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Congressional Committees

### **Medicaid: Use of Claims Data for Analysis of Provider Payment Rates**

Within the Medicaid program, federal law requires that state Medicaid payments to providers be consistent with efficiency, economy, and quality of care; and be sufficient to enroll enough providers so that services are available to beneficiaries at least to the extent that they are available to the general population in the same geographic area.<sup>1</sup>

Two frequently cited studies of Medicaid payments have been conducted by the American Academy of Pediatrics (AAP) and the Urban Institute, both of which obtained state-specific fee schedule data for selected services and procedures through surveys of state Medicaid officials and from state websites.<sup>2</sup> These studies shed some light on potential Medicaid payments for selected services; however, they provide little information on the extent to which states vary their payment for a service based on the circumstances in which that service was provided—such as whether the state pays a different amount depending on characteristics of the provider, setting, or beneficiary. These studies also provide little information on how often the payment rates they selected from the fee schedules were actually used in practice. Without such information, it may be difficult for the Centers for Medicare & Medicaid Services (CMS)—the agency within the Department of Health and Human Services that oversees the joint federal-state Medicaid program—or other policy makers to fully assess the adequacy of Medicaid payments. One potentially useful source of more comprehensive information on provider payments is claims data. Assessing Medicaid fee schedules against Medicaid claims data can serve to cross validate both data sources, and provide new insights into the robustness of claims data for payment analyses.

We prepared this report under the authority of the Comptroller General to conduct work on GAO's initiative to assist Congress with its oversight responsibilities for the Medicaid program. In this report, we provide information on: (1) the extent to which state Medicaid programs vary the rates paid to providers for a given service and the basis for the variation; and (2) the extent to which Medicaid provider payment rates calculated from claims data confirm rates reported in studies of states' fee schedules.

### **Scope and Methodology**

To conduct this work, we examined 2010 Medicaid fee-for-service (FFS) claims data for selected professional services and states. We selected 35 professional services from among those included in the studies by the AAP and the Urban Institute. The services were chosen to represent a range of professional service categories—including evaluation and management, imaging, laboratory, and maternal health. We selected 9 states from among the 26 states with available 2010 claims data as of October 2012. We chose states that represented different regions of the country and that served

<sup>1</sup>See 42 U.S.C. § 1396a(a)(30)(A).

<sup>2</sup>American Academy of Pediatrics, Medicaid Reimbursement Survey, 2010/11, American Academy of Pediatrics (Elk Grove, IL, 2011). Zuckerman S. et al., *Trends in Medicaid Physician Fees, 2003-2008*, (Washington, D.C.: Health Affairs, Vol. 28, No.3, 2009), w510-w519.

a relatively large proportion of their Medicaid population through FFS arrangements rather than through managed care.<sup>3</sup>

To determine the extent to which state Medicaid programs varied the rate they paid for a given service, we calculated the percentage difference between the 10<sup>th</sup> and 90<sup>th</sup> percentile of claims' payment rates. We excluded claims for beneficiaries in demonstration programs, claims where Medicaid was not the only payer, and claims that were adjusted. We performed a regression analysis to examine the extent to which variations in payments could be explained by differences in provider type, service setting, and patient age; and to determine the magnitude of variation associated with each factor. We selected these factors because previous studies by the Urban Institute found them to be present in fee schedules and they could be extracted from the claims data. To determine the extent to which Medicaid provider payment rates calculated from claims data confirmed rates reported in studies of states' fee schedules, we calculated median payment rates from the claims data and compared these to fee schedule rates reported by AAP and the Urban Institute. To help ensure comparability, we restricted the claims in this part of our analysis to those most comparable to the fees used by the AAP and the Urban Institute studies. Generally, this involved restricting those claims to the service provided by a physician or dentist, in an office, and to a child. To the extent that the rates calculated from claims data differed from the reported rates based on fee schedule data, we used information obtained from state Medicaid program websites to explore potential reasons for any differences we observed. A more detailed discussion of our scope and methodology can be found in enclosure 1. Tables detailing the results of our analysis can be found in enclosure 2.

We conducted our work from September 2012 to January 2014 in accordance with all sections of GAO's Quality Assurance Framework that are relevant to our objectives. The framework requires that we plan and perform the engagement to obtain sufficient and appropriate evidence to meet our stated objectives and to discuss any limitations in our work. We believe that the information and data obtained, and the analysis conducted, provide a reasonable basis for any findings and conclusions in this product.

## **Results in Brief**

Among the states and services we examined, our analysis indicated that all states varied Medicaid payments for at least some services based on the circumstances under which the services were provided. However, the states differed in the number of services for which they varied payments, in the factors that accounted for variation, and in the magnitude of the variation. Many of the states varied payment rates by at least one of the factors we were able to explore in detail: provider type, service setting, and/or patient age. Some states also varied their payment rates for other reasons, such as by geographic region or by physician specialty. We also found that most of the median Medicaid payment rates calculated from claims data generally confirmed payment rates published in studies of fee schedules; however, some of the published fee schedule rates were rarely used in practice as the selected circumstance—such as the service being provided by a physician—rarely occurred. As a result, our findings demonstrate that Medicaid FFS claims data is a valid source of information on Medicaid provider payments, which have the potential to provide a more complete representation of provider payments than do fee schedules, as claims data can capture both the distribution and frequency of actual payments to providers.

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<sup>3</sup>The nine states selected were Alabama, Iowa, Illinois, Louisiana, Montana, Nebraska, Pennsylvania, South Carolina, and Texas.

All States Varied Medicaid Provider Payment Rates for Some Services, but Reasons for Variation Differed

Among the states and services we examined, all states varied Medicaid provider payment rates for at least some services. However, the states differed in the number of services for which they varied payments, in the factors that accounted for variation, and in the magnitude of the variation. As shown in table 1, among the 9 states we examined, the most variation in payments was in Texas, where payments varied by more than 10 percent for 22 services, and by more than 50 percent for 7 services. The least variation in payments was in Nebraska and Pennsylvania, where payment rates varied by more than 10 percent for just 4 services. (See table 5 in enclosure 2 for more detail on the variation in provider payments for each state and service.)

**Table 1: Number of Medicaid Services for Which States Varied Provider Payment Rates and Magnitude of Variation, by State, Calendar Year 2010**

| States included in analysis                               | Alabama | Iowa | Illinois | Louisiana | Montana | Nebraska | Pennsylvania | South Carolina | Texas |
|---|---------|------|----------|-----------|---------|----------|--------------|----------------|-------|
| Number of services for which data were available          | 32      | 34   | 31       | 31        | 31      | 32       | 30           | 32             | 31    |
| Number of services with variation greater than 10 percent | 15      | 21   | 10       | 22        | 16      | 4        | 4            | 8              | 22    |
| Number of services with variation greater than 25 percent | 13      | 11   | 7        | 10        | 14      | 3        | 3            | 5              | 11    |
| Number of services with variation greater than 50 percent | 7       | 5    | 7        | 1         | 3       | 1        | 2            | 0              | 7     |

Source: GAO analysis of Centers for Medicare & Medicaid Services data.

