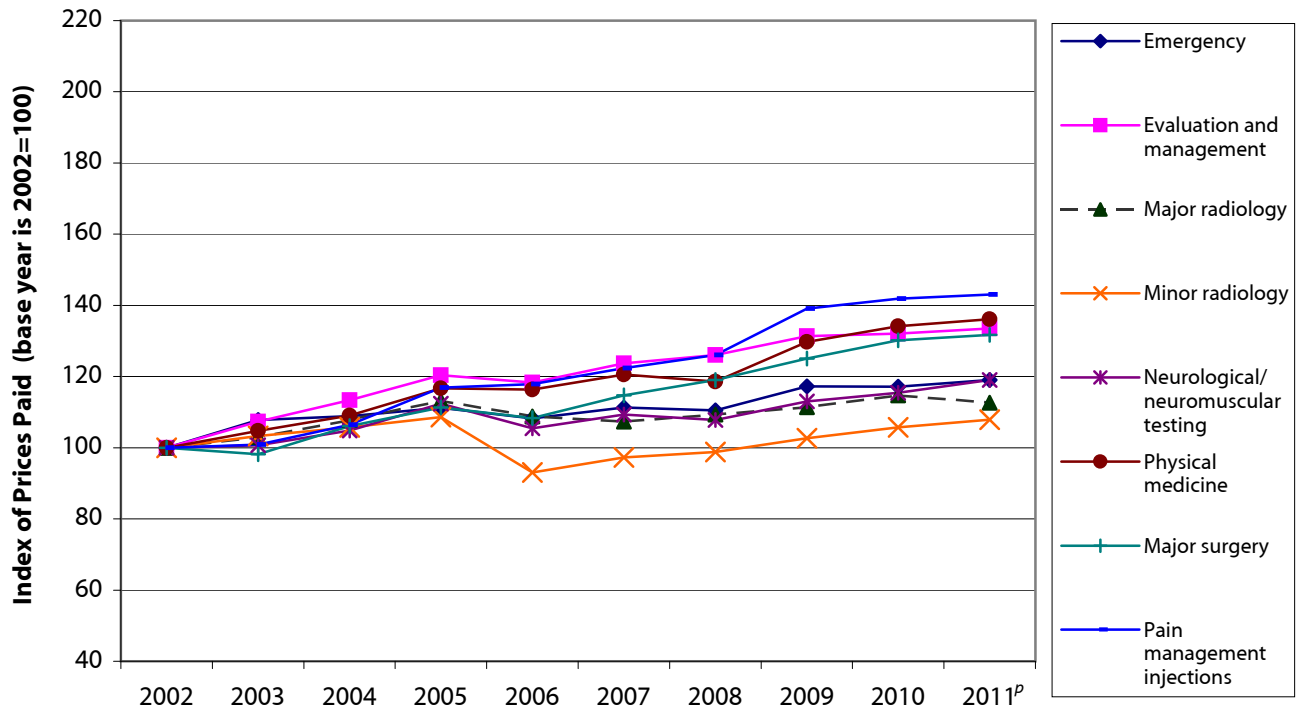
**Iowa Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	109	114	117	125	126	142	152	155	167
Evaluation and management	100	107	111	113	117	123	135	145	150	154
Major radiology	100	103	104	103	103	106	101	104	105	108
Minor radiology	100	102	106	107	106	109	110	112	115	113
Neurological/neuromuscular testing	100	106	112	118	123	129	126	133	132	143
Physical medicine	100	109	108	111	113	114	117	124	131	143
Major surgery	100	104	103	104	101	104	99	103	100	105
Pain management injections	100	104	106	113	118	121	130	137	138	140
Overall	100	106	107	109	111	114	116	122	126	133

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Iowa did not have a workers' compensation fee schedule as of 2011.

**Figure D.8 Illinois Trend in Professional Prices Paid by Service Group, 2002 to 2011**



**Illinois Trend in Professional Prices Paid by Service Group, 2002 to 2011**

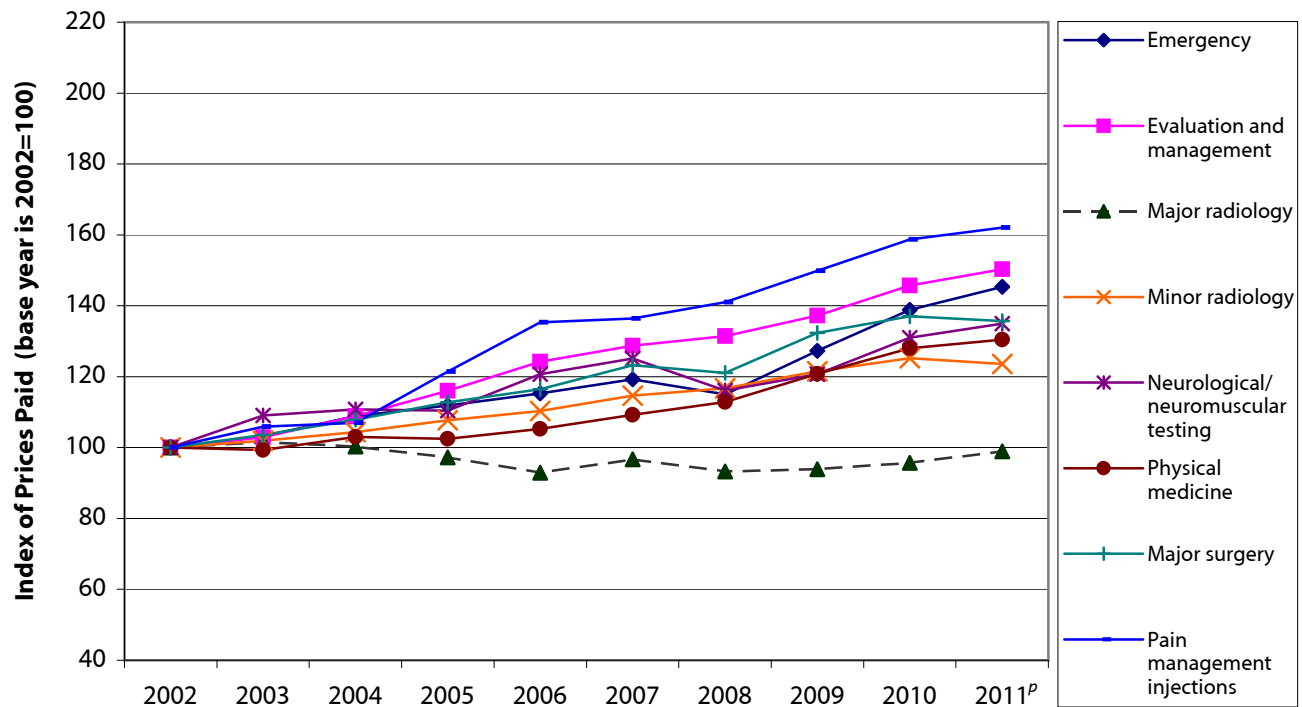
Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	108	109	111	108	111	110	117	117	119
Evaluation and management	100	107	113	120	118	124	126	131	132	133
Major radiology	100	103	108	113	109	107	109	111	115	113
Minor radiology	100	103	106	109	93	97	99	103	106	108
Neurological/neuromuscular testing	100	101	105	112	105	109	108	113	115	119
Physical medicine	100	105	109	117	116	121	119	130	134	136
Major surgery	100	98	106	111	108	115	119	125	130	132
Pain management injections	100	101	106	117	118	122	126	139	142	143
Overall	100	103	108	115	112	117	118	125	128	130

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*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 geo-zip areas; therefore, the price trends after 2006 could be influenced by the potential behavior changes of the providers. In September 2011, Illinois enacted a new legislation that introduced a 30 percent decrease in the fee schedule rates. The results in this report do not reflect this most recent change.



**Figure D.9 Indiana Trend in Professional Prices Paid by Service Group, 2002 to 2011**



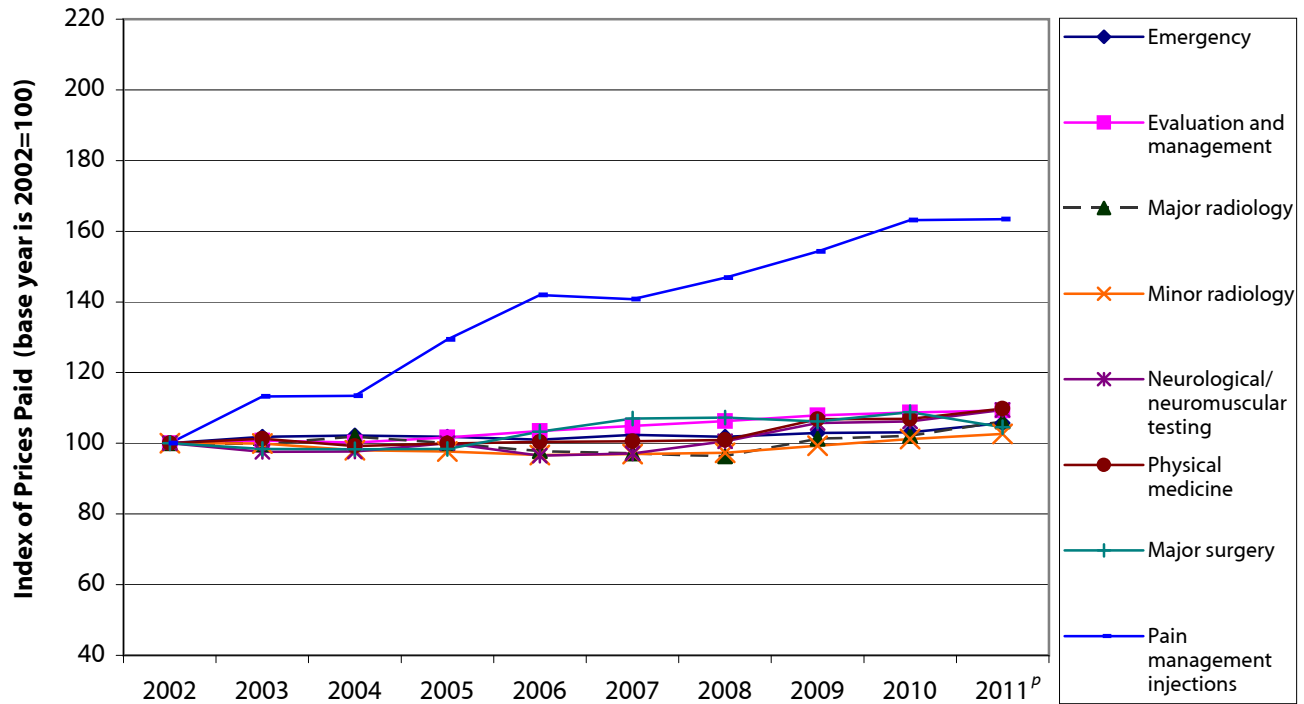
**Indiana Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>p</sup>
Emergency	100	103	109	112	115	119	115	127	139	145
Evaluation and management	100	103	109	116	124	129	131	137	146	150
Major radiology	100	102	100	97	93	97	93	94	96	99
Minor radiology	100	102	104	108	110	115	117	122	125	124
Neurological/neuromuscular testing	100	109	111	110	121	125	116	121	131	135
Physical medicine	100	99	103	103	105	109	113	121	128	130
Major surgery	100	104	108	113	116	123	121	132	137	136
Pain management injections	100	106	107	121	135	136	141	150	159	162
Overall	100	102	105	108	112	116	117	124	131	133

*Special notation:* <sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Indiana did not have a workers' compensation fee schedule as of 2011.

**Figure D.10 Louisiana Trend in Professional Prices Paid by Service Group, 2002 to 2011**



**Louisiana Trend in Professional Prices Paid by Service Group, 2002 to 2011**

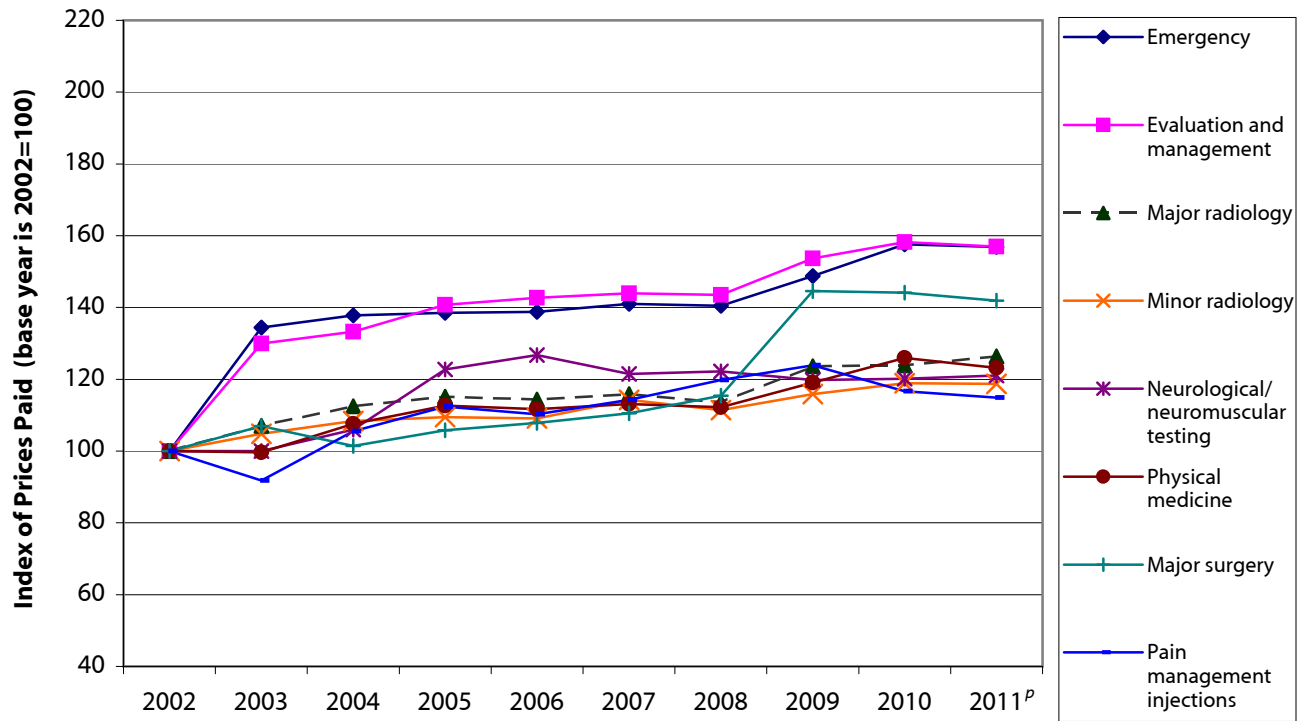
Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	102	102	102	101	102	102	103	103	106
Evaluation and management	100	101	100	102	103	105	106	108	109	109
Major radiology	100	100	102	100	98	97	96	101	102	106
Minor radiology	100	100	98	98	97	97	97	99	101	103
Neurological/neuromuscular testing	100	98	98	100	96	97	101	106	106	109
Physical medicine	100	101	99	100	100	101	101	107	107	110
Major surgery	100	98	98	98	103	107	107	106	109	105
Pain management injections	100	113	113	129	142	141	147	154	163	163
Overall	100	101	100	101	102	103	104	108	108	110

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Louisiana's fee schedule for professional services uses the 1999 CPT list published by the AMA and the maximum allowable reimbursement rates effective as of March 2001.

*Key:* AMA: American Medical Association; CPT: Current Procedural Terminology.