Note: We selected 35 professional medical services from among those included in recent studies by the American Academy of Pediatrics and the Urban Institute. We chose these services to represent a range of professional medical service categories—including evaluation and management, imaging, laboratory, and maternal health. We determined the level of variation in payment by comparing the 90<sup>th</sup> and 10<sup>th</sup> percentiles of payment rates for all Medicaid claims for each service.

States also differed in the factors that contribute to payment rate variation and in the proportion of payment variation associated with each factor. In most states, some of the variation in payment rates could be explained by differences in provider type, service setting, and patient age. In 3 of the states with substantial variation in provider payment rates—Louisiana, Montana, and Texas—much of the variation could be accounted for by these 3 factors. For example, in Montana, more than half of the variation in payment rates could be explained by these factors in 56 percent of services. In 3 other states—Alabama, Iowa, and Illinois—very little of the variation in payment rates could be attributed to provider type, setting, and patient age. Less than 25 percent of the variation in payments was due to these factors in over 80 percent of services in these states. (See table 6 in enclosure 2 for more detail on the variation in Medicaid provider payment accounted for by provider type, service setting, and patient age for each service and state.) An examination of states’ fee schedules indicated that states also varied their payment rates for reasons beyond the 3 factors we explored. For example, for certain services, Alabama varied payment rates by geographic region, Montana varied rates for certain services by provider specialty, and Illinois varied rates depending on whether providers were enrolled in a special primary health care program.

Furthermore, even among states that varied payments on the same factor, the states differed in the magnitude of the variation associated with that factor. For example, non-physicians were paid about 21 percent less than physicians on average in Louisiana, while they were paid about 8 percent less in Texas, according to our analysis of claims data. In Montana, services provided in a facility (inpatient hospital, outpatient hospital, or emergency department) were reimbursed about

32 percent less than those provided in an office, while in Louisiana, there was no difference in payment by setting. Payment rates for services provided to adults were generally less than for those provided to children, but the difference varied among states. On average, services provided to adults were reimbursed 12 percent less in Louisiana, 3 percent less in Montana, and 9 percent less in Texas.

Medicaid Provider Payment Rates Calculated from Claims Data Generally Confirmed Rates Reported in Fee Schedule Studies, but Some Rates Were Rarely Used

The median Medicaid payment rates calculated from claims data generally confirmed payment rates published in studies of fee schedules, once we restricted claims to those most comparable to the fees used by the studies.<sup>4</sup> Specifically, of the 257 state and service combinations for which we had both claims and fee schedule data, 148 (58 percent) had median claims payment rates that were within 1 percent of the published fee schedule rates, and another 71 (28 percent) had median payments within 10 percent. (See table 7 in enclosure 2 for the median payment rate calculated from claims data for each service and state. See table 8 in enclosure 2 for a comparison of the rates calculated in claims with those reported in studies of fee schedules for each service and state.)

Where the median payment rate calculated from claims data differed from that published in the fee schedule studies, we were generally able to identify the source of the difference. For example, for the two emergency department (ED) services shown in table 2, the AAP study reported fee schedule rates in Texas of \$46 and \$62. However, the current Texas fee schedule specifies that if the enrollee's diagnosis is nonemergency, Medicaid pays just 60 percent of the standard rate for these services. In that case, the rates for these services would be \$28 and \$37, which essentially equaled the median payment rates we calculated from the claims data. Thus, while the rate reported by AAP was consistent with the current Texas fee schedule, it did not reflect the number of ED visits in Texas that were paid at a reduced rate.

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<sup>4</sup>Generally, this involved restricting the claims to the service provided by a physician or dentist, in an office, and to a child. (See table 4 in enclosure 1.)

**Table 2: Percentage Difference between Medicaid Provider Payment Rates Calculated from Claims Data and Rates Reported in Fee Schedule Studies, Selected Services and States, Calendar Year 2010**

| Selected Medicaid Services                               | Percent difference between median claims payments and fee schedule rates |      |          |           |         |          |              |                |       |
|--|--|------|----------|-----------|---------|----------|--------------|----------------|-------|
|  | Alabama  | Iowa | Illinois | Louisiana | Montana | Nebraska | Pennsylvania | South Carolina | Texas |
| Initial hospitalization, per day, moderate complexity    | 15   | -    | -1       | 13        | -1      | -1       | 2            | -1             | -     |
| Subsequent hospitalization, per day, low complexity      | 20   | -    | -2       | 16        | -       | -2       | -            | -2             | -     |
| Subsequent hospitalization, per day, moderate complexity | -  | -1   | -        | 12        | 1       | -1       | -            | -1             | -1    |
| Emergency department visit, problem focused              | -  | 1    | -1       | 18        | -1      | -1       | 1            | -2             | -69   |
| Emergency department visit, expanded                     | -  | 1    | -1       | 15        | 3       | -1       | -            | -1             | -66   |

Source: GAO analysis of Centers for Medicare & Medicaid Services, American Academy of Pediatrics (AAP), and Urban Institute data.

Notes: A positive value indicates that the median payment rate calculated from Medicaid claims data is higher than the payment rate presented in recent AAP and Urban Institute studies using fee schedule data. To help ensure comparability, we restricted the claims in this part of our analysis to those most comparable to the fees used by the AAP and the Urban Institute studies. Generally, this involved restricting those claims to the service provided by a physician or dentist, in an office, and to a child. (See table 4 in enclosure 1. See table 8 in enclosure 2 for data from all services included in our analysis.)

The difference between claims data and fee schedule rates for some services in Alabama may reflect differing rates for rural and non-rural areas, a factor we did not account for in our analysis. For example, for the initial hospitalization service, we calculated a median claims payment of \$95, which is the rate shown in the current state fee schedule for rural areas. The AAP and Urban Institute both reported a payment rate of \$81 for this same service, which is the rate shown in Alabama’s fee schedule for non-rural areas. In the case of Louisiana, the difference between the median payment rates we calculated for children and the fee schedule rates reported by the AAP and Urban Institute appear to be due to the AAP having reported payment rates for adults for at least some services. The median payment rates that we calculated were consistent with the Louisiana fee schedule rates for children.<sup>5</sup>

We also examined how frequently the fee schedule rates reported in the AAP and Urban Institute studies were actually used to pay claims, and found that some were rarely used in practice. For example, the fee schedule rate reported by the Urban Institute in Texas for a CAT scan of the head or brain was \$169.<sup>6</sup> However, that rate applied to fewer than 10 percent of actual payments for the service, and was less than half the \$357 overall median payment for the service we calculated from claims data.<sup>7</sup> In Montana, the fee schedule rate for a 40 to 50 minute individual, face-to-face psychotherapy session reported by AAP was \$90. However, this rate applied to fewer than 10 percent of the payments Montana made for the service, and it was nearly twice the overall median payment of \$57 calculated from claims data. This discrepancy is likely due to AAP reporting the enhanced rate for psychiatrists over other physicians, while the much lower rate we found in the claims more closely corresponded to the rate paid to non-physician mental health providers.