**Figure D.11 Massachusetts Trend in Professional Prices Paid by Service Group, 2002 to 2011**



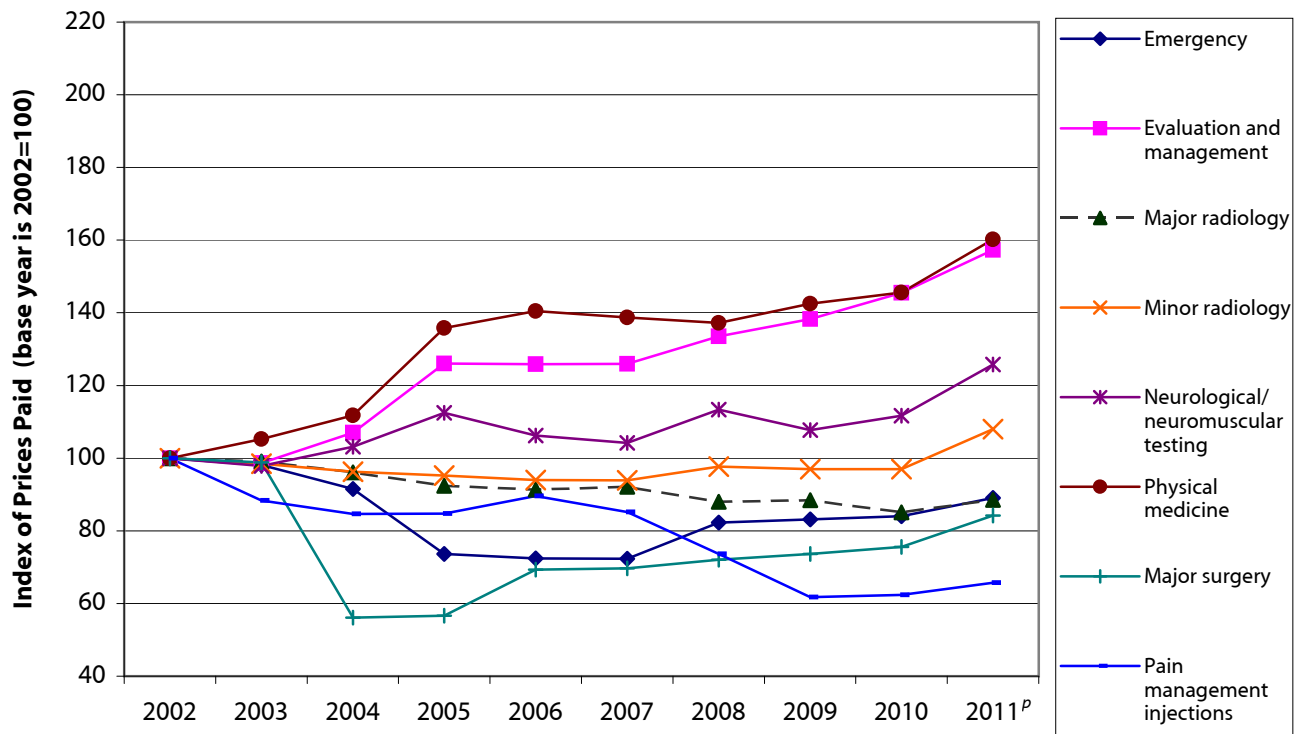
**Massachusetts Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	134	138	138	139	141	140	149	158	157
Evaluation and management	100	130	133	141	143	144	144	154	158	157
Major radiology	100	107	112	115	114	116	114	124	124	126
Minor radiology	100	105	108	109	109	114	111	116	119	119
Neurological/neuromuscular testing	100	100	106	123	127	121	122	120	120	121
Physical medicine	100	100	108	113	112	113	112	119	126	123
Major surgery	100	107	101	106	108	110	115	145	144	142
Pain management injections	100	92	105	112	110	114	120	124	117	115
Overall	100	109	112	117	118	120	121	135	138	137

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Massachusetts increased the fee schedule rates for many professional services, effective April 2009. The fee schedule increases for major surgeries were especially significant; the rates for some procedures increased two to three times above the previous rates. Prior to that, the fee schedule for professional services had not been updated since September 2004.

**Figure D.12 Maryland Trend in Professional Prices Paid by Service Group, 2002 to 2011**



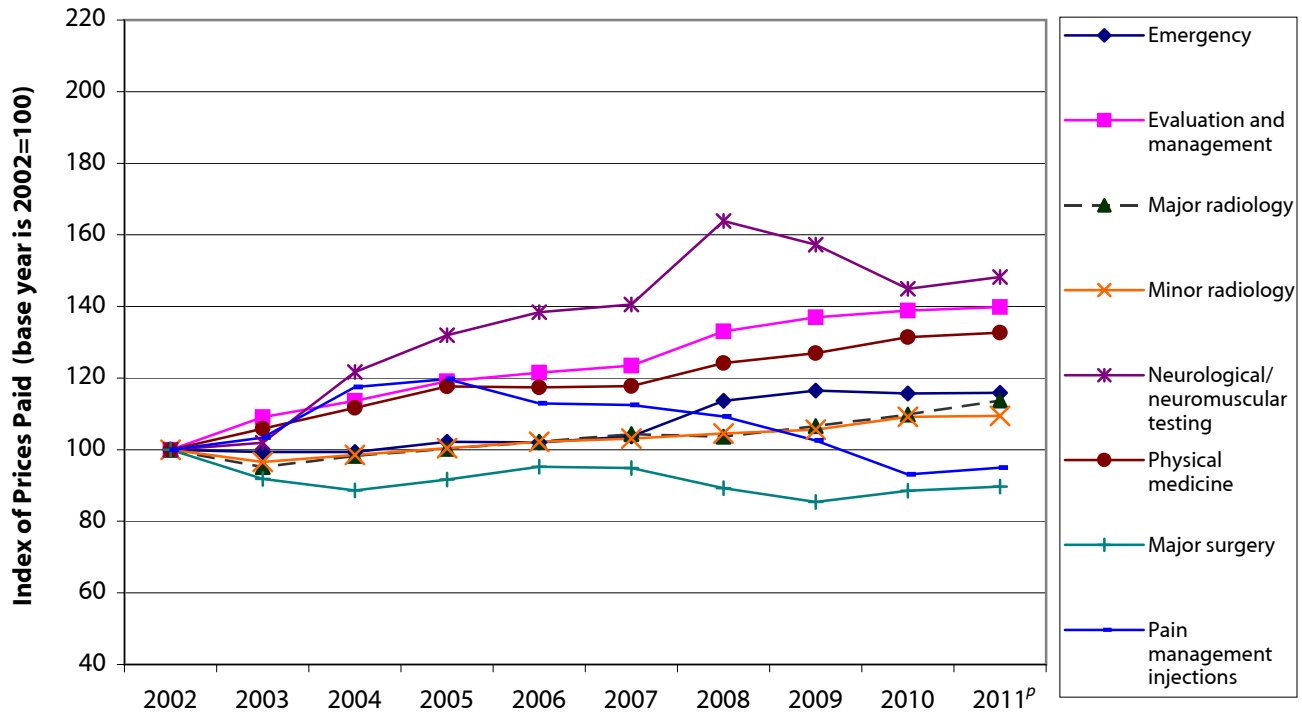
**Maryland Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	98	92	74	72	72	82	83	84	89
Evaluation and management	100	99	107	126	126	126	133	138	145	157
Major radiology	100	99	96	92	91	92	88	88	85	88
Minor radiology	100	98	96	95	94	94	98	97	97	108
Neurological/neuromuscular testing	100	98	103	113	106	104	113	108	112	126
Physical medicine	100	105	112	136	140	139	137	143	146	160
Major surgery	100	99	56	57	69	70	72	74	76	84
Pain management injections	100	88	85	85	90	85	74	62	62	66
Overall	100	100	94	105	109	108	110	112	115	125

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Maryland increased fee schedule rates for evaluation and management and physical medicine services, and decreased rates for surgery, in September 2004. In February 2006, Maryland increased fee schedule rates for neurological and orthopedic surgeries. Starting in March 2008, Maryland allowed annual increases in fee schedule rates for professional services based on changes in the Medicare Economic Index. The most recent update covered in the study period in this report was effective January 1, 2011.

**Figure D.13 Michigan Trend in Professional Prices Paid by Service Group, 2002 to 2011**



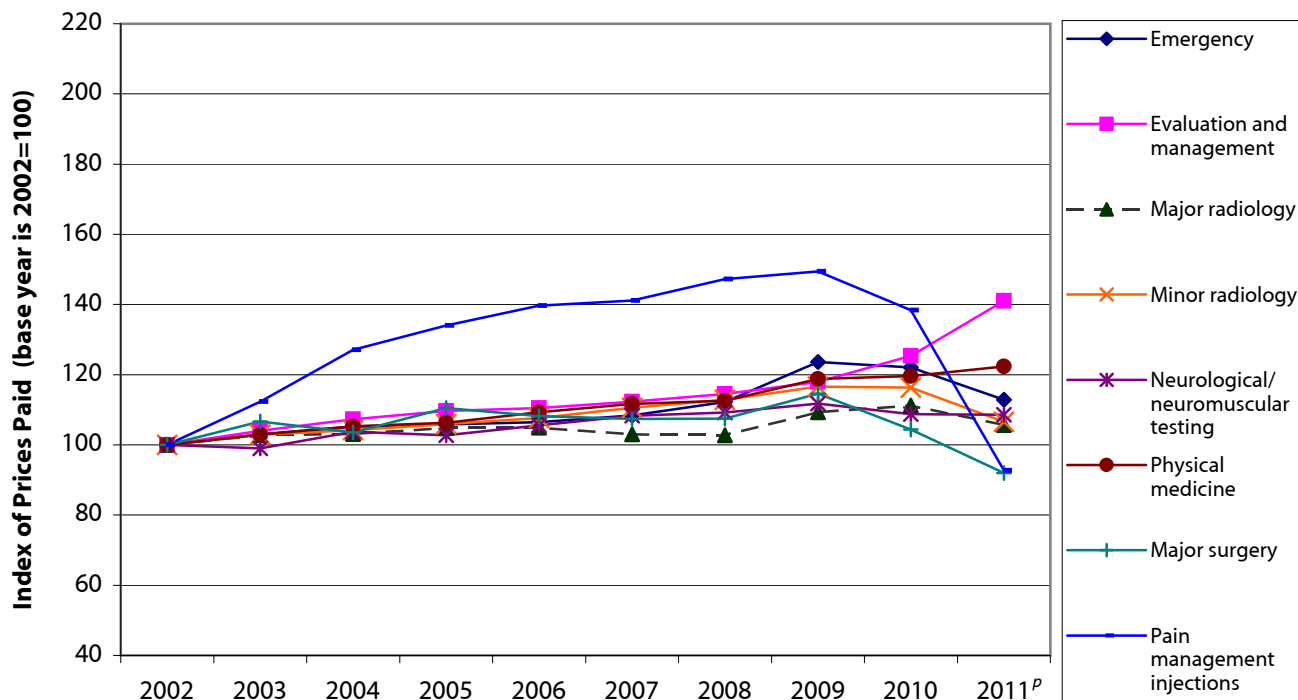
**Michigan Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	99	99	102	102	104	114	117	116	116
Evaluation and management	100	109	114	119	121	123	133	137	139	140
Major radiology	100	95	98	100	102	104	104	107	110	114
Minor radiology	100	97	99	100	102	103	105	106	109	109
Neurological/neuromuscular testing	100	102	122	132	138	141	164	157	145	148
Physical medicine	100	106	112	118	117	118	124	127	131	133
Major surgery	100	92	89	92	95	95	89	85	89	90
Pain management injections	100	103	118	120	113	112	109	103	93	95
Overall	100	103	107	112	113	114	119	120	123	124

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Michigan updates its fee schedule for professional services annually. The most recent update covered in the study period in this report was effective December 8, 2010.

**Figure D.14 Minnesota Trend in Professional Prices Paid by Service Group, 2002 to 2011**



**Minnesota Trend in Professional Prices Paid by Service Group, 2002 to 2011**

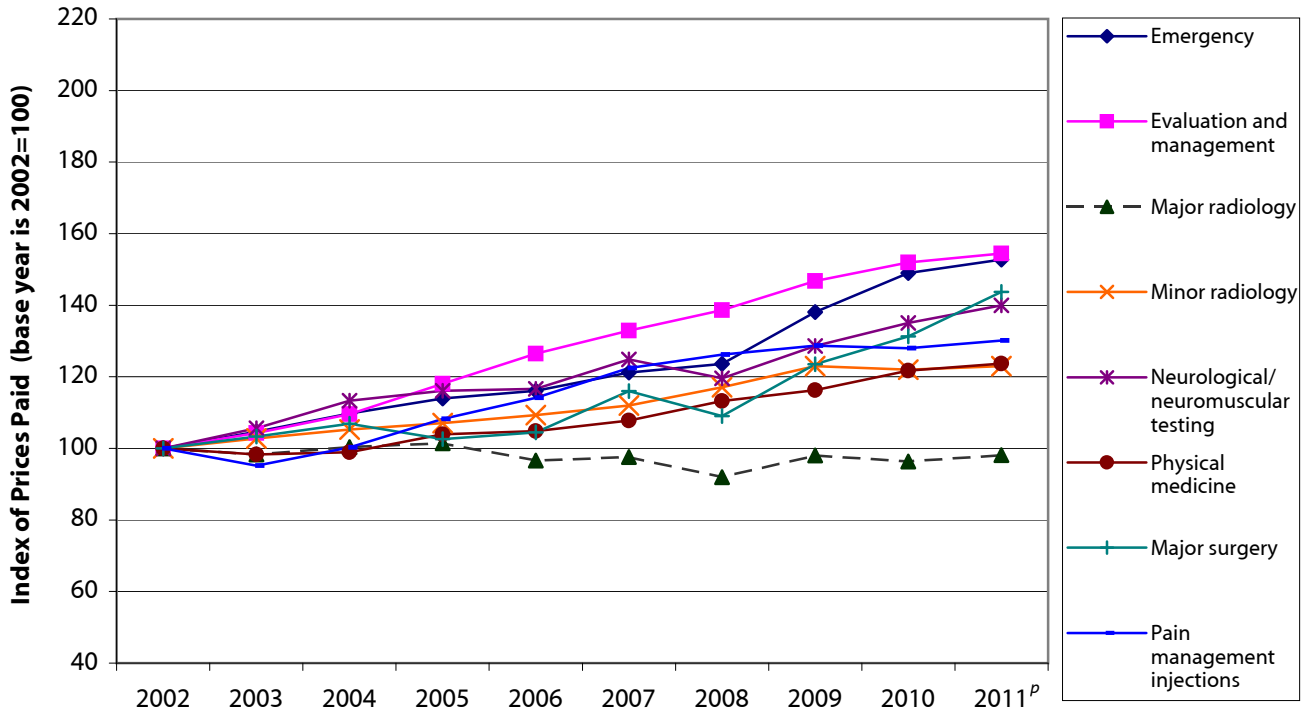
Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	103	105	106	107	108	112	124	122	113
Evaluation and management	100	104	107	110	110	112	115	118	125	141
Major radiology	100	103	103	105	105	103	103	109	111	106
Minor radiology	100	103	104	106	108	111	113	117	116	107
Neurological/neuromuscular testing	100	99	104	103	106	108	109	112	109	109
Physical medicine	100	103	105	106	109	112	113	119	120	122
Major surgery	100	107	104	110	108	107	107	115	104	92
Pain management injections	100	112	127	134	140	141	147	149	138	93
Overall	100	104	106	109	110	111	112	118	119	121

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Minnesota's fee schedule for professional services from 2002 to September 2010 was based on 1998 Medicare RVUs, with annual updates in the conversion factor. Effective October 1, 2010, Minnesota updated its fee schedule by using 2009 Medicare RVUs, and meanwhile decreased the state conversion factor.

*Key:* RVUs: relative value units.

**Figure D.15 Missouri Trend in Professional Prices Paid by Service Group, 2002 to 2011**



**Missouri Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	105	110	114	116	121	124	138	149	153
Evaluation and management	100	104	110	118	126	133	139	147	152	154
Major radiology	100	98	100	101	97	98	92	98	96	98
Minor radiology	100	103	105	107	109	112	117	123	122	123
Neurological/neuromuscular testing	100	106	113	116	117	125	120	129	135	140
Physical medicine	100	98	99	104	105	108	113	116	122	124
Major surgery	100	103	107	103	104	116	109	123	131	144
Pain management injections	100	95	100	108	114	122	126	129	128	130
Overall	100	101	104	107	109	115	116	123	128	132

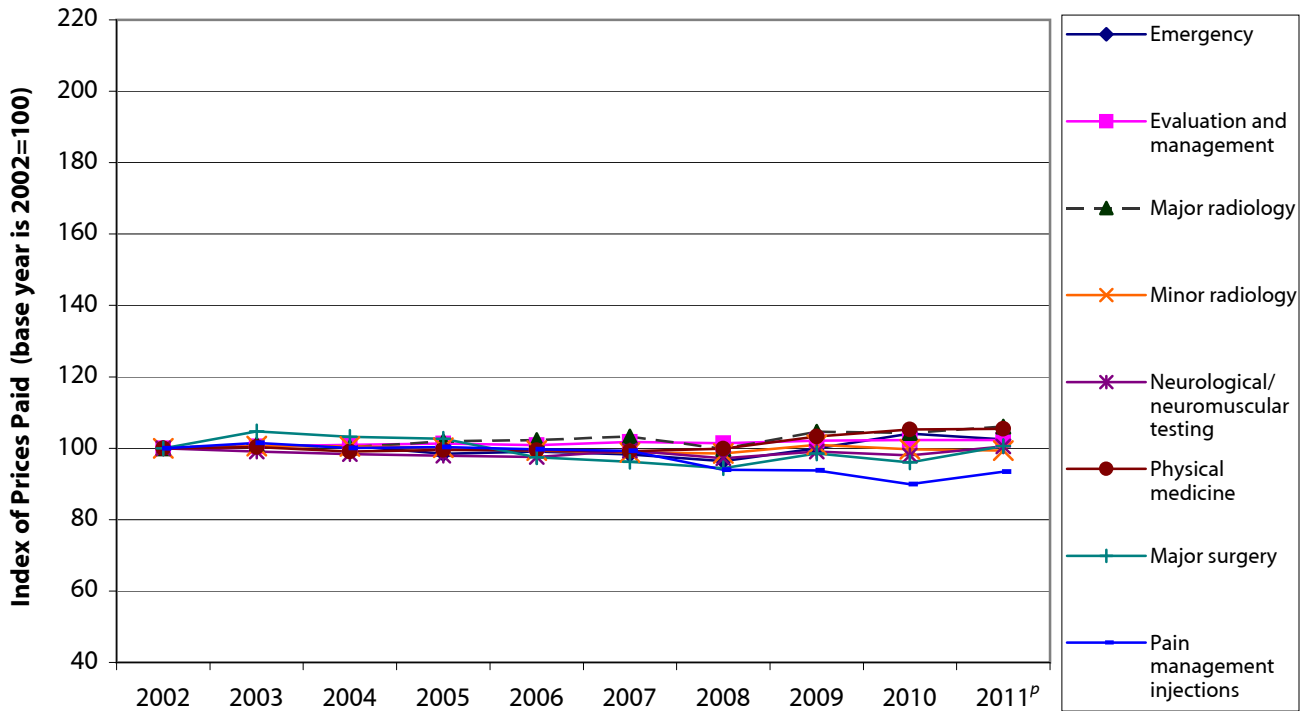
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

Notes:

The data for this state 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 2011.