<sup>5</sup>According to the Louisiana Medicaid fee schedule in effect from August 1, 2010 through November 30, 2010.

<sup>6</sup>The fee schedule rate reported by the Urban Institute was for services provided by a physician in an office.

<sup>7</sup>The overall median payment for a CAT scan of the head or brain in Texas—not limited to a specific provider type, setting, or beneficiary age—was \$357 in 2010 as calculated from claims data. The median payment we calculated from claims data for services limited to those provided by a non-physician, in an office, and to a child was \$174.

## Agency Comments

The Department of Health and Human Services reviewed a draft of this report and provided technical comments, which we incorporated as appropriate.

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For further information regarding this report, please contact me at (202) 512-7114 or [YocomC@gao.gov](mailto:YocomC@gao.gov). Copies of this report will be sent to the Secretary of Health and Human Services. In addition, the report will be available at no charge on the GAO website at <http://www.gao.gov>. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Major contributors to this report were Christine Brudevold, Assistant Director; Eric Anderson; Alison Binkowski; William Black; Greg Dybalski; Nancy Fasciano; Sandra George; Drew Long; and Hemi Tewarson.



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## Scope and Methodology

We prepared this report under the authority of the Comptroller General to conduct work on GAO's initiative to assist Congress with its oversight responsibilities for the Medicaid program. In this report, we provide information on: (1) the extent to which state Medicaid programs vary the rates paid to providers for a given service and the basis for the variation; and (2) the extent to which Medicaid provider payment rates calculated from claims data confirm rates reported in studies of states' fee schedules.

To conduct this work, we examined 2010 Medicaid fee-for-service (FFS) claims data for selected professional services and states. States submit Medicaid eligibility and claims data to the Centers for Medicare & Medicaid Services' (CMS) Medicaid Statistical Information System (MSIS) on a quarterly basis. We used 2010 claims data from the Medicaid Analytic Extract to calculate median payment rates for 35 services in 9 states. The Medicaid Analytic Extract (MAX) data is a set of person-level data files on Medicaid eligibility, service utilization, and payment, which are based on data extracted from the Medicaid Statistical Information System. The MAX data are created specifically to support research and policy analysis, and combine initial claims and adjustments for a given service into final action claims arrayed on a calendar year basis.<sup>1</sup> The payments in the MAX data represent the actual amounts Medicaid paid to providers and do not include beneficiary cost-sharing.<sup>2</sup> To assess the reliability of the claims data we used in our analyses, we reviewed related documentation, interviewed knowledgeable officials from CMS and its contractor responsible for processing these data, and compared our results to published sources.

We selected 35 professional services from among those included in the studies by the American Academy of Pediatrics (AAP) and the Urban Institute. Both studies relied on surveys of states' fee schedules. As part of its effort to monitor the impact of the Medicaid program on pediatrics, AAP has periodically conducted a survey of states to collect Medicaid fee schedule data. The most recent published survey requested payment rates effective July 1, 2010, and reported data from the 46 states that responded. For those states, the study reported on payment rates for 235 pediatric services and, with a few exceptions, reported the rate applicable when the service was provided by a physician, in an office, and to a child. Since 1993, the Urban Institute has conducted its study of Medicaid fee schedules approximately every 5 years. The authors shared unpublished results from their 2010 survey for our analysis. The Urban Institute study collected physician fee schedule data on 32 services for all 49 states that have a FFS program. The survey focused on rates for services provided by a physician in an office; if a state otherwise had multiple payment rates for the same service—for example, different rates for urban and rural areas—the authors reported the average of those rates. Together, the AAP and Urban Institute studies included 255 services—235 in the AAP study and 32 in the Urban study, with 12 appearing in both. From those 255 services, we selected 35 services across a range of professional service categories—including evaluation and management, imaging, laboratory, and maternal health. (See table 3.)

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<sup>1</sup>We restricted our analysis to the MAX other claims file, which contains claims for physician and other outpatient services. We excluded three additional MAX claims files: inpatient hospital, long-term care, and prescription drugs.

<sup>2</sup>In some cases, states may require beneficiaries to pay deductibles, copayments and similar charges for certain Medicaid services. Federal law generally restricts such cost-sharing to nominal amounts; however, states may impose additional cost-sharing on certain populations and for certain services.



**Table 3: Selected Services and Service Categories**

| Service Category                   | Appears in |       | Service  |
|------------------------------------|------------|-------|--|
|                                    | AAP        | Urban |  |
| Office visits                      | X          |       | Established patient, problem-focused                     |
|                                    | X          | X     | Established patient, low complexity                      |
|                                    | X          | X     | Established patient, moderate complexity                 |
|                                    | X          | X     | New patient, low complexity                              |
|                                    | X          | X     | New patient, moderate complexity                         |
| Preventive services                | X          |       | One immunization administration                          |
|                                    | X          |       | Established patient, under 1 year                        |
|                                    | X          |       | Established patient, 1 through 4 years                   |
| Cardiovascular                     | X          |       | Routine venipuncture                                     |
|                                    | X          | X     | Echocardiography, with image documentation               |
|                                    | X          |       | Doppler echocardiograph                                  |
| Emergency department/critical care | X          |       | Emergency department visit, problem focused              |
|                                    | X          | X     | Emergency department visit, expanded                     |
|                                    | X          |       | Emergency department visit, detailed                     |
| Inpatient/non-emergency department | X          | X     | Initial hospitalization, per day, moderate complexity    |
|                                    | X          |       | Subsequent hospitalization, per day, low complexity      |
|                                    | X          | X     | Subsequent hospitalization, per day, moderate complexity |
|                                    | X          |       | Subsequent hospitalization, per day, high complexity     |
| Eye, ear, nose and throat          |            | X     | Ophthalmological services, new patient                   |
|                                    |            | X     | Ophthalmological services, established patient           |
|                                    | X          |       | Screening test, hearing evaluation                       |
| Maternal/newborn care              |            | X     | Vaginal delivery only, no postpartum care                |
|                                    |            | X     | Vaginal delivery and postpartum care                     |
|                                    |            | X     | Cesarean delivery and no postpartum care                 |
| Mental/behavioral health           | X          |       | Individual psychotherapy, 20-30 minutes face-to-face     |
|                                    | X          |       | Individual psychotherapy, 45-50 minutes face-to-face     |
|                                    | X          |       | Pharmacologic management                                 |
| Pathology/laboratory               | X          |       | Urinalysis, non-auto., without microscopy                |
|                                    | X          |       | Rapid Streptococcus screen                               |
| Radiology                          | X          |       | Frontal chest x-ray                                      |
|                                    |            | X     | X-ray, chest, two views                                  |
|                                    |            | X     | CAT scan, head or brain                                  |
| Dental                             | X          |       | Periodic exam  |
|                                    | X          |       | Prophylaxis, child                                       |
|                                    | X          |       | Sealant, per tooth                                       |

Source: GAO analysis of Centers for Medicare & Medicaid Services, American Academy of Pediatrics (AAP), and Urban Institute data.

Note: We selected 35 professional services from among those included in the studies by the AAP and the Urban Institute. Together, the AAP and Urban Institute studies included 255 services—235 in the AAP study and 32 in the Urban Institute study, with 12 appearing in both.

We selected 9 states from among the 26 states with available 2010 MAX data as of October 2012. We chose states that represented different regions of the country and that served a relatively large proportion of their Medicaid population through FFS arrangements rather than through managed care. We first eliminated 2 states that were not included in the AAP or Urban Institute studies—Georgia and Tennessee. We then grouped states by Census region such that our sample represented a sizeable proportion of the total Medicaid enrollment. When selecting states within each region, we gave preference to states with higher enrollment. However, we also sought to ensure that the sample included states with relatively small as well as large enrollment. Given that our study focused on FFS rates, we gave preference to states that had higher percentages of enrollees—particularly higher percentages of children—in FFS arrangements, as opposed to comprehensive risk-based managed care arrangements. The 9 states we selected based on these criteria were Alabama, Illinois, Iowa, Louisiana, Montana, Nebraska, Pennsylvania, South Carolina, and Texas.

To determine the extent to which state Medicaid programs varied the rate they paid for a given service, we calculated the median payment amount and the percentage difference between the 10<sup>th</sup> and 90<sup>th</sup> percentile of claims payment rates (P90/P10) for each service.<sup>3</sup> To further explore this variation and examine the extent to which variations in payment could be explained by differences in provider type, service setting, and patient age, we performed a regression analysis.<sup>4</sup> Selected regression results are presented in table 6 in enclosure 2.<sup>5</sup>

To determine the extent to which Medicaid provider payment rates calculated from claims data confirmed rates reported in existing studies of states' fee schedules, we calculated median payment rates from the claims data and compared these to fee schedule rates reported by the AAP and the Urban Institute. To help ensure comparability, we restricted the claims in this part of our analysis to those most comparable to the fees used by the AAP and the Urban Institute studies. Generally, this involved restricting those claims to the service provided by a physician or dentist, in an office, and to a child. For 8 services for which we had fee schedule data from both the AAP and Urban Institute studies, we used the AAP rate in our analysis. See table 4 for fee schedule rates and claims restrictions used in the comparative analysis. To the extent that claims payments differed from fee schedule data, we used fee schedule information obtained from state Medicaid program websites to explore potential reasons for any differences we observed.

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<sup>3</sup>To calculate payment rates from the claims for our selected services and states, we first identified claims in the MAX file that represented (1) FFS payment; (2) full, final payment; and (3) payment for services provided to the general Medicaid population. We developed criteria to exclude claims that did not meet these requirements. We excluded claims for beneficiaries in demonstration programs, claims where Medicaid was not the only payer, and claims that were adjusted.

<sup>4</sup>Specifically, our dependent variable was the log of the Medicaid payment rate and our independent variables were binary indicator variables for (i) whether the service was provided by a physician or dentist (reference category), non-physician, or other health professional; (ii) whether the service was provided in an office (reference category), facility (inpatient hospital, outpatient hospital, or emergency department), or other setting; and (iii) whether the service was provided to a child (reference category defined as less than 18 years old and basis of eligibility was child), adult (defined as greater than 21 years old and basis of eligibility was adult), or a patient of other/unknown age. By specifying a log-linear model, the resulting regression coefficients represent the percentage difference in mean payment rates associated with changing the specified independent variable.

<sup>5</sup>We only presented results where (i) there was sufficient variation in the dependent variable (which we defined as  $P90/P10 \geq 1.1$ ); (ii) there was sufficient variation in the independent variable (which we defined as  $N \geq 30$  for each value of the indicator variable); and (iii) the  $r^2$  of the regression was at least 0.25.

**Table 4: Fee Schedule Rates and Claims Restrictions Used in Comparative Analysis**

| <b>Service</b>   | <b>Fee schedule rate used</b> | <b>Restrictions applied to claims<sup>a</sup></b> |
|--|-------------------------------|---|
| Established patient, problem-focused                     | AAP                           | P-O-C   |
| Established patient, low complexity                      | AAP                           | P-O-C   |
| Established patient, moderate complexity                 | AAP                           | P-O-C   |
| New patient, low complexity                              | AAP                           | P-O-C   |
| New patient, moderate complexity                         | AAP                           | P-O-C   |
| One immunization administration                          | AAP                           | P-O-C   |
| Established patient, under 1 year                        | AAP                           | P-O-C   |
| Established patient, 1 through 4 years                   | AAP                           | P-O-C   |
| Routine venipuncture                                     | AAP                           | P-O-C   |
| Echocardiography, with image documentation               | AAP                           | P-O-C   |
| Doppler echocardiograph                                  | AAP                           | P-O-C   |
| Emergency department visit, problem focused              | AAP                           | P-F-C   |
| Emergency department visit, expanded                     | AAP                           | P-F-C   |
| Emergency department visit, detailed                     | AAP                           | P-F-C   |
| Initial hospitalization, per day, moderate complexity    | AAP                           | P-F-C   |
| Subsequent hospitalization, per day, low complexity      | AAP                           | P-F-C   |
| Subsequent hospitalization, per day, moderate complexity | AAP                           | P-F-C   |
| Subsequent hospitalization, per day, high complexity     | AAP                           | P-F-C   |
| Ophthalmological services, new patient                   | Urban                         | P-O-C   |
| Ophthalmological services, established patient           | Urban                         | P-O-C   |
| Screening test, hearing evaluation                       | AAP                           | P-O-C   |
| Vaginal delivery only, no postpartum care                | Urban                         | P-F-A   |
| Vaginal delivery and postpartum care                     | Urban                         | P-F-A   |
| Cesarean delivery and no postpartum care                 | Urban                         | P-F-A   |
| Individual psychotherapy, 20-30 minutes face-to-face     | AAP                           | P-O-C   |
| Individual. psychotherapy, 45-50 minutes face-to-face    | AAP                           | P-O-C   |
| Pharmacologic management                                 | AAP                           | P-O-C   |
| Urinalysis, non-auto., without microscopy                | AAP                           | NP-O-C  |
| Rapid Streptococcus screen                               | AAP                           | NP-O-C  |
| Frontal chest x-ray                                      | AAP                           | NP-O-C  |
| X-ray, chest, two views                                  | Urban                         | NP-O-C  |
| CAT scan, head or brain                                  | Urban                         | NP-O-C  |
| Periodic exam (dental)                                   | AAP                           | P-O-C   |
| Prophylaxis, child (dental)                              | AAP                           | P-O-C   |
| Sealant, per tooth (dental)                              | AAP                           | P-O-C   |

Source: GAO analysis of Centers for Medicare & Medicaid Services, American Academy of Pediatrics (AAP), and Urban Institute data.

Note: For 8 services for which we had fee schedule data from both the AAP and Urban Institute studies, we used the AAP rate in our analysis.