**Figure D.16 North Carolina Trend in Professional Prices Paid by Service Group, 2002 to 2011**



**North Carolina Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	101	101	98	99	98	96	100	104	102
Evaluation and management	100	101	101	101	101	102	101	102	102	102
Major radiology	100	101	100	102	102	103	100	105	104	106
Minor radiology	100	101	100	100	99	99	98	101	100	99
Neurological/neuromuscular testing	100	99	98	98	98	99	97	99	98	101
Physical medicine	100	100	99	100	99	99	100	103	105	105
Major surgery	100	105	103	103	97	96	94	99	96	101
Pain management injections	100	101	100	100	100	99	94	94	90	93
Overall	100	101	101	101	100	100	99	101	102	103

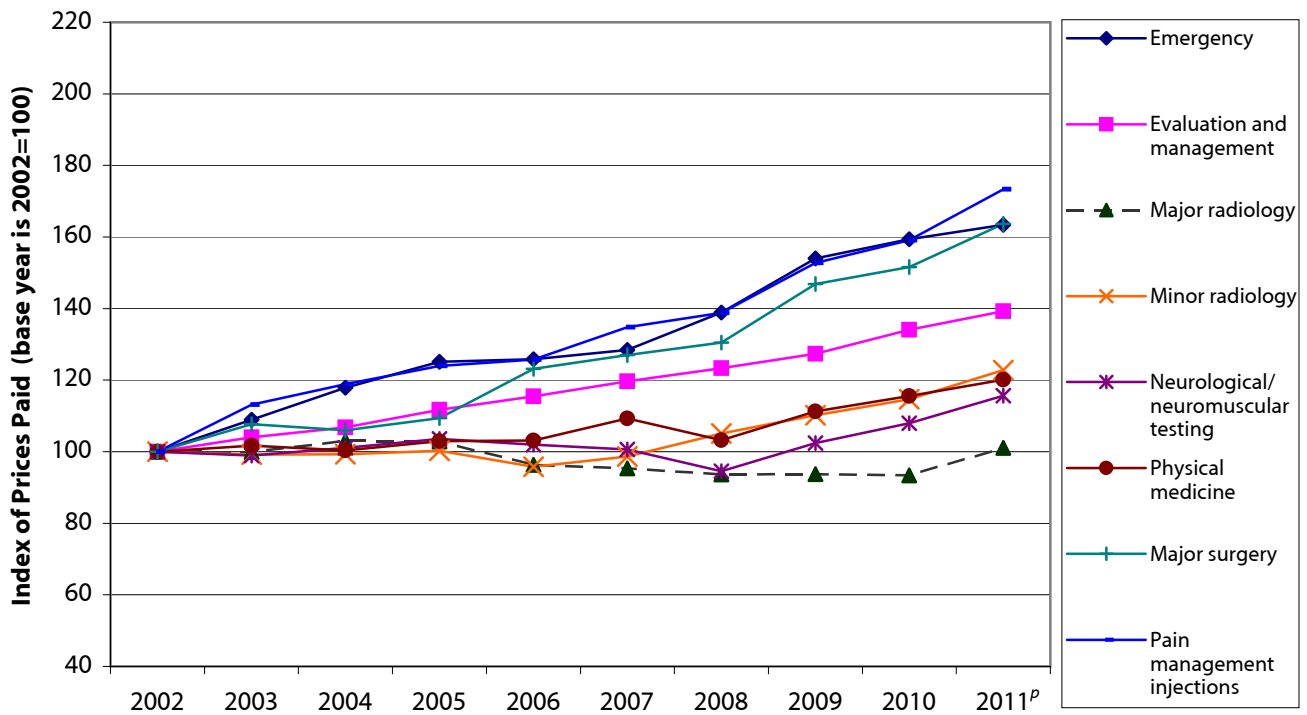
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*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. North Carolina updates its fee schedule annually in January to account for new and discontinued CPT codes published by the AMA.

*Key:* AMA: American Medical Association; CPT: Current Procedural Terminology.



**Figure D.17 New Jersey Trend in Professional Prices Paid by Service Group, 2002 to 2011**



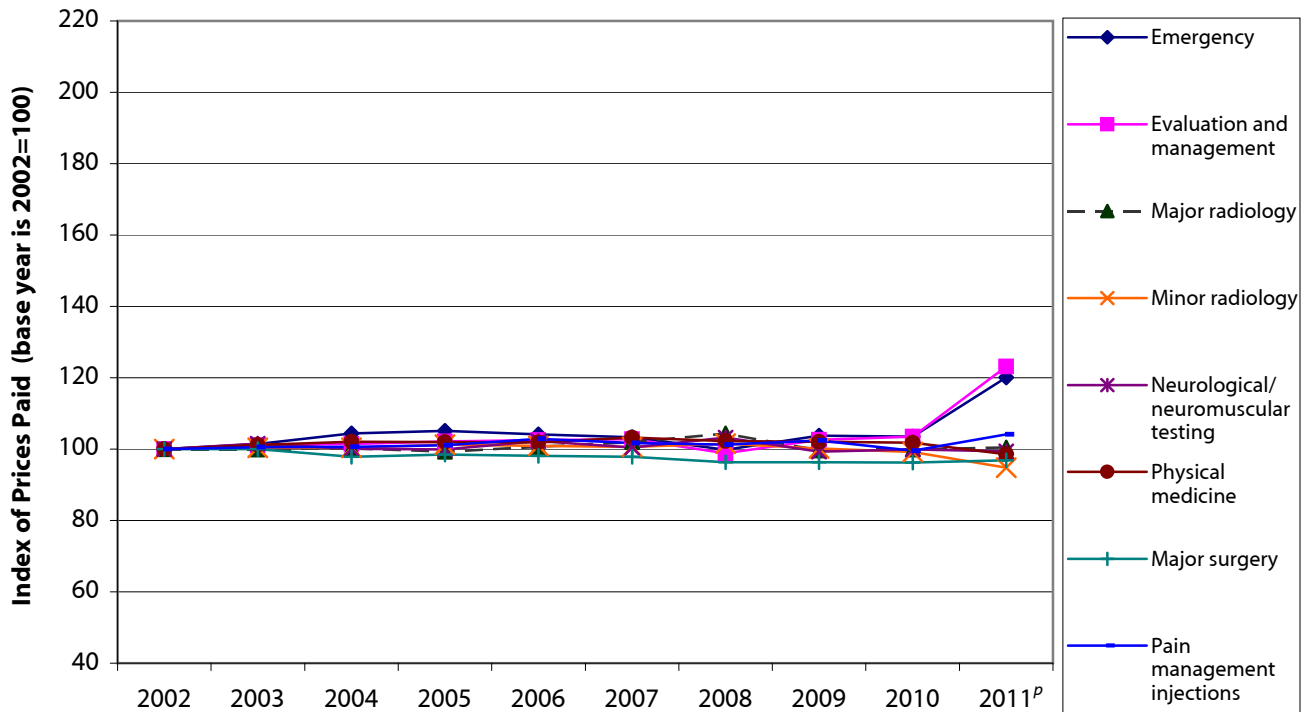
**New Jersey Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	109	118	125	126	128	139	154	159	163
Evaluation and management	100	104	107	112	115	120	123	127	134	139
Major radiology	100	100	103	103	96	95	94	94	93	101
Minor radiology	100	99	99	100	96	99	105	110	115	123
Neurological/neuromuscular testing	100	99	101	104	102	101	95	102	108	116
Physical medicine	100	102	100	103	103	109	103	111	116	120
Major surgery	100	108	106	109	123	127	130	147	152	164
Pain management injections	100	113	119	124	126	135	139	153	159	173
Overall	100	104	105	108	112	116	116	126	131	138

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* New Jersey did not have a workers' compensation fee schedule as of 2011.

**Figure D.18 New York Trend in Professional Prices Paid by Service Group, 2002 to 2011**



**New York Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	101	104	105	104	103	100	104	104	120
Evaluation and management	100	101	101	102	103	103	99	103	103	123
Major radiology	100	100	100	99	101	102	104	100	100	100
Minor radiology	100	100	100	101	101	101	102	100	99	95
Neurological/neuromuscular testing	100	101	100	100	102	100	103	99	100	99
Physical medicine	100	101	102	102	102	103	102	102	102	99
Major surgery	100	100	98	98	98	98	96	96	96	97
Pain management injections	100	101	101	101	103	102	101	102	100	104
Overall	100	101	101	101	101	101	100	100	100	104

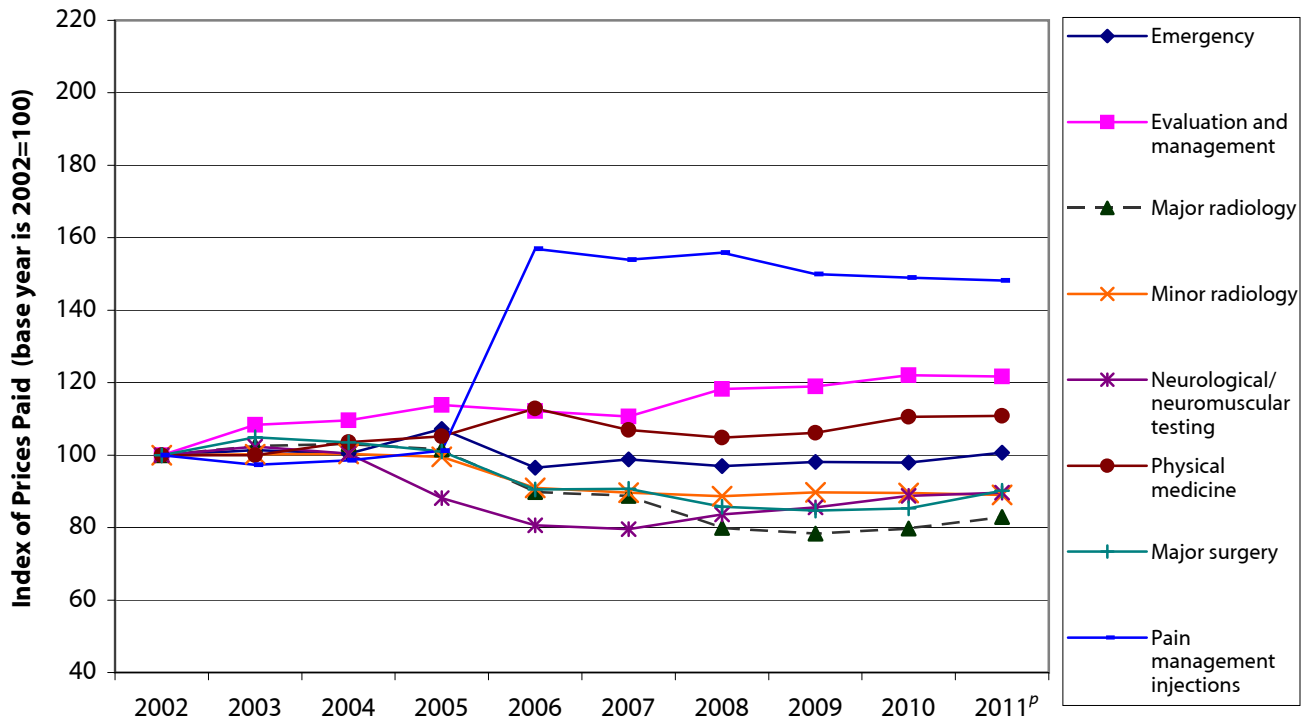
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

**Notes:**

The data for this state 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.

New York periodically updates its fee schedule for professional services; however, the maximum allowable reimbursement rates for most procedures 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.

**Figure D.19 Oklahoma Trend in Professional Prices Paid by Service Group, 2002 to 2011**



**Oklahoma Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	101	100	107	97	99	97	98	98	101
Evaluation and management	100	108	110	114	112	111	118	119	122	122
Major radiology	100	103	103	102	90	89	80	78	80	83
Minor radiology	100	100	100	100	91	90	89	90	90	89
Neurological/neuromuscular testing	100	102	100	88	81	80	84	86	89	90
Physical medicine	100	100	104	105	113	107	105	106	111	111
Major surgery	100	105	104	101	90	91	86	85	85	90
Pain management injections	100	97	99	101	157	154	156	150	149	148
Overall	100	103	104	105	103	101	100	100	102	104

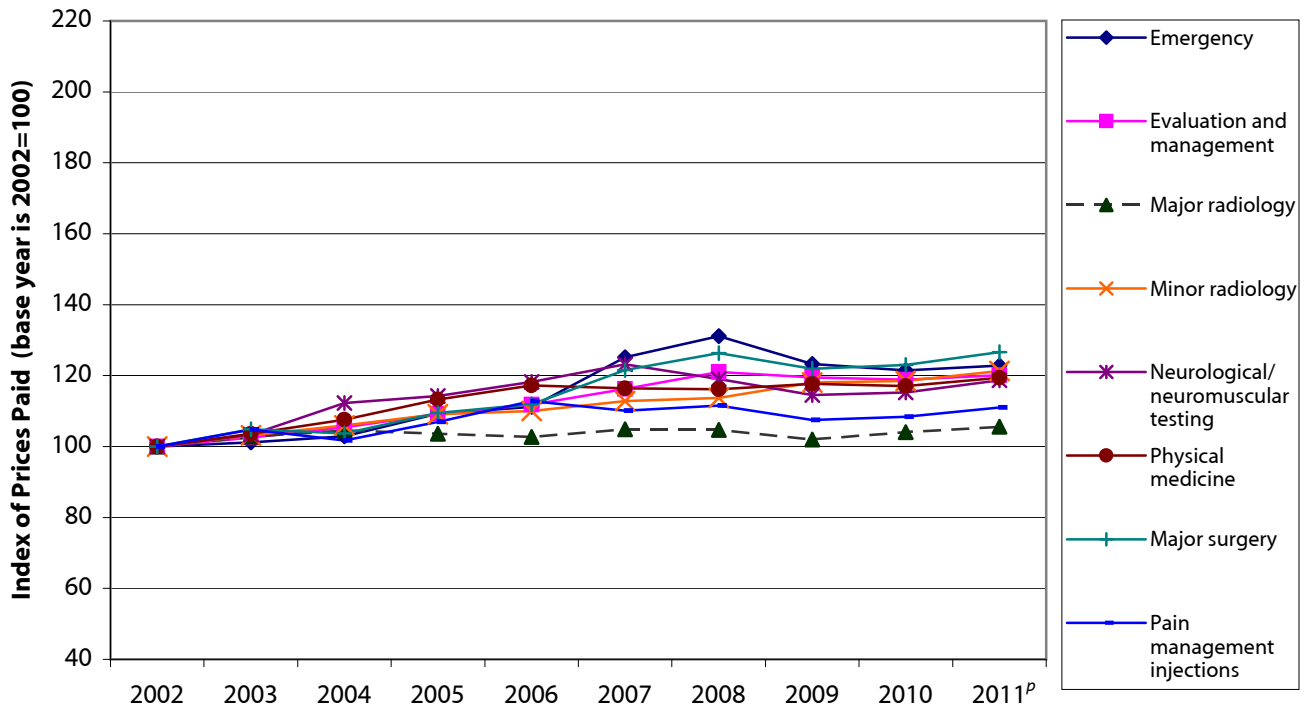
*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

**Notes:**

The data for this state 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.

Oklahoma had regular updates to its fee schedule for professional services over the study period. For example, in 2006 the fee schedule rates had material increases in many pain management injection procedures and decreases in many services, such as emergency, radiology, neurological and neuromuscular testing, and many surgery procedures. The most recent update during the period covered by this study was effective January 1, 2011.