<sup>a</sup>P = physician/dentist; NP = non-physician; F = facility (inpatient hospital, outpatient hospital, or emergency department); O = office; A = adult; C = child.

This enclosure includes the following detailed data tables:

**Table 5-A: Distribution of Medicaid Provider Payment Rates, by State and Service, Calendar Year 2010 (Alabama, Iowa, and Illinois)**

**Table 5-B: Distribution of Medicaid Provider Payment Rates, by State and Service, Calendar Year 2010 (Louisiana, Montana, and Nebraska)**

**Table 5-C: Distribution of Medicaid Provider Payment Rates, by State and Service, Calendar Year 2010 (Pennsylvania, South Carolina, and Texas)**

**Table 6: Percent Difference in Medicaid Provider Payment Rates Accounted for by Provider Type, Service Setting, and Patient Age, Selected States and Services, Calendar Year 2010**

**Table 7: Median Medicaid Provider Payment Rates Calculated from Claims, Selected States and Services, Calendar Year 2010**

**Table 8: Percentage Difference between Medicaid Provider Payment Rates Published in Previous Studies Based on Fee Schedules and Rates Calculated from Claims Data, Selected States and Services, Calendar Year 2010**

**Table 5-A: Distribution of Medicaid Provider Payment Rates, by State and Service, Calendar Year 2010 (Alabama, Iowa, and Illinois)**

| Service  | Alabama |       |       |        | Iowa   |     |     |        | Illinois |       |       |        |
|--|---------|-------|-------|--------|--------|-----|-----|--------|----------|-------|-------|--------|
|  | Median  | P10   | P90   | P90/10 | Median | P10 | P90 | P90/10 | Median   | P10   | P90   | P90/10 |
| Routine venipuncture                                     | —       | —     | —     | —      | 3      | 3   | 6   | 2.00   | —        | —     | —     | —      |
| Vaginal delivery only, no postpartum care                | 1,041   | 950   | 1,250 | 1.32   | 759    | 759 | 759 | 1.00   | 924      | 924   | 924   | 1.00   |
| Vaginal delivery and postpartum care                     | 1,161   | 1,000 | 1,300 | 1.30   | 836    | 836 | 836 | 1.00   | 924      | 924   | 924   | 1.00   |
| Cesarean delivery and no postpartum care                 | 1,041   | 950   | 1,250 | 1.32   | 893    | 889 | 893 | 1.00   | 1,070    | 1,070 | 1,070 | 1.00   |
| CAT scan, head or brain                                  | 158     | 158   | 273   | 1.73   | 199    | 196 | 199 | 1.02   | 247      | 247   | 247   | 1.00   |
| Frontal chest x-ray                                      | 20      | 20    | 34    | 1.70   | 25     | 13  | 25  | 1.92   | 17       | 17    | 17    | 1.00   |
| X-ray, chest, two views                                  | 23      | 23    | 23    | 1.00   | 32     | 27  | 32  | 1.19   | 22       | 22    | 22    | 1.00   |
| Urinalysis, non-auto., without microscopy                | 3       | 3     | 3     | 1.00   | 4      | 3   | 8   | 2.67   | 3        | 3     | 3     | 1.00   |
| Rapid Streptococcus screen                               | 14      | 14    | 14    | 1.00   | 17     | 13  | 17  | 1.31   | 16       | 16    | 16    | 1.00   |
| One immunization administration                          | 5       | 5     | 5     | 1.00   | 7      | 4   | 17  | 4.25   | —        | —     | —     | —      |
| Individual psychotherapy, 20-30 minutes face-to-face     | 47      | 47    | 47    | 1.00   | 33     | 33  | 55  | 1.67   | 68       | 28    | 68    | 2.43   |
| Individual psychotherapy, 45-50 minutes face-to-face     | 71      | 71    | 71    | 1.00   | 86     | 77  | 87  | 1.13   | 68       | 68    | 102   | 1.50   |
| Pharmacologic management                                 | 37      | 37    | 37    | 1.00   | 43     | 43  | 46  | 1.07   | 22       | 22    | 68    | 3.09   |
| Ophthalmological services, new patient                   | 84      | 75    | 84    | 1.12   | 96     | 65  | 96  | 1.48   | 46       | 37    | 46    | 1.24   |
| Ophthalmological services, established patient           | 62      | 61    | 62    | 1.02   | 70     | 67  | 70  | 1.04   | 44       | 44    | 44    | 1.00   |
| Screening test, hearing evaluation                       | 16      | 10    | 16    | 1.60   | 14     | 14  | 14  | 1.00   | 20       | 15    | 32    | 2.13   |
| Echocardiography, with image documentation               | 134     | 125   | 134   | 1.07   | —      | —   | —   | —      | 91       | 91    | 91    | 1.00   |
| Doppler echocardiograph                                  | 71      | 71    | 106   | 1.49   | 88     | 78  | 116 | 1.49   | 20       | 20    | 40    | 2.00   |
| New patient, low complexity                              | 78      | 77    | 79    | 1.03   | 81     | 77  | 81  | 1.05   | 42       | 40    | 44    | 1.10   |
| New patient, moderate complexity                         | 111     | 110   | 113   | 1.03   | 117    | 114 | 117 | 1.03   | 68       | 64    | 70    | 1.09   |
| Established patient, problem-focused                     | 31      | 30    | 38    | 1.27   | 31     | 28  | 31  | 1.11   | 26       | 22    | 26    | 1.18   |
| Established patient, low complexity                      | 42      | 34    | 43    | 1.26   | 43     | 36  | 43  | 1.19   | 47       | 28    | 47    | 1.68   |
| Established patient, moderate complexity                 | 67      | 61    | 68    | 1.11   | 66     | 58  | 66  | 1.14   | 71       | 41    | 73    | 1.78   |
| Initial hospitalization, per day, moderate complexity    | 95      | 81    | 145   | 1.79   | 106    | 98  | 106 | 1.08   | 51       | 51    | 51    | 1.00   |
| Subsequent hospitalization, per day, low complexity      | 24      | 24    | 44    | 1.83   | 33     | 31  | 37  | 1.19   | 16       | 16    | 16    | 1.00   |
| Subsequent hospitalization, per day, moderate complexity | 40      | 40    | 72    | 1.80   | 51     | 50  | 55  | 1.10   | 25       | 25    | 25    | 1.00   |

Enclosure II

| Service  | Alabama |     |     |        | Iowa   |     |     |        | Illinois |     |     |        |
|--|---------|-----|-----|--------|--------|-----|-----|--------|----------|-----|-----|--------|
|  | Median  | P10 | P90 | P90/10 | Median | P10 | P90 | P90/10 | Median   | P10 | P90 | P90/10 |
| Subsequent hospitalization, per day, high complexity | 102     | 57  | 102 | 1.79   | 72     | 69  | 76  | 1.10   | 35       | 35  | 35  | 1.00   |
| Emergency department visit, problem focused          | 21      | 21  | 21  | 1.00   | 29     | 29  | 29  | 1.00   | 24       | 24  | 24  | 1.00   |
| Emergency department visit, expanded                 | 42      | 42  | 42  | 1.00   | 59     | 59  | 59  | 1.00   | 32       | 32  | 32  | 1.00   |
| Emergency department visit, detailed                 | 66      | 66  | 66  | 1.00   | 90     | 90  | 90  | 1.00   | 44       | 44  | 44  | 1.00   |
| Established patient, under 1 year                    | —       | —   | —   | —      | 72     | 51  | 72  | 1.41   | —        | —   | —   | —      |
| Established patient, 1 through 4 years               | —       | —   | —   | —      | 75     | 56  | 79  | 1.41   | —        | —   | —   | —      |
| Periodic exam (dental)                               | 18      | 18  | 18  | 1.00   | 18     | 16  | 19  | 1.19   | 28       | 28  | 28  | 1.00   |
| Prophylaxis, child (dental)                          | 28      | 28  | 28  | 1.00   | 23     | 21  | 26  | 1.24   | 41       | 41  | 41  | 1.00   |
| Sealant, per tooth (dental)                          | 26      | 26  | 26  | 1.00   | 20     | 17  | 23  | 1.35   | 36       | 36  | 36  | 1.00   |

Source: GAO analysis of Centers for Medicare & Medicaid Services' data.

Note: For each service, the table displays the median payment, payment rates at the 10<sup>th</sup> percentile (P10) and 90<sup>th</sup> percentile (P90), and the ratio of the 90<sup>th</sup> to the 10<sup>th</sup> percentiles (P90/P10).

**Table 5-B: Distribution of Medicaid Provider Payment Rates, by State and Service, Calendar Year 2010 (Louisiana, Montana, and Nebraska)**

| Service  | Louisiana |     |     |         | Montana |     |       |         | Nebraska |       |       |         |
|--|-----------|-----|-----|---------|---------|-----|-------|---------|----------|-------|-------|---------|
|  | Median    | P10 | P90 | P90/P10 | Median  | P10 | P90   | P90/P10 | Median   | P10   | P90   | P90/P10 |
| Routine venipuncture                                     | —         | —   | —   | —       | 3       | 3   | 3     | 1.00    | 4        | 4     | 4     | 1.00    |
| Vaginal delivery only, no postpartum care                | 581       | 522 | 653 | 1.25    | 831     | 831 | 866   | 1.04    | 810      | 806   | 810   | 1.00    |
| Vaginal delivery and postpartum care                     | 671       | 671 | 755 | 1.13    | 1,002   | 970 | 1,002 | 1.03    | 960      | 960   | 965   | 1.01    |
| Cesarean delivery and no postpartum care                 | 687       | 687 | 687 | 1.00    | 986     | 354 | 1,025 | 2.90    | 1,119    | 1,113 | 1,119 | 1.01    |
| CAT scan, head or brain                                  | 160       | 153 | 167 | 1.09    | —       | —   | —     | —       | 197      | 197   | 198   | 1.01    |
| Frontal chest x-ray                                      | 18        | 14  | 19  | 1.36    | —       | —   | —     | —       | 23       | 23    | 23    | 1.00    |
| X-ray, chest, two views                                  | 23        | 20  | 25  | 1.25    | —       | —   | —     | —       | 30       | 30    | 31    | 1.03    |
| Urinalysis, non-auto., without microscopy                | 3         | 2   | 3   | 1.50    | 4       | 4   | 4     | 1.00    | 4        | 4     | 4     | 1.00    |
| Rapid Streptococcus screen                               | 14        | 12  | 15  | 1.25    | 17      | 17  | 17    | 1.00    | 17       | 17    | 17    | 1.00    |
| One immunization administration                          | 15        | 15  | 15  | 1.00    | 16      | 14  | 16    | 1.14    | 6        | 6     | 6     | 1.00    |
| Individual psychotherapy, 20-30 minutes face-to-face     | 50        | 50  | 50  | 1.00    | 41      | 41  | 41    | 1.00    | 35       | 35    | 35    | 1.00    |
| Individual psychotherapy, 45-50 minutes face-to-face     | 76        | 76  | 76  | 1.00    | 57      | 57  | 58    | 1.02    | 64       | 64    | 64    | 1.00    |
| Pharmacologic management                                 | 48        | 46  | 48  | 1.04    | 71      | 52  | 72    | 1.38    | 42       | 37    | 42    | 1.14    |
| Ophthalmological services, new patient                   | 107       | 85  | 107 | 1.26    | 96      | 65  | 112   | 1.72    | 35       | 35    | 55    | 1.57    |
| Ophthalmological services, established patient           | 87        | 59  | 87  | 1.47    | 89      | 67  | 92    | 1.37    | 35       | 35    | 47    | 1.34    |
| Screening test, hearing evaluation                       | 7         | 6   | 7   | 1.17    | 10      | 10  | 10    | 1.00    | 13       | 13    | 13    | 1.00    |
| Echocardiography, with image documentation               | 120       | 120 | 128 | 1.07    | —       | —   | —     | —       | 224      | 224   | 224   | 1.00    |
| Doppler echocardiograph                                  | 63        | 53  | 63  | 1.19    | 65      | 65  | 75    | 1.15    | 106      | 106   | 106   | 1.00    |
| New patient, low complexity                              | 77        | 62  | 78  | 1.26    | 94      | 72  | 97    | 1.35    | 69       | 69    | 70    | 1.01    |
| New patient, moderate complexity                         | 118       | 101 | 121 | 1.20    | 147     | 118 | 152   | 1.29    | 104      | 102   | 104   | 1.02    |
| Established patient, problem-focused                     | 31        | 25  | 31  | 1.24    | 38      | 24  | 38    | 1.58    | 30       | 30    | 30    | 1.00    |
| Established patient, low complexity                      | 52        | 42  | 52  | 1.24    | 63      | 45  | 65    | 1.44    | 45       | 45    | 45    | 1.00    |
| Established patient, moderate complexity                 | 76        | 63  | 79  | 1.25    | 95      | 67  | 98    | 1.46    | 68       | 68    | 68    | 1.00    |
| Initial hospitalization, per day, moderate complexity    | 103       | 89  | 107 | 1.20    | 130     | 130 | 131   | 1.01    | 83       | 83    | 84    | 1.01    |
| Subsequent hospitalization, per day, low complexity      | 27        | 27  | 32  | 1.19    | 49      | 39  | 49    | 1.26    | 29       | 28    | 29    | 1.04    |
| Subsequent hospitalization, per day, moderate complexity | 49        | 49  | 58  | 1.18    | 71      | 70  | 88    | 1.26    | 45       | 45    | 46    | 1.02    |