**Figure D.20 Pennsylvania Trend in Professional Prices Paid by Service Group, 2002 to 2011**



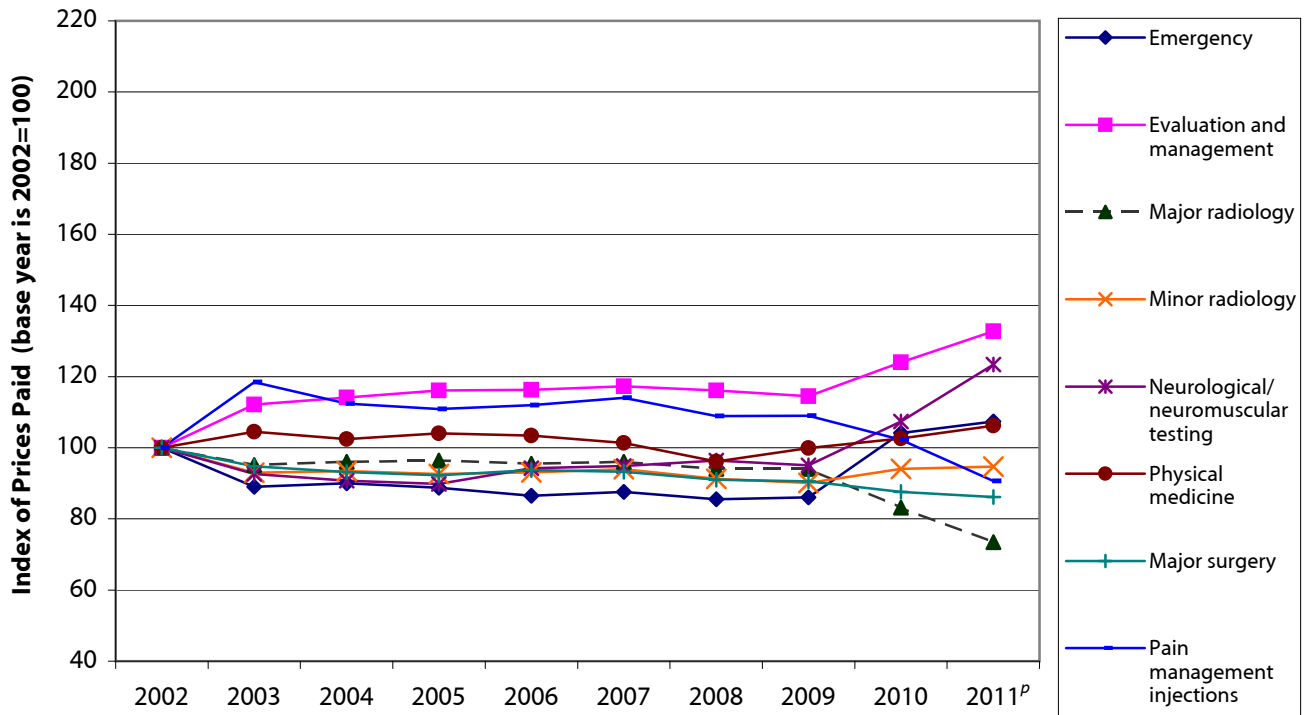
**Pennsylvania Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	101	103	109	111	125	131	123	122	123
Evaluation and management	100	103	105	109	112	116	121	119	119	120
Major radiology	100	103	105	104	103	105	105	102	104	106
Minor radiology	100	103	106	109	110	113	114	118	119	121
Neurological/neuromuscular testing	100	103	112	114	118	123	119	115	115	119
Physical medicine	100	104	108	113	117	116	116	118	117	119
Major surgery	100	105	104	109	112	122	126	122	123	127
Pain management injections	100	105	102	107	113	110	112	107	108	111
Overall	100	103	106	110	113	116	118	117	117	119

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Pennsylvania updates its fee schedule for professional services annually, based on the percentage change in the statewide average weekly wage.

**Figure D.21 South Carolina Trend in Professional Prices Paid by Service Group, 2002 to 2011**



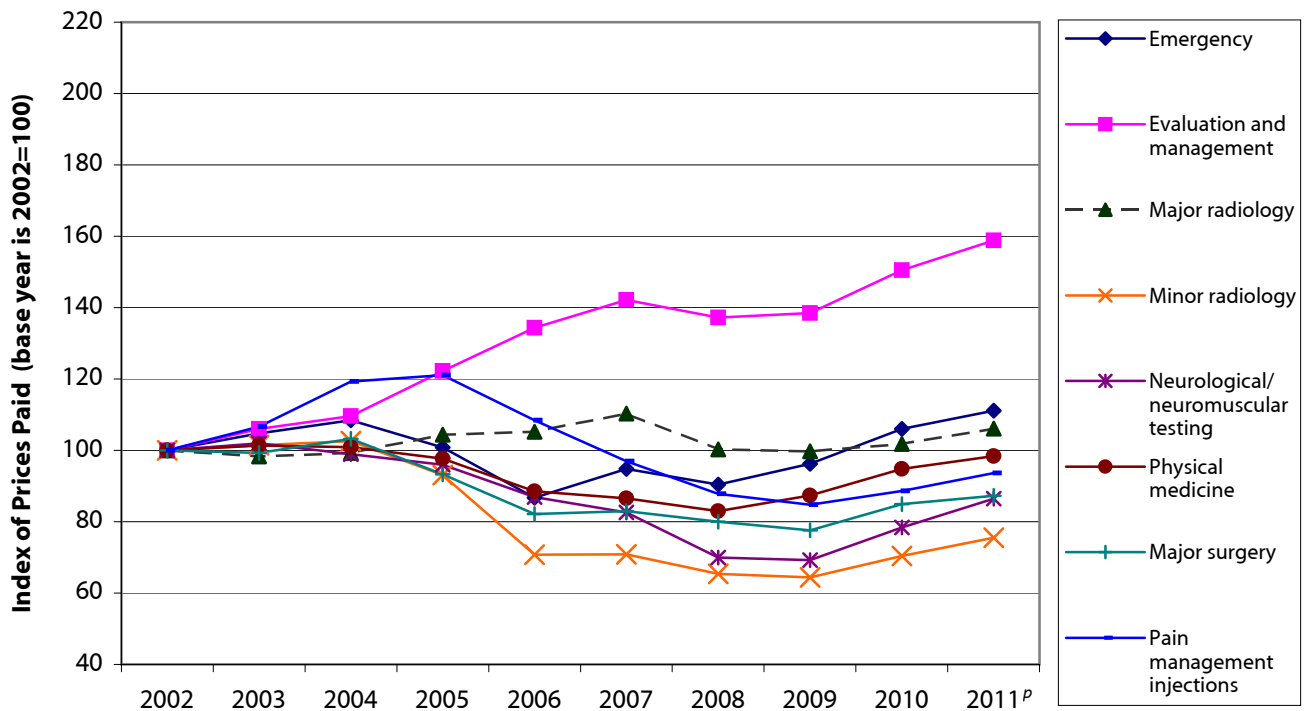
**South Carolina Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	89	90	89	86	88	85	86	104	107
Evaluation and management	100	112	114	116	116	117	116	114	124	133
Major radiology	100	95	96	96	95	96	94	94	83	73
Minor radiology	100	93	93	93	93	94	91	90	94	95
Neurological/neuromuscular testing	100	93	91	90	94	95	96	95	107	123
Physical medicine	100	104	102	104	103	101	96	100	103	106
Major surgery	100	95	93	92	94	93	91	91	88	86
Pain management injections	100	118	112	111	112	114	109	109	102	91
Overall	100	103	103	104	104	103	100	101	104	107

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* South Carolina's fee schedule for professional services remained unchanged after the 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 (such as evaluation and management, emergency, etc.) and decreased the rates for others (such as pain management injections, radiology services, etc.).

**Figure D.22 Tennessee Trend in Professional Prices Paid by Service Group, 2002 to 2011**



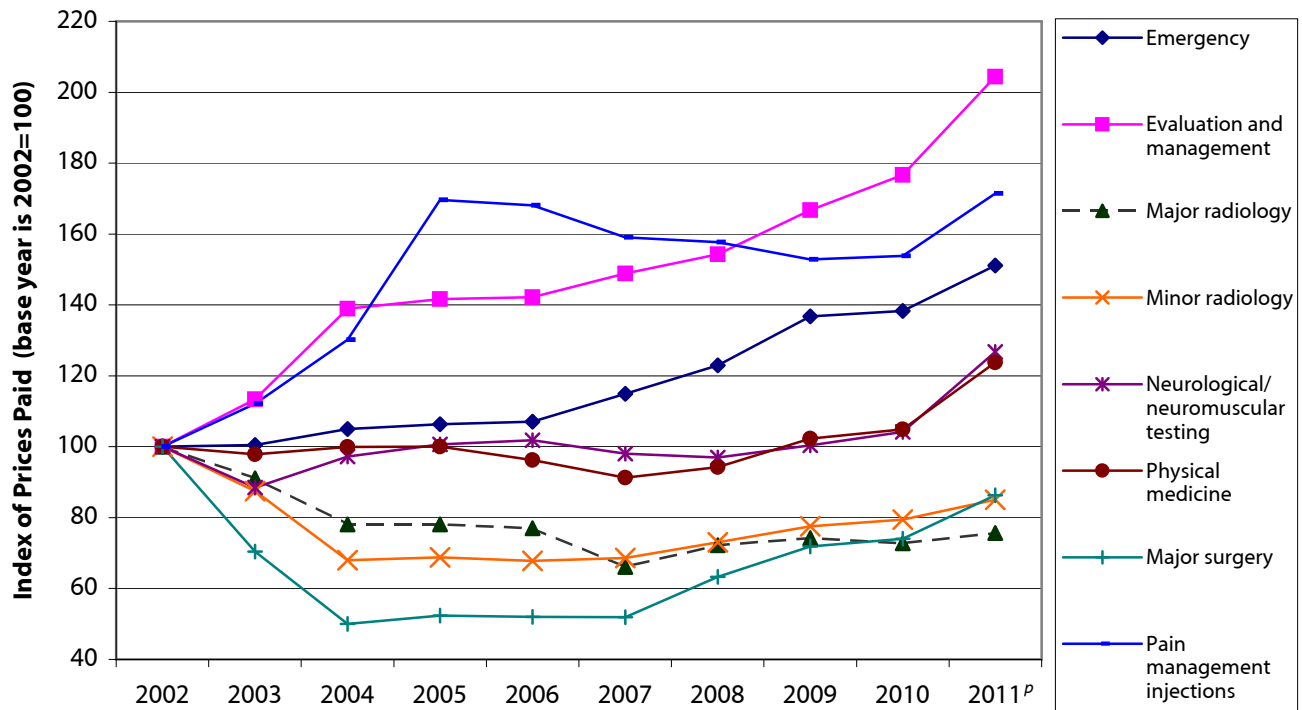
**Tennessee Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	105	108	101	87	95	90	96	106	111
Evaluation and management	100	106	110	122	134	142	137	139	150	159
Major radiology	100	98	99	104	105	110	100	100	102	106
Minor radiology	100	101	103	93	71	71	65	64	70	76
Neurological/neuromuscular testing	100	102	99	96	87	83	70	69	78	86
Physical medicine	100	101	101	98	89	87	83	87	95	98
Major surgery	100	99	103	93	82	83	80	78	85	87
Pain management injections	100	107	119	121	108	97	88	85	89	94
Overall	100	102	104	103	98	99	94	95	102	107

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Tennessee implemented a fee schedule in July 2005 and had regular updates in the following years.

**Figure D.23 Texas Trend in Professional Prices Paid by Service Group, 2002 to 2011**



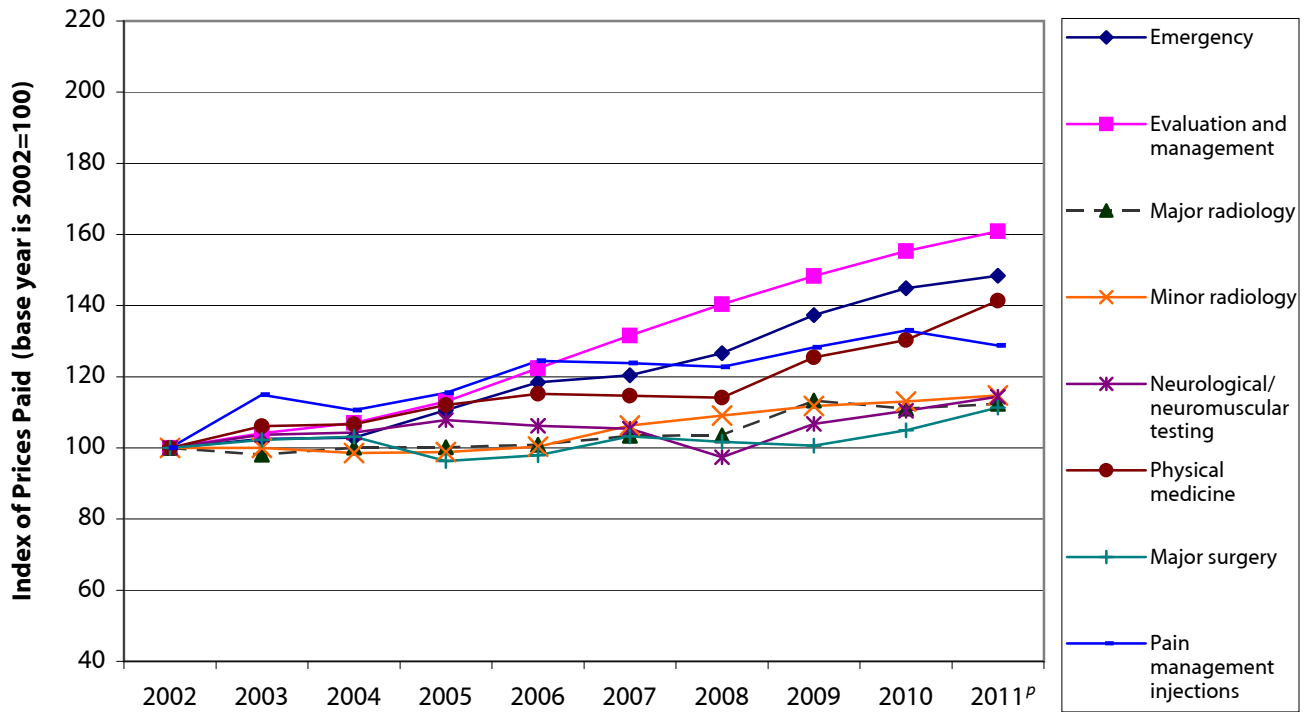
**Texas Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	100	105	106	107	115	123	137	138	151
Evaluation and management	100	113	139	142	142	149	154	167	177	204
Major radiology	100	91	78	78	77	66	72	74	73	76
Minor radiology	100	87	68	69	68	69	73	78	79	85
Neurological/neuromuscular testing	100	88	97	101	102	98	97	100	104	127
Physical medicine	100	98	100	100	96	91	94	102	105	124
Major surgery	100	70	50	52	52	52	63	72	74	86
Pain management injections	100	112	130	170	168	159	158	153	154	171
Overall	100	94	94	96	95	92	98	106	109	126

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:* Texas decreased fee schedule rates for surgery and radiology and increased rates for evaluation and management services in August 2003. 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.

**Figure D.24 Virginia Trend in Professional Prices Paid by Service Group, 2002 to 2011**



**Virginia Trend in Professional Prices Paid by Service Group, 2002 to 2011**

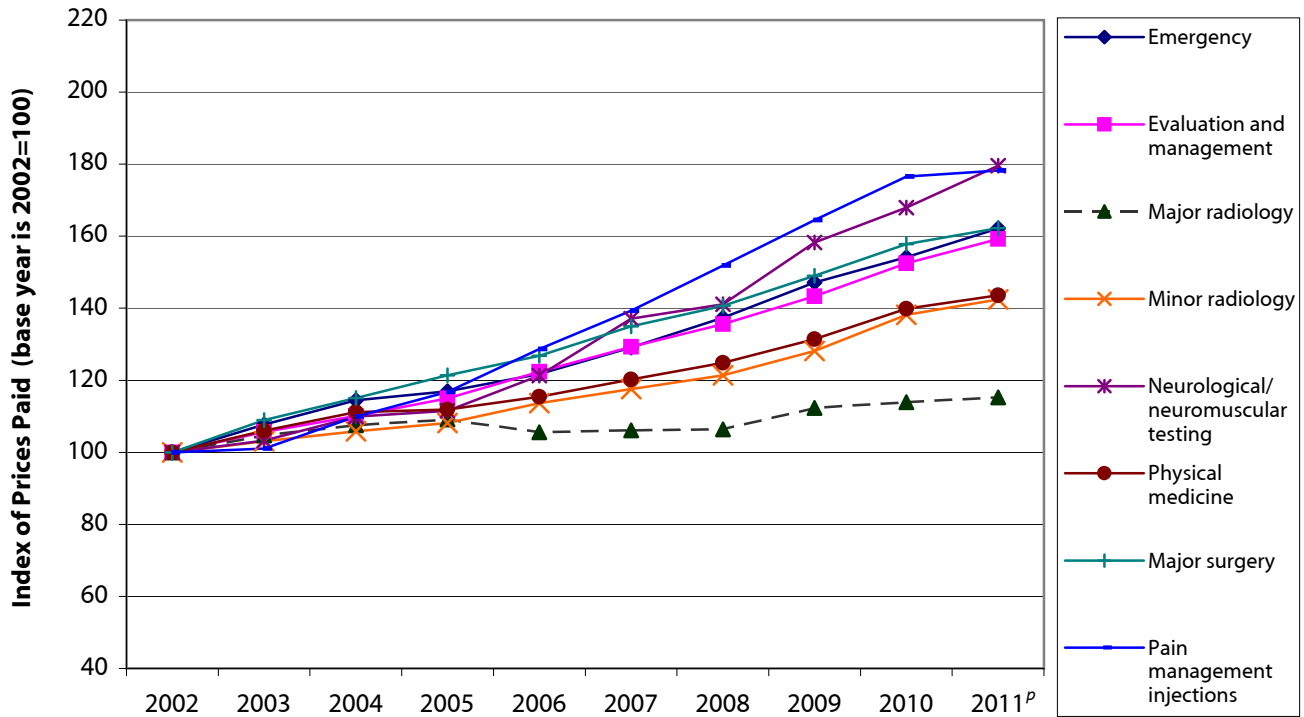
Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	103	103	111	118	120	127	137	145	148
Evaluation and management	100	104	107	113	122	132	140	148	155	161
Major radiology	100	98	100	100	101	103	103	113	111	112
Minor radiology	100	100	99	99	100	106	109	112	113	115
Neurological/neuromuscular testing	100	104	104	108	106	105	97	107	110	114
Physical medicine	100	106	107	112	115	115	114	125	130	141
Major surgery	100	102	103	96	98	103	102	101	105	111
Pain management injections	100	115	111	116	124	124	123	128	133	129
Overall	100	104	105	107	111	114	116	123	127	133

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Virginia did not have a workers' compensation fee schedule as of 2011.