| Service  | Louisiana |     |     |         | Montana |     |     |         | Nebraska |     |     |         |
|--|-----------|-----|-----|---------|---------|-----|-----|---------|----------|-----|-----|---------|
|  | Median    | P10 | P90 | P90/P10 | Median  | P10 | P90 | P90/P10 | Median   | P10 | P90 | P90/P10 |
| Subsequent hospitalization, per day, high complexity | 79        | 70  | 83  | 1.19    | 102     | 101 | 127 | 1.26    | 76       | 52  | 76  | 1.46    |
| Emergency department (ED) visit, problem focused     | 35        | 29  | 35  | 1.21    | 41      | 41  | 42  | 1.02    | 34       | 34  | 34  | 1.00    |
| ED visit, expanded                                   | 53        | 43  | 54  | 1.26    | 65      | 63  | 65  | 1.03    | 51       | 51  | 51  | 1.00    |
| ED visit, detailed                                   | 84        | 84  | 101 | 1.20    | 119     | 119 | 122 | 1.03    | 60       | 60  | 61  | 1.02    |
| Established patient, under 1 year                    | 61        | 61  | 64  | 1.05    | 76      | 52  | 77  | 1.48    | —        | —   | —   | —       |
| Established patient, 1 through 4 years               | 68        | 68  | 71  | 1.04    | 85      | 61  | 86  | 1.41    | —        | —   | —   | —       |
| Periodic exam (dental)                               | —         | —   | —   | —       | 23      | 23  | 23  | 1.00    | 17       | 17  | 17  | 1.00    |
| Prophylaxis, child (dental)                          | —         | —   | —   | —       | 33      | 33  | 33  | 1.00    | 21       | 21  | 22  | 1.05    |
| Sealant, per tooth (dental)                          | —         | —   | —   | —       | 26      | 26  | 26  | 1.00    | —        | —   | —   | —       |

Source: GAO analysis of Centers for Medicare & Medicaid Services' data.

Note: For each service, the table displays the median payment, payment rates at the 10<sup>th</sup> percentile (P10) and 90<sup>th</sup> percentile (P90), and the ratio of the 90<sup>th</sup> to the 10<sup>th</sup> percentiles (P90/P10).



**Table 5-C: Distribution of Medicaid Provider Payment Rates, by State and Service, Calendar Year 2010 (Pennsylvania, South Carolina, and Texas)**

| Service  | Pennsylvania |       |       |         | South Carolina |       |       |         | Texas  |     |     |         |
|--|--------------|-------|-------|---------|----------------|-------|-------|---------|--------|-----|-----|---------|
|  | Median       | P10   | P90   | P90/P10 | Median         | P10   | P90   | P90/P10 | Median | P10 | P90 | P90/P10 |
| Routine venipuncture                                     | —            | —     | —     | —       | 2              | 2     | 2     | 1.00    | —      | —   | —   | —       |
| Vaginal delivery only, no postpartum care                | 1,200        | 1,200 | 1,200 | 1.00    | 1,200          | 1,200 | 1,200 | 1.00    | 567    | 561 | 668 | 1.19    |
| Vaginal delivery and postpartum care                     | 1,200        | 1,200 | 1,200 | 1.00    | —              | —     | —     | —       | 689    | 656 | 746 | 1.14    |
| Cesarean delivery and no postpartum care                 | 1,200        | 1,200 | 1,200 | 1.00    | 1,200          | 1,200 | 1,200 | 1.00    | 674    | 667 | 700 | 1.05    |
| CAT scan, head or brain                                  | 78           | 78    | 117   | 1.50    | 168            | 168   | 168   | 1.00    | 357    | 175 | 553 | 3.16    |
| Frontal chest x-ray                                      | 12           | 11    | 19    | 1.73    | 18             | 18    | 18    | 1.00    | 27     | 19  | 69  | 3.63    |
| X-ray, chest, two views                                  | 15           | 14    | 25    | 1.79    | 24             | 24    | 24    | 1.00    | 28     | 25  | 96  | 3.84    |
| Urinalysis, non-auto., without microscopy                | 4            | 4     | 4     | 1.00    | 3              | 3     | 3     | 1.00    | 4      | 3   | 4   | 1.33    |
| Rapid Streptococcus screen                               | 6            | 6     | 6     | 1.00    | 15             | 15    | 15    | 1.00    | 16     | 16  | 17  | 1.06    |
| One immunization administration                          | —            | —     | —     | —       | 13             | 13    | 13    | 1.00    | 8      | 8   | 8   | 1.00    |
| Individual psychotherapy, 20-30 minutes face-to-face     | —            | —     | —     | —       | 59             | 59    | 59    | 1.00    | 35     | 35  | 36  | 1.03    |
| Individual psychotherapy, 45-50 minutes face-to-face     | —            | —     | —     | —       | 77             | 77    | 77    | 1.00    | 70     | 61  | 81  | 1.33    |
| Pharmacologic management                                 | —            | —     | —     | —       | 45             | 37    | 45    | 1.22    | 45     | 42  | 46  | 1.10    |
| Ophthalmological services, new patient                   | 56           | 48    | 59    | 1.23    | 103            | 74    | 103   | 1.39    | 100    | 88  | 105 | 1.19    |
| Ophthalmological services, established patient           | 45           | 43    | 45    | 1.05    | 84             | 75    | 84    | 1.12    | 86     | 65  | 86  | 1.32    |
| Screening test, hearing evaluation                       | 8            | 8     | 8     | 1.00    | 8              | 8     | 8     | 1.00    | 16     | 16  | 16  | 1.00    |
| Echocardiography, with image documentation               | 139          | 137   | 140   | 1.02    | 136            | 136   | 136   | 1.00    | 122    | 115 | 161 | 1.40    |
| Doppler echocardiograph                                  | 65           | 62    | 65    | 1.05    | 70             | 60    | 70    | 1.17    | 53     | 53  | 82  | 1.55    |
| New patient, low complexity                              | 54           | 51    | 54    | 1.06    | 74             | 59    | 74    | 1.25    | 61     | 55  | 62  | 1.13    |
| New patient, moderate complexity                         | 87           | 87    | 90    | 1.03    | 115            | 113   | 115   | 1.02    | 83     | 74  | 90  | 1.22    |
| Established patient, problem-focused                     | 26           | 24    | 26    | 1.08    | 29             | 27    | 29    | 1.07    | 25     | 23  | 25  | 1.09    |
| Established patient, low complexity                      | 35           | 33    | 35    | 1.06    | 50             | 40    | 50    | 1.25    | 38     | 34  | 38  | 1.12    |
| Established patient, moderate complexity                 | 51           | 51    | 54    | 1.06    | 75             | 73    | 75    | 1.03    | 52     | 47  | 53  | 1.13    |
| Initial hospitalization, per day, moderate complexity    | 28           | 28    | 30    | 1.07    | 101            | 101   | 101   | 1.00    | 105    | 95  | 105 | 1.11    |
| Subsequent hospitalization, per day, low complexity      | 16           | 16    | 17    | 1.06    | 30             | 30    | 30    | 1.00    | 35     | 31  | 35  | 1.13    |
| Subsequent hospitalization, per day, moderate complexity | 16           | 16    | 17    | 1.06    | 55             | 55    | 77    | 1.40    | 50     | 45  | 50  | 1.11    |