**Figure D.25 Wisconsin Trend in Professional Prices Paid by Service Group, 2002 to 2011**



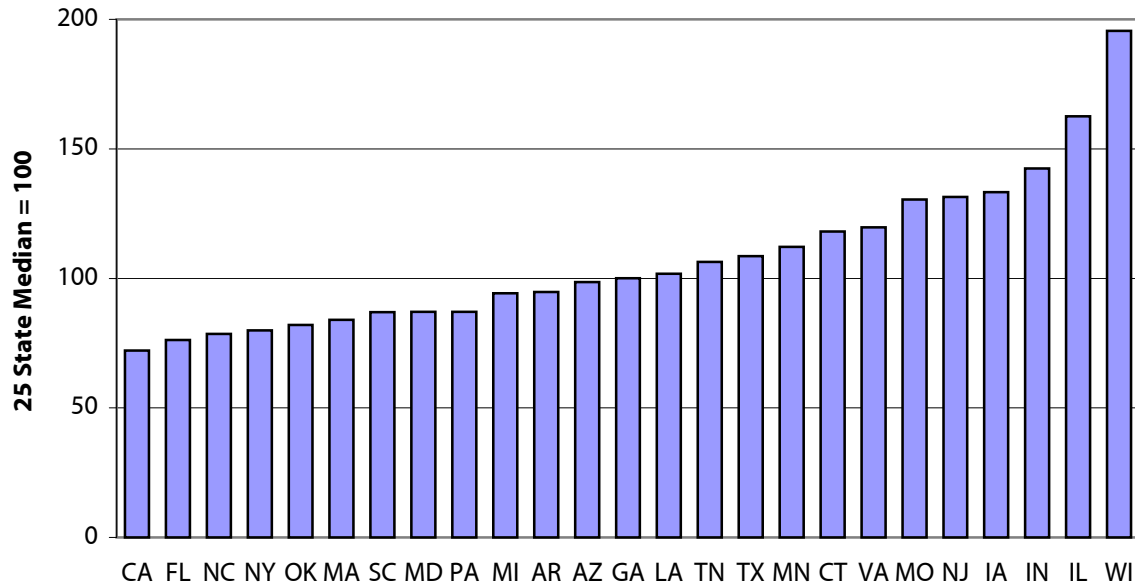
**Wisconsin Trend in Professional Prices Paid by Service Group, 2002 to 2011**

Professional Services	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 <sup>P</sup>
Emergency	100	108	114	117	122	129	137	147	154	162
Evaluation and management	100	106	110	115	122	129	136	143	152	159
Major radiology	100	105	107	109	106	106	106	112	114	115
Minor radiology	100	103	106	108	114	118	121	128	138	142
Neurological/neuromuscular testing	100	103	110	112	121	137	141	158	168	180
Physical medicine	100	106	111	112	115	120	125	131	140	144
Major surgery	100	109	115	121	127	135	141	149	158	162
Pain management injections	100	101	110	117	129	139	152	164	177	178
Overall	100	106	111	114	119	125	130	138	146	150

*Special notation:* <sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Note:* Wisconsin did not have a conventional workers' compensation fee schedule as of 2011.

**Figure E.1 Professional Services, WCRI MPI-WC in 25 States, 2011<sup>P</sup>**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

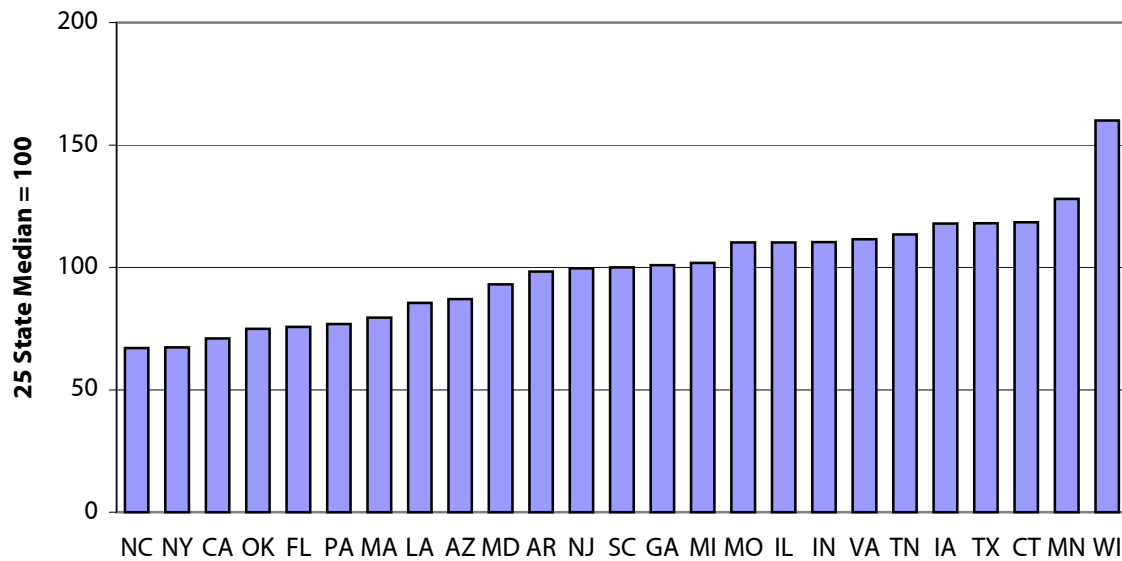
*Notes:*

AZ, 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. 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.

IA, IN, MO, NJ, VA, WI: These states had no workers' compensation fee schedule in 2011.

AZ, CT, IL, MD, OK, PA, TN, TX: These states had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.

**Figure E.2 Professional Evaluation and Management, WCRI MPI-WC in 25 States, 2011<sup>P</sup>**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:*

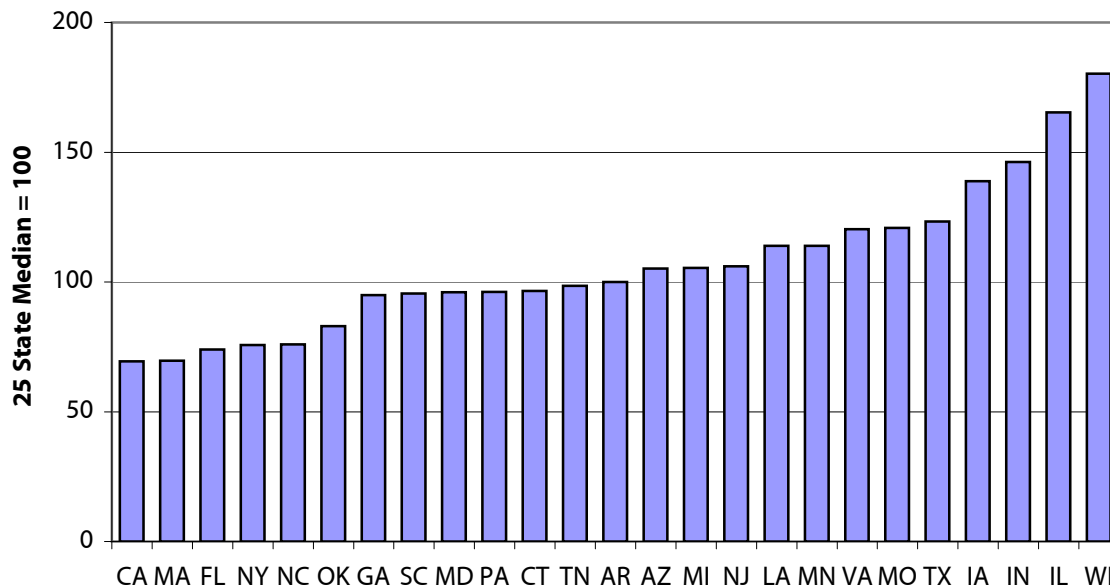
Evaluation and management: The services in this group are new and established patient office visits. These consist of office visits that require at least two of three parts: a problem focused history, a problem focused examination, and straightforward medical decision making of various complexities.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

AZ, 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. 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.

IA, IN, MO, NJ, VA, WI: These states had no workers' compensation fee schedule in 2011.

AZ, CT, IL, MD, OK, PA, TN, TX: These states had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.

**Figure E.3 Professional Physical Medicine, WCRI MPI-WC in 25 States, 2011<sup>P</sup>**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:*

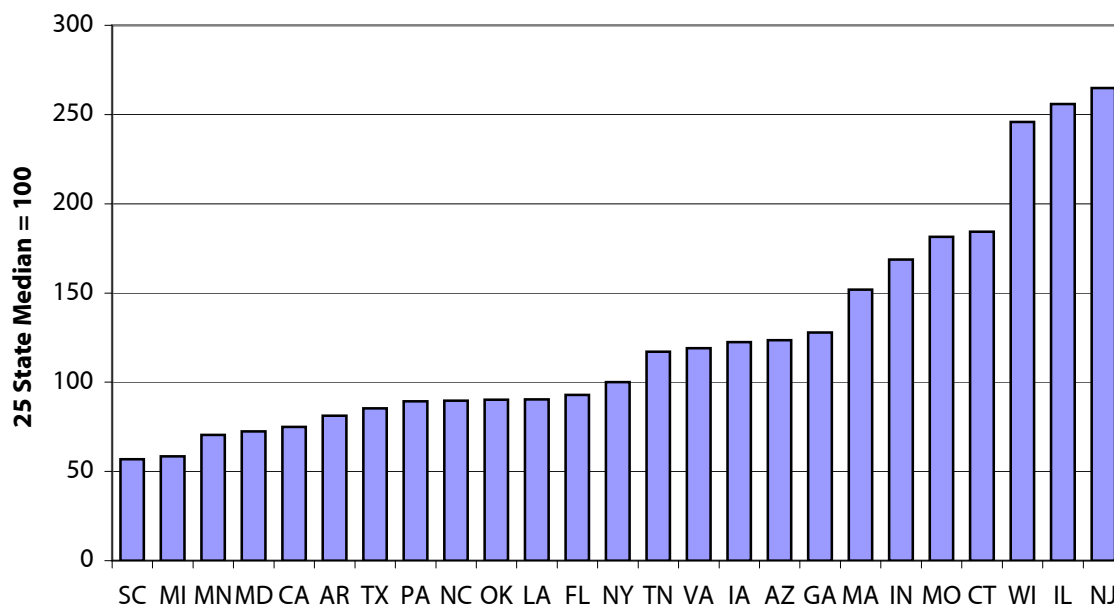
Physical medicine: The services in this group include physical medicine procedures and modalities, chiropractic care such as therapeutic activities, procedures and manual therapy techniques involving one or more areas, and electronic stimulation. See Table TA.2 for a detailed description of all service codes included in this group.

AZ, 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. 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.

IA, IN, MO, NJ, VA, WI: These states had no workers' compensation fee schedule in 2011.

AZ, CT, IL, MD, OK, PA, TN, TX: These states had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.

**Figure E.4 Professional Major Surgery, WCRI MPI-WC in 25 States, 2011<sup>P</sup>**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:*

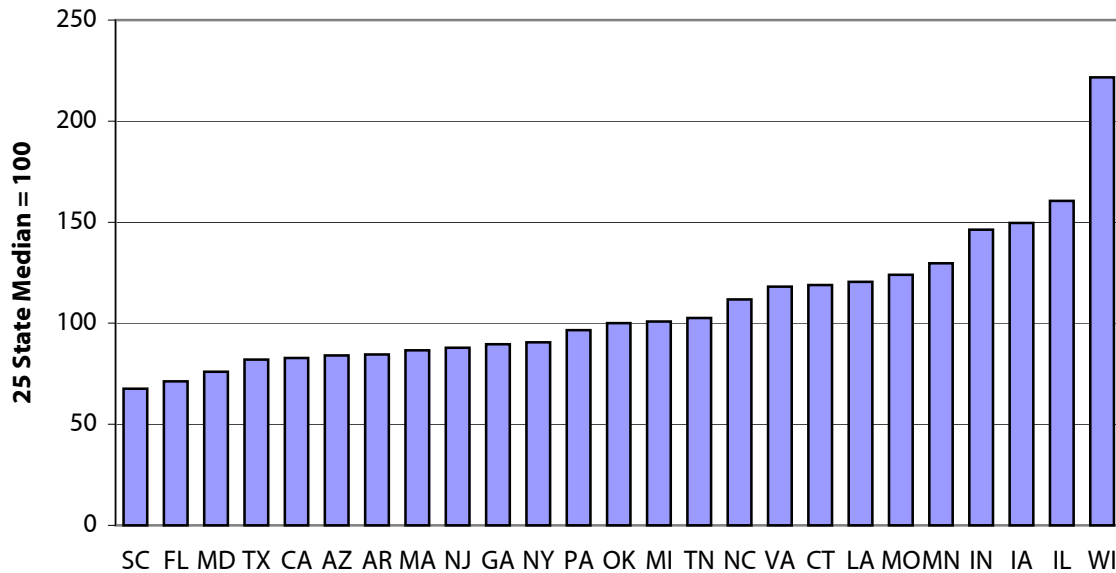
**Major surgery:** The majority of the services in this group include orthopedic surgeries, such as arthroscopy of the shoulder or knee and lumbar laminotomies, neuroplasty and/or transposition of the median nerve at the carpal tunnel, and hernia repair. See Table TA.2 for a detailed description of all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

AZ, 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. 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.

IA, IN, MO, NJ, VA, WI: These states had no workers' compensation fee schedule in 2011.

AZ, CT, IL, MD, OK, PA, TN, TX: These states had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.

**Figure E.5 Professional Major Radiology, WCRI MPI-WC in 25 States, 2011<sup>P</sup>**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:*

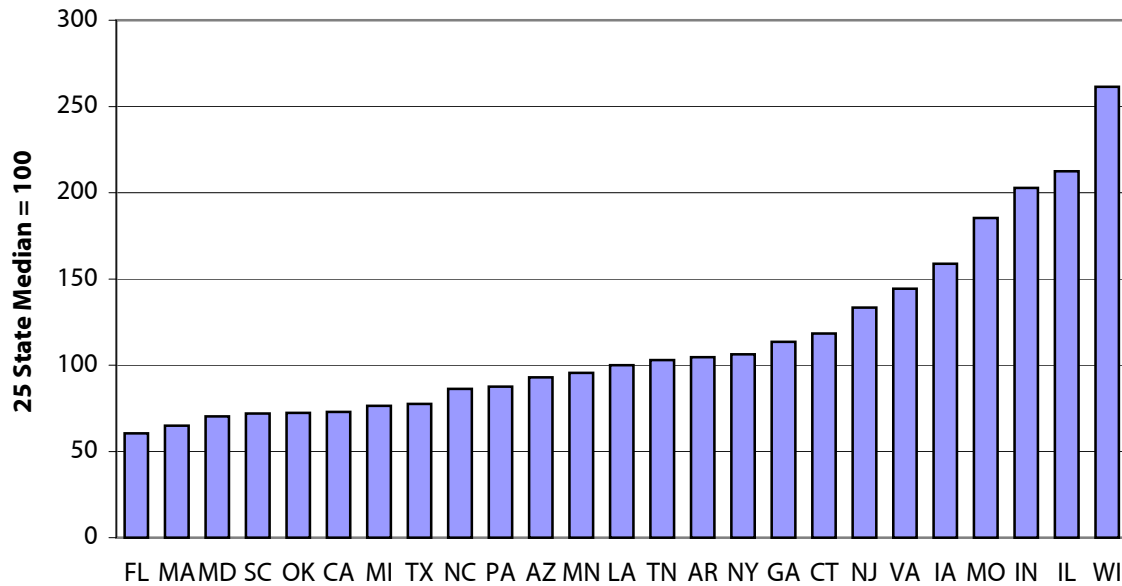
Major radiology: The services in this group mostly include magnetic resonance imaging of various areas, including, but not limited to, spinal canal and contents, cervical, lumbar, and any joint of the upper or lower extremity, without contrast material. See Table TA.2 for a detailed description of all service codes included in this group.

AZ, 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. 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.

IA, IN, MO, NJ, VA, WI: These states had no workers' compensation fee schedule in 2011.

AZ, CT, IL, MD, OK, PA, TN, TX: These states had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.

**Figure E.6 Professional Minor Radiology, WCRI MPI-WC in 25 States, 2011<sup>P</sup>**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:*

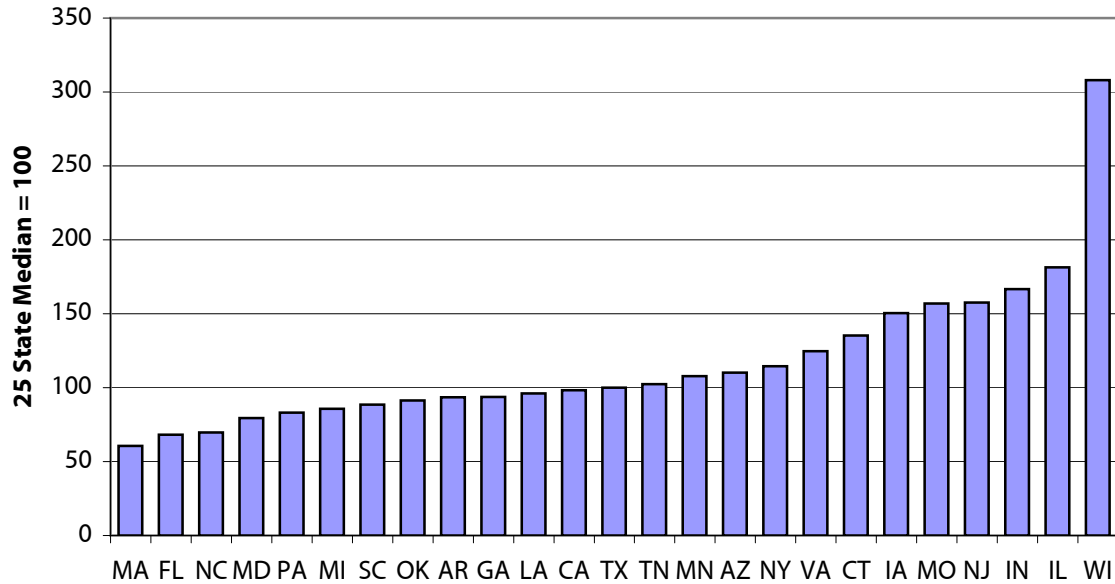
Minor radiology: The services in this group mostly include radiologic exams (X rays or ultrasounds) involving at least two views of various areas of the body, including, but not limited to, the spine, lumbosacral, shoulder, and wrist. See Table TA.2 for a detailed description of all service codes included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

AZ, 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. 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.

IA, IN, MO, NJ, VA, WI: These states had no workers' compensation fee schedule in 2011.

AZ, CT, IL, MD, OK, PA, TN, TX: These states had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.

**Figure E.7 Professional Neurological/Neuromuscular Testing, WCRI MPI-WC in 25 States, 2011<sup>P</sup>**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*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.

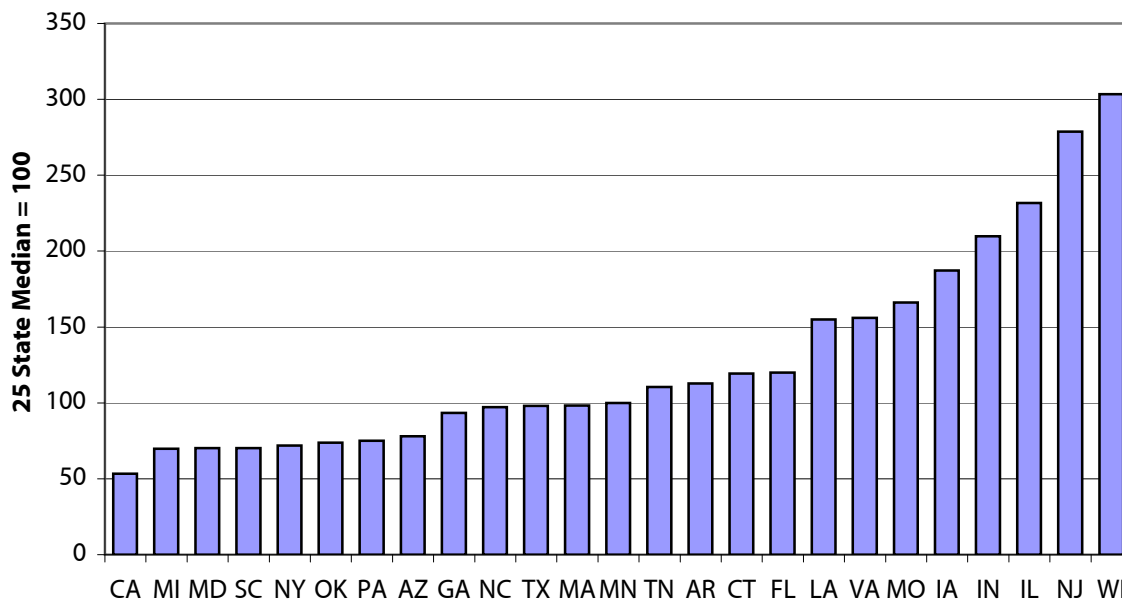
AZ, MO, NY, OK: The data for each of these states are not necessarily representative because each state is missing data from a larger data source that is significant in that state. To the extent that prices paid may differ for the missing data source compared with other data sources in the state, this may lead to under- or overestimations in the results.

IA, IN, MO, NJ, VA, WI: These states had no workers' compensation fee schedule in 2011.

AZ, CT, IL, MD, OK, PA, TN, TX: These states had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.



**Figure E.8 Professional Pain Management Injections, WCRI MPI-WC in 25 States, 2011<sup>P</sup>**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:*

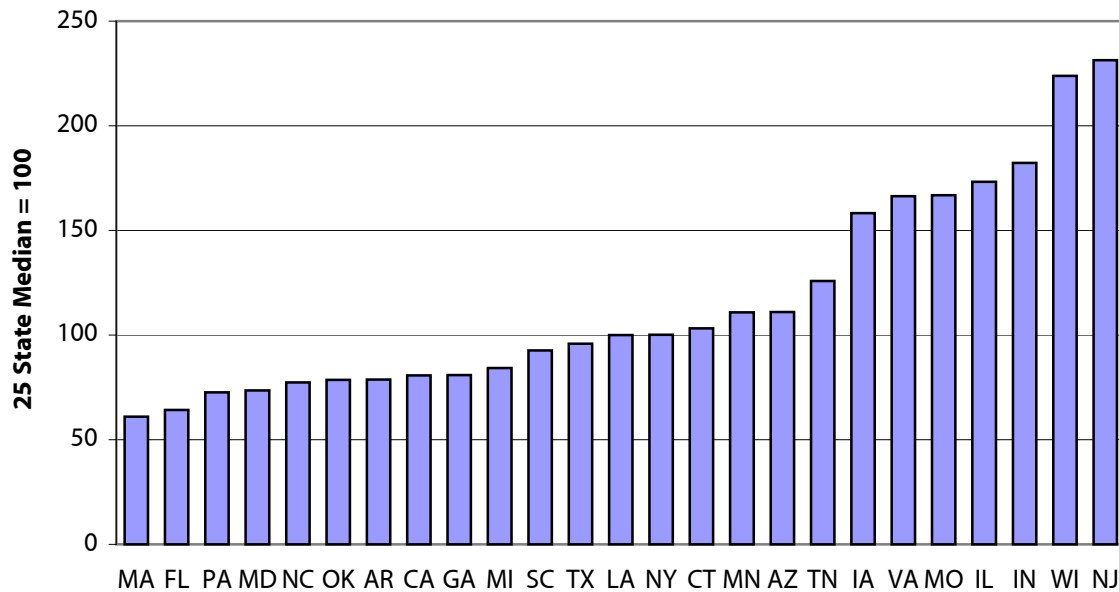
**Pain management injections:** The services in this group include injection procedures that are commonly used for pain management, such as epidural or steroid injections on nerve roots and muscles for lumbar, sacral, cervical, or thoracic areas. See Table TA.2 for a detailed description of all service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

**AZ, 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. 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.

**IA, IN, MO, NJ, VA, WI:** These states had no workers' compensation fee schedule in 2011.

**AZ, CT, IL, MD, OK, PA, TN, TX:** These states had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.

**Figure E.9 Professional Emergency Services, WCRI MPI-WC in 25 States, 2011<sup>P</sup>**



*Special notation:*<sup>P</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

*Notes:*

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.

AZ, 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. 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.

IA, IN, MO, NJ, VA, WI: These states had no workers' compensation fee schedule in 2011.

AZ, CT, IL, MD, OK, PA, TN, TX: These states had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.

**Table 1 MPI-WC—2011<sup>p</sup> Interstate Comparisons**

Professional Services	Overall	Emergency	Evaluation & Management	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Physical Medicine	Major Surgery	Pain Management Injections
AR	95	79	98	85	105	94	100	81	113
AZ <sup>a,b</sup>	99	111	87	84	93	110	105	123	78
CA	72	81	71	83	73	98	69	75	53
CT <sup>b</sup>	118	103	118	119	118	135	97	184	119
FL	76	64	76	71	60	68	74	93	120
GA	100	81	101	90	114	94	95	128	93
IA <sup>c</sup>	133	158	118	150	159	150	139	123	187
IL <sup>b</sup>	163	173	110	161	212	181	165	256	232
IN <sup>c</sup>	142	182	110	146	203	167	146	169	210
LA	102	100	85	120	100	96	114	90	155
MA	84	61	79	87	65	61	70	152	98
MD <sup>b</sup>	87	74	93	76	70	80	96	72	70
MI	94	84	102	101	76	86	105	58	70
MN	112	111	128	130	95	108	114	70	100
MO <sup>a,c</sup>	130	167	110	124	185	157	121	181	166
NC	79	77	67	112	86	70	76	90	97
NJ <sup>c</sup>	131	231	100	88	133	158	106	265	279
NY <sup>a</sup>	80	100	67	91	106	115	76	100	72
OK <sup>a,b</sup>	82	79	75	100	72	91	83	90	74
PA <sup>b</sup>	87	73	77	97	87	83	96	89	75
SC	87	93	100	68	72	88	96	57	70
TN <sup>b</sup>	106	126	114	103	103	102	99	117	110
TX <sup>b</sup>	109	96	118	82	78	100	123	85	98
VA <sup>c</sup>	120	166	112	118	144	125	120	119	156
WI <sup>c</sup>	196	224	160	222	261	308	180	246	303

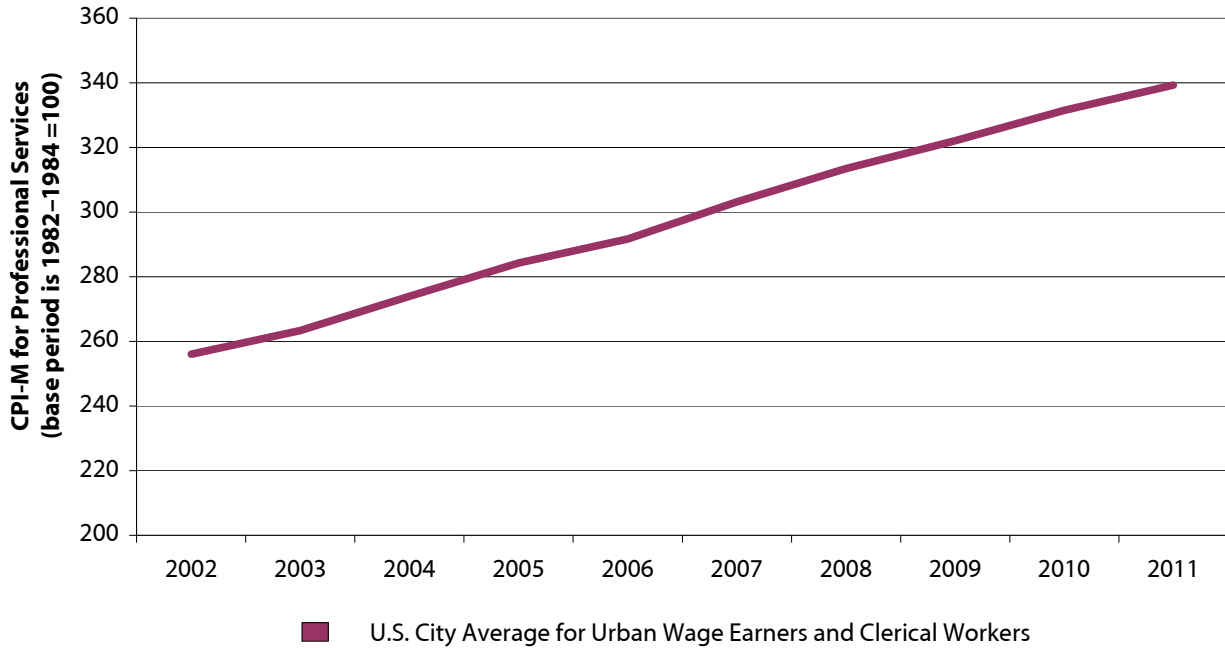
*Special notation:* <sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

<sup>a</sup> The data for this state 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 to other data sources in the state, this may lead to under- or overestimations in the results.

<sup>b</sup> This state had fee schedule changes or updates after June 30, 2011, that are not reflected in the results.

<sup>c</sup> This state had no workers' compensation fee schedule in 2011.

**Figure F.1 Trends in Consumer Price Index for Medical Care (CPI-M), Professional Services, 2002 to 2011  
U.S. City Average, for Urban Wage Earners and Clerical Workers, Not Seasonally Adjusted**



**Consumer Price Index for Medical Care (CPI-M), Professional Services, 2002 to 2011  
U.S. City Average, for Urban Wage Earners and Clerical Workers, Not Seasonally Adjusted**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
CPI-M	256	263	274	284	292	303	313	322	331	339

Note: The base period is 1982–1984, which is equal to 100 in the index.

Source: U.S. Bureau of Labor Statistics, not seasonally adjusted. Consumer Price Index - Urban Wage Earners and Clerical Workers, Series ID CWUR0000SEMC, CWUS0000SEMC located at <http://www.bls.gov/cpi>.

# TECHNICAL APPENDIX

This Technical Appendix for the MPI-WC contains three 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, creating the price indices, and data cleaning. The last section addresses the limitations and caveats of this study.

## STUDY SCOPE

The WCRI Workers’ Compensation Medical Price Index focuses on professional services (i.e., nonhospital, nonfacility services) provided to injured workers with workers’ compensation claims. Professional services typically make up about 50 percent of total workers’ compensation medical expenditures in workers’ compensation in a given state.<sup>1</sup> The rest include payments for hospital inpatient and outpatient services, ambulatory surgical centers, and pharmaceuticals and supplies. The price index is based on the following service groups: emergency, evaluation and management, physical medicine, both major and minor radiology, neurological and neuromuscular testing, surgery, and pain management injections. [Table TA.1](#) provides a brief description of these service groups. Detailed definitions of the specific Current Procedural Terminology (CPT) codes included under each group can be found in [Table TA.2](#).

This study reports prices paid for each of those eight types of services provided by any nonhospital providers; it does not break out specific provider types (such as physicians, chiropractors, and physical/occupational therapists). Twenty-five states are included in this study: Arkansas, Arizona, California, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Wisconsin. We monitor trends in prices paid from calendar years 2002 through June 2011 within each of these 25 states and compare prices paid in calendar year 2011<sup>P</sup> across these 25 states.

## 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 constructed two analysis data sets—expenditure data and price data. We used the expenditure data to establish the marketbasket and the weights on services in the marketbasket; after that, we used the price data to obtain prices for each marketbasket procedure and constructed price indices using the marketbasket weights.

The price data in this study include services rendered from 2002 through June 2011 in the 25 study states. We obtained the actual amount paid by payors for each medical bill line item for each of the services included

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<sup>1</sup> Radeva, E., B. Savych, C. Telles, R. Yang, and R. Tanabe. 2011. *CompScope™ medical benchmarks, 11th edition*. 13 vols. Cambridge, MA: Workers Compensation Research Institute.

<sup>P</sup> 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

in the marketbasket. Across the study states, the DBE database includes approximately 47 to 79 percent of the workers' compensation claims in each state. The data used in this study are a subset of the DBE database and consist of 40 to 66 percent of the workers' compensation claims in each state. The price data are from several large insurers, self-insurers, state funds, and third-party administrators in the 25 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, Missouri, New York, and Oklahoma, as noted throughout the tables.

The expenditure data for creating the marketbasket include the medical services paid on a group of claims from the 25 study states over a 24-month period from January 1, 2008, to December 31, 2009. In this expenditure data set, to ensure accurate representation of the volume of services and payments in each service group, we selected the medical data associated with claims that had relatively complete detailed medical bill review information; this data set is representative of the distribution of services and payments in WCRI's DBE database. We ensured that this marketbasket was representative of the most recent 2011 data in this report, across the 25 study states (see [Table TA.3](#)).

## 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 injured workers. This collection is called a marketbasket. See [Table TA.2](#) for a list of CPT codes in the marketbasket. We use a single marketbasket of procedure codes across all states and years to hold utilization constant so that we are able to report pure price changes over time and provide more meaningful interstate comparisons. However, the marketbasket may represent a smaller percentage of the total expenditures in some states when state-specific codes are used. In the majority of 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 is common, the marketbasket may represent a smaller percentage of the total dollars spent.

In selecting the marketbasket procedures, 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 we reached at least 80 percent or above of expenditures in all service groups except for major surgery and minor radiology, where the codes in the marketbasket captured 63 percent and 67 percent of total expenditures in those groups respectively ([Table TA.4](#)). This is because there is a broader list of codes in these groups and adding additional codes adds only a small percentage of payments each time. After the initial choice, the expenditures were broken down by state to see if any states were underrepresented or had an overly large effect on the marketbasket.

This study covers a wide time span of ten years. In order to account for potential changes in the utilization patterns over the study period, we updated the selection of procedure codes in the marketbasket, based on the expenditure data covering a 24-month period from 2008 to 2009. As [Table TA.5](#) shows, the updated marketbasket and the previous marketbasket used in the third edition of this report are largely similar. This updated marketbasket was used for computing the price indices in more recent years—2009, 2010, and 2011. Then, we used a standard chained-index method to chain the price indices in the later years with the indices in the earlier years (from 2002 to 2008), which were based on the previous marketbasket used

in the third edition of this report. In this way, we maintained continuity of the price index across different studies 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. Specifically, in this report, calendar year 2009 was held as the transitioning year between the two series of price indices, where the later series includes 2009, 2010, and 2011, and the earlier series includes 2002 to 2008. The price indices in the later series were then chained back to the base year 2002 of the earlier series via the transitioning year 2009 (see the following formula).

$$I^{yr} = \frac{P^{yr}}{P^{09}} \times \frac{P^{09}}{P^{02}}$$

where  $I^{yr}$  is the price-trend index for a year in the later series (2009 to 2011),

$P^{yr}$  is the price in a year in the later series based on updated marketbasket,

$P^{09}$  is the price in 2009 based on updated marketbasket,

$P^{09}$  is the price in 2009 based on previous marketbasket, and

$P^{02}$  is the price in 2002 based on previous marketbasket.

In addition, two points are worth noting regarding the procedure codes: (1) CPT code conversion and crosswalking of the state-specific codes and (2) replacement of obsolete CPT codes by new codes over the period of our analysis. First, some states (such as California, Louisiana, Massachusetts, North Carolina, and Texas) have their own state-specific codes for some services. For those states, we crosswalked the state-specific codes to the common definitions wherever possible; when we could not do this, we excluded the services from the analysis. For example, in Louisiana, where physical medicine services by physical therapists are billed using “PT/OT” codes, we mapped Louisiana code PT010/OT010 for hot or cold packs to CPT code 97010. The Louisiana PT/OT codes for therapeutic exercises or activities could not be mapped and thus were not included in the price analysis. Because of this, the codes in the marketbasket for physical medicine services in Louisiana represent a lower percentage of the total expenditures than in other study states. For example, for 2011, the marketbasket codes for physical medicine services in Louisiana represent 62 percent of the total expenditures, compared with the more typical 82 to 98 percent (See [Table TA.3](#)). Second, to maintain the continuity of the same services identified by the CPT codes, we combined certain CPT codes to reflect changes in the coding system over the study period. For example, the codes 97250, 97260, 97261, and 97265 were combined with 97140 (manual therapy technique, a new code introduced in the 1999 CPT manual) and labeled as 97140 in our analysis.

#### 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 study period. To accomplish this, we created two sets of weights. The procedure-level frequency weight for a marketbasket code was calculated as the total number of services with the code divided by the total number of services across all marketbasket procedures within the service group. The frequency weight for a service group is the percentage of the total number of services associated with this service group divided by the total number of all professional services.

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 service group  $i$ , and  
 $j = 1 \dots M_i$  and  $M_i$  is the total number of procedures in service group  $i$ .

The frequency weight for a service group can be expressed as the following:

$$w_i = \frac{\sum_{j=1}^{M_i} NS_{ij}}{\sum_{i=1}^N \sum_{j=1}^{M_i} NS_{ij}}$$

where  $w_i$  is the frequency weight for service group  $i$ ,  
 $NS_{ij}$  is the number of services for code  $j$  in service group  $i$ ,  
 $j = 1 \dots M_i$  and  $M_i$  is the total number of services in service group  $i$ , and  
 $i = 1 \dots N$  and  $N$  is the total number of service groups.

Because we selected the marketbasket codes from the state-pooled data set, 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 hence introduce potential bias in the weights. To prevent this, we further adjusted for the differences in the mix of service frequencies across the states in the pooled data, so that each state has essentially the same influence in computing the weights.

Based on the established marketbasket, we computed unit prices and price indices by the following steps:

1. Compute the price for each procedure code by averaging amounts paid for individual procedures using all occurrences with an identical procedure code.
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 25-state median prices 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 2002.



Step 2 can be expressed as the following:

$$P_i = \sum_{j=1}^{A_i} v_{ij} * P_{ij}$$

where  $P_i$  is the aggregated price for service group  $i$ ,

$P_{ij}$  is the estimated price for procedure  $j$  in service group  $i$ ,

$v_{ij}$  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:

$$P_0 = \sum_{i=1}^B w_i * P_i$$

where  $P_0$  is the aggregate price for overall professional services,

$P_i$  is the aggregate price for service group  $i$ ,

$w_i$  is the service group level frequency weight for service group  $i$ , and

$i = 1 \dots B$  and  $B$  is the total number of service groups.

And steps 4 and 5 can be expressed as the following:

$$I = \frac{P^{st}}{P^{mdn}} \quad \text{or} \quad I^{yr} = \frac{P^{yr}}{P^{02}}$$

where  $I$  is price index for a state, and  $I^{yr}$  is the price-trend index for a year,

$P^{st}$  is the price (either for a service group or overall) in a state,

$P^{mdn}$  is the price (either for a service group or overall) in the 25-state median,

$P^{yr}$  is the price (either for a service group or overall) in a year later than 2002, and

$P^{02}$  is the price (either for a service group or overall) in calendar year 2002.

Note that there are two ways to compute the state-level price index. One is to first compute the state-level average price by aggregating the prices at the service group level using the service group frequency weights, and then to create the state-level price index by holding the base price at 100. This is the method used in this study. An alternative way is to first compute the price indices for each service group by holding the base prices at 100, and then to create the state-level price index by aggregating the indices at the service group level using the service group expenditure weights; the expenditure weights are the share of the expenditure for each service group as a percentage of total expenditure of all services. These two methods are mathematically equivalent and generate the same results.

#### 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 at once, missing procedure modifier information, and small sample sizes in some cells of the data.

### TRIMMING OUTLIER VALUES

A small proportion of the lines in the data had unusually large or small values in medical payments. Those unusual values contributed disproportionately to the average due to skewed distributions. 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.

The algorithm basically identified implausible increases from one percentile to the next and removed the lines with amounts beyond the point of the increases. For the upper bound, the algorithm starts at the 90th percentile of the price distribution for a unique procedure and searches upwards through percentiles one by one until the upper bound is set or the maximum is reached. The upper bound is set to 120 percent of  $P_i$  if the ratio of  $P_{i+1}$  to  $P_i$  is greater than 1.5. For the lower bound, the algorithm starts at the 10th percentile and searches downward through percentiles, one by one, until the lower bound is set or the minimum is reached. The lower bound is set to 80 percent of  $P_i$  if the ratio of  $P_i$  to  $P_{i-1}$  is greater than 2. If the increase or decrease was larger than expected, those lines were removed from the data.

### MULTIPLE UNITS OF SERVICE

Some services, such as physical medicine modalities and procedures and neurological/neuromuscular testing, may be billed in multiple units. For example, a nerve test that is done on five nerves can be billed as one single line item. The corresponding CPT code would be for just one nerve but the amount paid would be for five nerves. Another example is the therapeutic exercise CPT 97110, which 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 and neurological/neuromuscular testing 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. 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 were picked, we then checked line items with that service against those prevailing prices. If the paid amount in a line item was a whole multiple of any of the prevailing prices, we assumed that line represented 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 use modifiers to distinguish the technical component versus the professional component 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 10 to 30 percent of the price for the whole procedure is paid for the professional component, and 70 to 90 percent of the price for the whole procedure is paid for the technical component. The maximum allowances for these components are subject

to price regulation. Unfortunately, the modifier codes are often missing in the data, and often this leads to shifts in the mix of different components from one year to another. Therefore, estimating price for radiology procedures without identifying different components separately and holding the mix of them constant would lead to biased price results across states as well as over time.

For this study, we developed an algorithm to identify medical bill line items for the professional component and estimate the prices paid for the professional component separately from the prices paid for the technical component or the whole procedure. We used a regulation-driven method for states with fee schedules and a data-driven method for states without fee schedules. For the study states with fee schedules, we used the maximum allowance amounts for the professional components published by the state governments as benchmarks to set up the threshold.<sup>2</sup> Radiology services with paid amounts below the threshold were identified as services billed for the professional component; services with paid amounts above that threshold were identified as services billed for the technical component or the whole procedure.

For states with no fee schedules (including Tennessee and Illinois in the period before the implementation of their fee schedules), we identified the group of services billed for the professional component based on a data-driven method with the following major steps. First, in the states without fee schedule regulations, often there are major networks that offer discounted prices for whole procedures. Based on the network and discount information in our data, we estimated the price for the whole procedure for each procedure code. Second, we estimated the threshold of the potential maximum price for the professional component for each procedure code. Specifically, for each state without a fee schedule, we found a group of *neighboring states* with fee schedules in the same general geographic region as the non-fee-schedule state. Next, for each procedure code, using the fee schedules in these neighboring states, we found the typical ratio between the maximum allowance amount for the professional component and the amount for the whole procedure. Then, for each procedure code in the non-fee-schedule state, we set up the threshold of the potential maximum price for the professional component by multiplying the typical ratio by the estimated price for the whole procedure. Radiology services with paid amounts below the threshold were identified as services billed for the professional component; the rest of the services were identified as services billed for the technical component or the whole procedure.<sup>3</sup>

After we identified services billed for the professional component separately from services billed for the technical component/whole procedure for each CPT code, we held the frequency of these two types of services for each procedure constant across states and years. Then we aggregated prices to the service group level.

Please note that we were not able to identify the services billed for the technical component and for the whole procedure separately in this report, because in the detailed percentile distributions of actual prices paid, we do not observe clear data clusters between the potential prices for technical components and those for whole procedures. This is because in most states' fee schedules, the maximum reimbursement rates for the technical components often accounted for 80 to 90 percent of those for the whole procedures, and the actual prices often reflected network discounts. Therefore, there are no obvious data stepping points that allow us to consistently separate the two prices. To estimate the potential magnitude of the problem and its effect on the interstate comparisons, we used the available data and performed a simulation using one of the most

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<sup>2</sup> The threshold was set at 10 percent above the maximum allowance amounts for professional components to take into consideration the potential deviation of actual prices paid from the rates indicated by regulation.

<sup>3</sup> We checked the estimated threshold against the price distribution by two percentiles for each procedure code to ensure the threshold was around the breaking point between two data clusters.

common magnetic resonance imaging (MRI) services, the lumbar MRI (CPT code 72148). For states with lower prices, we assumed the average technical/whole prices we captured represented only the prices paid for the technical component; for states with higher prices, we assumed the average prices currently captured represented only the prices paid for the whole procedure. We also assumed that the true mix of services in the population of these services was half and half between the technical component and whole procedure. These assumptions provided us with the maximum potential understatement for the states with lower prices and the maximum potential overstatement for the states with higher prices. In most states' fee schedules, for this procedure, the maximum reimbursement rates for the technical component account for 85 percent or more of those for the whole procedure. Using this ratio, we estimated that the maximum potential under- and overstatements were both about 8 percent. Even under this extreme scenario, there were no significant changes in the interstate rankings. We further performed sensitivity tests by changing the assumptions on what type of mix between technical component and whole procedure our average prices represented and the assumptions on the true mix of those services in the population. We found that the estimated potential under- and overstatement ranged from 2 to 6 percent, and there were no material changes in interstate rankings.

#### IDENTIFYING MODIFIED SERVICES FOR SURGERY

For surgery procedures, modifier codes are often used to distinguish the different intensity or scope of the modified services, such as services provided by assistant surgeons, multiple procedures performed at the same operative session, reduced services, and so on. The prices paid for these modified services are usually much lower than the prices for the whole procedures. Unfortunately, the modifiers are not always consistently and accurately reported in the data, and often they are missing. In this study we intended to report the prices paid for the whole surgery procedure only. Without identifying the modified services and excluding them from the price estimation, the results would be underestimated.

For this study, we developed an algorithm to identify the modified surgery services. First, we identified a list of common modifiers based on the price regulations in the study states and recognized all the medical bill line items with those modifiers as modified services. Then, we identified the potential modified services with missing modifier codes by a state-specific, procedure-specific method. For states with fee schedules, we estimated the threshold of the potential maximum price for modified services for each surgery procedure code, using the maximum allowance amount for the whole procedure and the regulation of reimbursement for the modified procedures. For example, if the maximum allowance amount for a shoulder arthroscopy (CPT 29826) whole procedure was \$1,000 in a state and this state's regulation indicated that, in a multiple procedure situation, the second procedure should be reimbursed no more than 50 percent of the maximum allowance for the whole procedure. Assume this state's regulation also indicated that the reimbursement for modified services provided by assistant surgeons should be no more than 25 percent of the maximum allowance for the whole procedure. In such a case, we multiplied the maximum allowance amount for the whole procedure (\$1,000) by the highest percentage allowed for a modified procedure (50 percent), and estimated the threshold for the potential maximum price for a modified service as \$500. For states with no fee schedules, we used a data-driven approach and estimated the threshold for the potential maximum price for modified services at half of the median amount paid for each procedure code. After the threshold for each surgery procedure code was set up, services with paid amounts below the thresholds were identified as modified services, despite that the modifier codes were missing for these services.

We then excluded all of the modified services, either identified through original modifier codes in the

data or identified through the method described above, from the computation of the prices for whole procedures. Please note that it is possible that a few modified surgery services may still not be identified by the algorithm; however, it is unlikely that such cases would generate biased results, because we have rigorously examined the estimated prices and price trends against state regulations and other system features and found no systematic underestimations.

#### IMPUTING SMALL CELL SIZES

Another data concern arose for procedures with small cell sizes, which are more likely to occur in data for smaller states. If the frequency of a procedure code is too small, the average price calculated may be more vulnerable to random variation, reducing the accuracy and reliability of the price index. To avoid this, we imputed the average price per service for the procedures that have fewer than 15 line items. The price imputation used the annual growth rate in prices at the service group level (derived from procedures in the same category) to impute prices for the small cells. The assumption underlying the price imputation is that the growth rate of a price at the category level is highly correlated with the growth rate of the price for an individual procedure in the category. We imputed both forward (e.g., imputing 2003 from 2002 prices) and backward (e.g., imputing 2003 from 2004, if we were not able to estimate 2003 previously). If three years in a row had cell sizes less than 15, then the middle cell would be considered missing. Where a price could not be imputed, the cell was left blank and the prices for that service group were calculated based on the remaining services (effectively, the weights of the other services within the group were increased).

#### LIMITATIONS AND CAVEATS

The price index reveals the pure price changes within a state and makes comparisons across state and service categories more meaningful. The changes in prices paid vary widely, as this report shows. Underlying the price changes are several factors, including: changes in fee schedules, network penetration rates and negotiated prices, and provider billing practices.

We need to remind readers of several caveats to interpreting the price index. First, to provide more recent information, we report prices in 2011 based on January through June 30, 2011. The interstate rankings based on the 2011 figures should provide a reasonable approximation for a state's ranking relative to other states in 2011—especially for states that adjusted their fee schedules early in 2011. For states that adjusted their fee schedules after June 30, the index may understate or overstate their comparable price index for 2011. That is also true to a lesser extent for states that adjusted their fee schedules in the second quarter of 2011. 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. For the same reasons, the price index trends from 2010 to 2011 in the report (based on half-year 2011 data) may understate or overstate the trends based on a full year of 2011 data in the study states.

Second, this study is based on data from 25 states and a group of large insurers, self-insurers, state funds, and third-party administrators in these states. The data in 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 that state. To the extent that prices paid may differ for the missing payors compared with other payors in the state, this may lead to under or over estimations in the results. These states include Arizona, Missouri, New York, and Oklahoma, as noted throughout the tables.

Third, we use a single marketbasket of procedure codes across all states to hold utilization and intensity of services 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 is not possible. In these cases, we omit the state-specific codes (for example, the physical medicine services in Louisiana). This might produce minor distortions in the interstate comparability, but should not affect the individual state trends.

Fourth, radiology procedure codes often use modifiers to distinguish the technical component versus the professional component of the whole procedure, and these components are paid at different levels for the same procedure. Unfortunately, the modifier codes are sometimes missing in the data reported to WCRI. For this report, we developed an algorithm to identify the services billed for the professional component separately from those for the technical component or for the whole procedure. This allows us to more accurately compute the average prices for radiology services. However, we were not able to identify the services billed for the technical component and for the whole procedure separately, because the detailed percentile distributions of actual prices paid do not show clear data clusters between the potential prices for technical components and those for whole procedures. This is because, in most states' fee schedules, the maximum reimbursement rates for the technical components often accounted for 80 to 90 percent of those for the whole procedures, and the actual prices often reflected network discounts. Therefore, there are no obvious data stepping points that allow us to consistently separate the two prices.

**Table TA.1 Brief Marketbasket Service Group Definitions**

<b>Service Group</b>	<b>Definition</b>
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.
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 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 (MRIs) 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, without contrast material. 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 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.
Physical medicine	The services in this group include physical medicine procedures, modalities and chiropractic care such as therapeutic activities, procedures and manual therapy techniques involving one or more areas, electronic stimulation, and work hardening/conditioning, as well as chiropractic manipulations. Physical medicine codes may be billed by physicians, chiropractors, or physical therapists. See Table TA.2 for a detailed description of all service codes included in this group.
Major surgery	The majority of the services in this group include invasive orthopedic surgical procedures, such as arthroscopy of the shoulder or knee and lumbar laminotomies, as well as 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.
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 Procedures**

Procedure	Percentage Frequency <sup>a</sup>	CPT Code	Description
<b>Emergency</b>			
1	56.6%	99283	Emergency department visit, moderate severity
2	24.2%	99284	Emergency department visit, high severity, urgent evaluation
3	10.8%	99282	Emergency department visit, low-moderate severity
4	6.7%	99285	Emergency department visit, high severity, immediate significant threat
5	1.6%	99281	Emergency department visit, self-limited/minor
<b>Evaluation and management</b>			
6	39.9%	99213	Established patient office visit, low-moderate severity, 15 minutes
7	19.3%	99214	Established patient office visit, moderate-high severity, 25 minutes
8	10.5%	99203	New patient office visit, moderate severity, 30 minutes
9	8.7%	99212	Established patient office visit, self-limited/minor, 10 minutes
10	8.0%	99204	New patient office visit, moderate-high severity, 45 minutes
11	3.1%	99202	New patient visit, low-moderate severity, 20 minutes
12	2.5%	99243	Office consultation, new/established patient, moderate severity, 40 minutes
13	2.1%	99215	Established patient office visit, moderate-high severity, 40 minutes
14	2.1%	99244	Office consultation, new/established patient, moderate-high severity, 60 minutes
15	1.2%	99205	New patient office visit, moderate-high severity, 60 minutes
16	1.1%	99232	Subsequent hospital care, minor complication, 25 minutes
17	0.9%	99245	Office consultation, new/established patient, moderate-high severity, 80 minutes
18	0.8%	99211	Established patient office visit, no physician necessary, 5 minutes
<b>Major radiology</b>			
19	20.9%	73721	MRI, any joint of lower extremity, without contrast material
20	20.9%	73221	MRI, any joint of upper extremity, without contrast material
21	17.6%	72148	MRI, spinal canal and contents, lumbar, without contrast material
22	11.4%	70450	Computed tomography, head or brain, without contrast material
23	8.0%	72141	MRI, spinal canal and contents, cervical, without contrast material
24	4.8%	72125	Computed tomography, cervical spine, without contrast material
25	2.8%	72193	Computed tomography, pelvis, with contrast material
26	2.7%	74160	Computed tomography, abdomen, with contrast material
27	2.7%	73222	MRI, any joint of upper extremity, with contrast material
28	2.1%	72131	Computed tomography, lumbar spine, without contrast material
29	2.1%	73700	Computed tomography, lower extremity, without contrast material
30	2.0%	72146	MRI, spinal canal and contents, thoracic, without contrast material
31	2.0%	72158	MRI, spinal canal and contents, without, then with contrast material, lumbar
<b>Minor radiology</b>			
32	9.1%	73030	Radiologic exam, shoulder, complete, minimum of two views
33	8.6%	73140	Radiologic exam, finger(s), minimum of two views
34	7.6%	73610	Radiologic exam, ankle, complete, minimum of three views
35	7.4%	73130	Radiologic exam, hand, minimum of three views
36	7.2%	73110	Radiologic exam, wrist, complete, minimum of three views
37	7.0%	72100	Radiologic exam, spine, lumbosacral, two or three views
38	6.7%	73630	Radiologic exam, foot, complete, minimum of three views
39	4.2%	73562	Radiologic exam, knee, three views

*continued*



**Table TA.2 Marketbasket Procedures (continued)**

<b>Procedure</b>	<b>Percentage Frequency<sup>a</sup></b>	<b>CPT Code</b>	<b>Description</b>
40	4.0%	73560	Radiologic exam, knee, one or two views
41	3.5%	72110	Radiologic exam, spine, lumbosacral, minimum of four views
42	3.1%	71020	Radiologic exam, chest, two views, frontal and lateral
43	2.9%	72040	Radiologic exam, spine, cervical, two or three views
44	2.8%	73080	Radiologic exam, elbow, complete, minimum of three views
45	2.7%	73564	Radiologic exam, knee, complete, four or more views
46	2.4%	71010	Radiologic exam, chest, single view, frontal
47	2.3%	73590	Radiologic exam, tibia and fibula, two views
48	2.2%	73100	Radiologic exam, wrist, two views
49	2.0%	72050	Radiologic exam, spine, cervical, minimum of four views
50	1.8%	73090	Radiologic exam, forearm, two views
51	1.6%	72070	Radiologic exam, spine, thoracic, two views
52	1.6%	72170	Radiologic exam, pelvis, one or two views
53	1.1%	73600	Radiologic exam, ankle, two views
54	1.1%	73120	Radiologic exam, hand, two views
55	1.0%	71100	Radiologic exam, ribs, unilateral, two views
56	1.0%	73620	Radiologic exam, foot, two views
57	0.9%	73060	Radiologic exam, humerus, minimum of two views
58	0.8%	73660	Radiologic exam, toe(s), minimum of two views
59	0.8%	73550	Radiologic exam, femur, two views
60	0.6%	70030	Radiologic exam, eye, for detection of foreign body
61	0.6%	73650	Radiologic exam, calcaneus, minimum of two views
62	0.5%	72052	Radiologic exam, spine, cervical, complete, including oblique, flexion and/or extension studies
63	0.5%	72072	Radiologic exam, spine, thoracic, three views
64	0.5%	73565	Radiologic exam, both knees, standing, anteroposterior
<b>Neurological/neuromuscular testing</b>			
65	40.5%	95904	Nerve conduction, each nerve, sensory
66	18.8%	95900	Nerve conduction, each nerve, motor, without F-wave study
67	16.8%	95903	Nerve conduction, each nerve, motor, with F-wave study
68	7.1%	95860	Needle EMG, one extremity with or without related paraspinal areas
69	4.1%	95851	ROM measurements and report, each extremity (excluding hand) or each trunk section
70	4.0%	95861	Needle EMG, two extremities, with or without related paraspinal areas
71	3.2%	95934	H-reflex, amplitude and latency study, record gastrocnemius/soleus muscle
72	2.0%	95831	Muscle test, manual with report, extremity (excluding hand) or trunk
73	1.8%	95920	Intraoperative neurophysiology testing, per hour
74	1.2%	95852	ROM measurements and report, hand, with or without comparison with normal side
75	0.6%	95832	Muscle test, manual with report, hand, with or without comparison with normal side
<b>Physical medicine</b>			
76	43.3%	97110	Therapeutic procedure, one or more areas, each 15 minutes, therapeutic exercises
77	13.6%	97140	Manual therapy techniques, one or more regions, each 15 minutes
78	7.4%	97014	Electrical stimulation (unattended), one or more areas
79	6.4%	97530	Therapeutic activities, direct patient contact, each 15 minutes
80	6.1%	97010	Hot/cold packs, one or more areas

*continued*

**Table TA.2 Marketbasket Procedures (continued)**

<b>Procedure</b>	<b>Percentage Frequency<sup>a</sup></b>	<b>CPT Code</b>	<b>Description</b>
81	4.9%	97035	Ultrasound, one or more areas, each 15 minutes
82	3.2%	97112	Therapeutic procedure, one or more areas, each 15 minutes, neuromuscular re-education of movement
83	1.9%	98940	Chiropractic manipulative treatment, spinal, one to two regions
84	1.8%	97001	Physical therapy evaluation
85	1.7%	97032	Electric stimulation, one or more areas, each 15 minutes
86	1.2%	98941	Chiropractic manipulative treatment, spinal, three to four regions
87	1.2%	97012	Traction, mechanical, one or more areas
88	1.1%	97033	Iontophoresis, one or more areas, each 15 minutes
89	1.0%	97124	Therapeutic procedure, one or more areas, each 15 minutes, massage
90	0.8%	97750	Physical performance test or measurement, with written report, each 15 minutes
91	0.7%	97546	Work hardening/conditioning, each additional hour
92	0.7%	97545	Work hardening/conditioning, initial two hours
93	0.6%	97022	Whirlpool, one or more areas
94	0.6%	97002	Physical therapy re-evaluation
95	0.6%	97113	Therapeutic procedure, one or more areas, each 15 minutes, aquatic therapy with therapeutic exercises
96	0.4%	97018	Paraffin bath, one or more areas
97	0.4%	97016	Vasopneumatic devices, one or more areas
98	0.3%	97026	Infrared, one or more areas
<b>Major surgery</b>			
99	13.7%	29826	Arthroscopy, shoulder surgery, decompression of subacromial space
100	11.9%	29881	Arthroscopy, knee surgery, with meniscectomy, medial or lateral
101	8.1%	64721	Neuroplasty and/or transposition, median nerve at carpal tunnel
102	6.3%	29877	Arthroscopy, knee surgery, debridement/shaving of articular cartilage
103	5.3%	29824	Arthroscopy, shoulder, distal claviclectomy
104	5.3%	29827	Arthroscopy, shoulder surgery, rotator cuff repair
105	4.6%	29823	Arthroscopy, shoulder surgery, debridement, extensive
106	3.7%	29880	Arthroscopy, knee surgery, with meniscectomy, medial and lateral
107	3.6%	29822	Arthroscopy, shoulder surgery, debridement, limited
108	3.5%	49505	Repair initial inguinal hernia, age five years or over, reducible
109	2.6%	63030	Laminotomy with decompression of nerve root, one interspace, lumbar
110	2.5%	29807	Arthroscopy, shoulder surgery, repair of SLAP lesion
111	2.4%	23412	Repair of ruptured musculotendinous cuff, chronic
112	2.3%	29888	Arthroscopically aided ACL repair, augmentation, reconstruction
113	2.2%	22851	Application of intervertebral biomechanical device to vertebral defect or interspace
114	1.9%	26418	Repair, extensor tendon, finger, primary or secondary, without free graft, each tendon
115	1.8%	23120	Claviclectomy, partial
116	1.8%	29876	Arthroscopy, knee surgery, synovectomy, major, two or more compartments
117	1.7%	29879	Arthroscopy, knee surgery, abrasion arthroplasty
118	1.7%	22845	Anterior instrumentation, two to three vertebral segments
119	1.7%	22554	Arthrodesis, anterior interbody technique, with minimal discectomy, cervical below C2
120	1.5%	63075	Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophyctomy, cervical, single interspace

*continued*

**Table TA.2 Marketbasket Procedures (continued)**

Procedure	Percentage Frequency <sup>a</sup>	CPT Code	Description
121	1.5%	64718	Neuroplasty, ulnar nerve at elbow
122	1.4%	29875	Arthroscopy, knee surgery, synovectomy, limited
123	1.4%	63047	Laminectomy, facetectomy and foraminotomy, unilateral/bilateral, single vertebral segment, lumbar
124	1.2%	22612	Arthrodesis, posterior or posterolateral technique, single level, lumbar
125	1.1%	23420	Reconstruction of complete shoulder cuff avulsion, chronic
126	0.9%	22585	Arthrodesis, anterior interbody technique, with minimal discectomy, each additional interspace
127	0.8%	22630	Arthrodesis, posterior interbody technique, including laminectomy and/or discectomy, single interspace, lumbar
128	0.7%	22840	Posterior non-segmental instrumentation
129	0.6%	22614	Arthrodesis, posterior or posterolateral technique, single level, each additional vertebral segment
<b>Pain management injections</b>			
130	16.7%	62311	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)
131	16.1%	64483	Injection, anesthetic agent and/or steroid, transforaminal epidural, lumbar or sacral, single level
132	15.1%	64415	Injection, anesthetic agent, brachial plexus, single
133	8.7%	20552	Injection(s), single or multiple trigger point(s), one or two muscle(s)
134	6.6%	64493	Injections, diagnostic or therapeutic agent, paravertebral facet joint (or nerves innervating that joint) with image guidance, lumbar or sacral, single level
135	5.9%	64484	Injection, anesthetic agent and/or steroid, transforaminal epidural, lumbar or sacral, each additional level
136	5.8%	64450	Injection, anesthetic agent, other peripheral nerve or branch
137	5.5%	62310	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
138	5.3%	64494	Injections, diagnostic or therapeutic agent, paravertebral facet joint (or nerves innervating that joint) with image guidance, lumbar or sacral, second level
139	2.9%	20553	Injection(s), single or multiple trigger point(s), three or more muscle(s)
140	2.2%	62290	Injection procedure for discography, each level, lumbar
141	2.1%	62284	Injection procedure for myelography and/or computed tomography, spinal (other than C1-C2 and posterior fossa)
142	2.0%	64490	Injections, diagnostic or therapeutic agent, paravertebral facet joint (or nerves innervating that joint) with image guidance, cervical or thoracic, single level
143	2.0%	64510	Injection, anesthetic agent, stellate ganglion (cervical sympathetic)
144	1.7%	64491	Injections, diagnostic or therapeutic agent, paravertebral facet joint (or nerves innervating that joint) with image guidance, cervical or thoracic, second level
145	1.4%	64520	Injection, anesthetic agent, lumbar or thoracic (paravertebral sympathetic)

<sup>a</sup> Percentage frequency is the frequency of each CPT code within the service group.

Key: ACL: anterior cruciate ligament; CPT: Current Procedural Terminology; EMG: electromyography; MRI: magnetic resonance imaging; ROM: range of motion; SLAP: superior labrum anterior to posterior.

**Table TA.3 Percentage of Expenditures Represented by the Marketbasket by State and Service Group**

State	Emergency	Evaluation & Management	Major Radiology	Minor Radiology	Neurological/ Neuromuscular Testing	Physical Medicine	Major Surgery	Pain Management Injections	Overall
<b>Calendar year 2011<sup>p</sup></b>									
AR	99%	96%	85%	80%	89%	97%	55%	89%	85%
AZ	95%	96%	85%	79%	95%	96%	57%	91%	89%
CA	97%	89%	90%	67%	91%	86%	63%	88%	82%
CT	98%	97%	90%	70%	91%	97%	67%	86%	88%
FL	98%	97%	85%	67%	90%	93%	60%	84%	84%
GA	99%	98%	86%	75%	87%	96%	61%	92%	87%
IA	99%	96%	88%	75%	98%	98%	65%	89%	86%
IL	99%	95%	86%	70%	91%	98%	66%	94%	86%
IN	99%	97%	87%	74%	91%	97%	63%	87%	86%
LA	99%	93%	88%	68%	84%	62%	57%	88%	73%
MA	99%	96%	88%	70%	94%	95%	67%	90%	85%
MD	95%	96%	87%	70%	81%	92%	62%	86%	87%
MI	98%	98%	84%	75%	96%	98%	60%	89%	90%
MN	98%	97%	87%	74%	97%	91%	59%	86%	87%
MO	98%	96%	87%	76%	96%	97%	69%	90%	86%
NC	98%	94%	87%	71%	93%	91%	66%	91%	85%
NJ	98%	95%	87%	64%	84%	96%	65%	92%	81%
NY	99%	97%	90%	59%	89%	93%	66%	92%	86%
OK	97%	96%	91%	76%	79%	97%	68%	94%	86%
PA	97%	96%	85%	68%	93%	94%	60%	89%	88%
SC	99%	97%	88%	74%	92%	97%	60%	86%	87%
TN	99%	97%	87%	77%	93%	94%	67%	90%	84%
TX	99%	96%	83%	78%	86%	82%	56%	85%	82%
VA	96%	95%	86%	72%	90%	98%	57%	88%	86%
WI	99%	96%	87%	73%	95%	96%	69%	92%	86%

*Special notation:* <sup>p</sup> We use the notation *p* to indicate that the 2011 numbers are preliminary results based on half-year price data through June 30, 2011.

**Table TA.4 Description of Marketbasket Contents**

<b>Service Group</b>	<b>Number of CPT Codes</b>	<b>% of Expenditures Captured by Marketbasket Codes</b>	<b>% of Expenditures in Marketbasket</b>	<b>% of Services Captured by Marketbasket Codes</b>	<b>% of Services in Marketbasket</b>
Emergency	5	95%	2%	90%	1%
Evaluation and management	13	93%	22%	93%	15%
Major radiology	13	86%	10%	84%	1%
Minor radiology	33	67%	3%	81%	5%
Neurological/neuromuscular testing	11	92%	3%	95%	2%
Physical medicine	23	92%	37%	94%	74%
Major surgery	31	63%	19%	58%	1%
Pain management injections	16	94%	3%	94%	1%
<b>Totals</b>	<b>145</b>	<b>83%</b>	<b>100%</b>	<b>93%</b>	<b>100%</b>

Key: CPT: Current Procedural Terminology.

**Table TA.5 Comparison between the Updated Marketbasket in MPI, Fourth Edition and the Previous Marketbasket in MPI, Third Edition**

<b>Service Group</b>	<b>Number of CPT Codes</b>	<b>% of Expenditures Captured by Marketbasket Codes</b>	<b>% of Expenditures in Marketbasket</b>	<b>% of Services Captured by Marketbasket Codes</b>	<b>% of Services in Marketbasket</b>
<b>Updated marketbasket (in MPI, Fourth Edition)</b>					
Emergency	5	95%	2%	90%	1%
Evaluation and management	13	93%	22%	93%	15%
Major radiology	13	86%	10%	84%	1%
Minor radiology	33	67%	3%	81%	5%
Neurological/neuromuscular testing	11	92%	3%	95%	2%
Physical medicine	23	92%	37%	94%	74%
Major surgery	31	63%	19%	58%	1%
Pain management injections	16	94%	3%	94%	1%
<b>Totals</b>	<b>145</b>	<b>83%</b>	<b>100%</b>	<b>93%</b>	<b>100%</b>
<b>Previous marketbasket (in MPI, Third Edition)</b>					
Emergency	6	92%	2%	97%	1%
Evaluation and management	13	89%	23%	91%	17%
Major radiology	12	84%	10%	82%	1%
Minor radiology	33	62%	3%	78%	5%
Neurological/neuromuscular testing	10	88%	4%	93%	3%
Physical medicine	24	86%	37%	90%	71%
Major surgery	30	59%	18%	54%	1%
Pain management injections	16	92%	4%	92%	1%
<b>Totals</b>	<b>144</b>	<b>79%</b>	<b>100%</b>	<b>89%</b>	<b>100%</b>

Key: CPT: Current Procedural Terminology.

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Of course, any errors that remain in the report are the responsibility of the authors.

**Rui Yang**  
**Olesya Fomenko**

Cambridge, Massachusetts  
March 2012



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