| Service  | Pennsylvania |     |     |         | South Carolina |     |     |         | Texas  |     |     |         |
|--|--------------|-----|-----|---------|----------------|-----|-----|---------|--------|-----|-----|---------|
|  | Median       | P10 | P90 | P90/P10 | Median         | P10 | P90 | P90/P10 | Median | P10 | P90 | P90/P10 |
| Subsequent hospitalization, per day, high complexity | 17           | 16  | 17  | 1.06    | 79             | 79  | 110 | 1.39    | 67     | 61  | 68  | 1.11    |
| Emergency department visit, problem focused          | 27           | 25  | 27  | 1.08    | 32             | 32  | 32  | 1.00    | 27     | 25  | 46  | 1.84    |
| Emergency department visit, expanded                 | 35           | 35  | 35  | 1.00    | 50             | 50  | 50  | 1.00    | 37     | 34  | 62  | 1.82    |
| Emergency department visit, detailed                 | 50           | 48  | 50  | 1.04    | 94             | 94  | 94  | 1.00    | 81     | 49  | 90  | 1.84    |
| Established patient, under 1 year                    | 20           | 20  | 20  | 1.00    | —              | —   | —   | —       | —      | —   | —   | —       |
| Established patient, 1 through 4 years               | 20           | 20  | 20  | 1.00    | —              | —   | —   | —       | —      | —   | —   | —       |
| Periodic exam (dental)                               | 20           | 19  | 20  | 1.05    | 23             | 23  | 23  | 1.00    | 29     | 29  | 29  | 1.00    |
| Prophylaxis, child (dental)                          | 30           | 30  | 30  | 1.00    | 29             | 29  | 29  | 1.00    | 38     | 37  | 38  | 1.03    |
| Sealant, per tooth (dental)                          | 25           | 25  | 25  | 1.00    | 24             | 24  | 24  | 1.00    | —      | —   | —   | —       |

Source: GAO analysis of Centers for Medicare & Medicaid Services' data.

Note: For each service, the table displays the median payment, payment rates at the 10<sup>th</sup> percentile (P10) and 90<sup>th</sup> percentile (P90), and the ratio of the 90<sup>th</sup> to the 10<sup>th</sup> percentiles (P90/P10).

**Table 6: Percent Difference in Medicaid Provider Payment Rates Accounted for by Provider Type, Service Setting, and Patient Age, Selected States and Services, Calendar Year 2010**

| Services   | State     | Percent difference in payment rate <sup>a</sup> |                     |                 | Percent of payment rate variation due to 3 factors | Mean payment rate <sup>b</sup> |
|--|-----------|---|---------------------|-----------------|--|--------------------------------|
|  |           | Non-physician vs. physician                     | Facility vs. office | Adult vs. child |  |                                |
| Established patient, low complexity                      | Alabama   | —   | 0.30                | -0.01           | 0.46   | 41.84                          |
| Established patient, moderate complexity                 | Alabama   | —   | 0.08                | -0.01           | 0.27   | 67.09                          |
| Established patient, low complexity                      | Iowa      | -0.15   | 0.02                | -0.05           | 0.52   | 41.78                          |
| Established patient, moderate complexity                 | Iowa      | -0.13   | 0.01                | -0.03           | 0.30   | 64.16                          |
| Ind. psychotherapy, 20-30 minutes face-to-face           | Illinois  | —   | -0.01               | 0.01            | 0.79   | 64.85                          |
| Pharmacologic management                                 | Illinois  | —   | 0.26                | 0.05            | 0.64   | 30.50                          |
| Vaginal delivery and postpartum care                     | Louisiana | -0.22   | 0.01                | -0.03           | 0.37   | 678.37                         |
| Frontal chest x-ray                                      | Louisiana | —   | —                   | 0.05            | 0.67   | 18.20                          |
| Doppler echocardiograph                                  | Louisiana | —   | —                   | -0.19           | 0.28   | 63.19                          |
| New patient, low complexity                              | Louisiana | -0.18   | -0.01               | -0.12           | 0.41   | 71.93                          |
| New patient, moderate complexity                         | Louisiana | -0.19   | -0.02               | -0.12           | 0.47   | 110.60                         |
| Established patient, problem-focused                     | Louisiana | -0.19   | 0.00                | -0.16           | 0.69   | 29.04                          |
| Established patient, low complexity                      | Louisiana | -0.20   | 0.00                | -0.17           | 0.61   | 48.56                          |
| Established patient, moderate complexity                 | Louisiana | -0.22   | -0.02               | -0.10           | 0.48   | 73.25                          |
| Initial hospitalization, per day, moderate complexity    | Louisiana | -0.19   | 0.02                | -0.14           | 0.56   | 98.97                          |
| Subsequent hospitalization, per day, low complexity      | Louisiana | -0.20   | 0.00                | -0.14           | 0.58   | 28.83                          |
| Subsequent hospitalization, per day, moderate complexity | Louisiana | -0.22   | 0.00                | -0.12           | 0.52   | 52.31                          |
| Subsequent hospitalization, per day, high complexity     | Louisiana | -0.23   | -0.01               | -0.12           | 0.33   | 75.28                          |
| Emergency department visit, problem focused              | Louisiana | -0.22   | —                   | -0.17           | 0.63   | 32.74                          |
| Emergency department visit, expanded                     | Louisiana | -0.21   | —                   | -0.16           | 0.69   | 49.33                          |
| Emergency department visit, detailed                     | Louisiana | -0.22   | —                   | -0.14           | 0.67   | 89.31                          |
| Pharmacologic management                                 | Montana   | -0.26   | -0.19               | 0.00            | 0.83   | 65.86                          |
| New patient, low complexity                              | Montana   | -0.04   | -0.27               | -0.03           | 0.88   | 89.00                          |
| New patient, moderate complexity                         | Montana   | -0.06   | -0.24               | -0.02           | 0.81   | 140.69                         |
| Established patient, problem-focused                     | Montana   | -0.03   | -0.45               | -0.03           | 0.95   | 34.14                          |

| Services   | State          | Percent difference in payment rate <sup>a</sup> |                     |                 | Percent of payment rate variation due to 3 factors | Mean payment rate <sup>b</sup> |
|--|----------------|---|---------------------|-----------------|--|--------------------------------|
|  |                | Non-physician vs. physician                     | Facility vs. office | Adult vs. child |  |                                |
| Established patient, low complexity                      | Montana        | -0.01   | -0.32               | -0.03           | 0.82   | 57.72                          |
| Established patient, moderate complexity                 | Montana        | -0.04   | -0.33               | -0.03           | 0.77   | 89.59                          |
| Subsequent hospitalization, per day, low complexity      | Montana        | -0.11   | —                   | -0.09           | 0.55   | 44.62                          |
| Subsequent hospitalization, per day, moderate complexity | Montana        | -0.07   | —                   | -0.02           | 0.32   | 73.58                          |
| Subsequent hospitalization, per day, high complexity     | Montana        | -0.05   | —                   | -0.02           | 0.32   | 108.31                         |
| Established patient, under 1 year                        | Montana        | -0.04   | -0.39               | —               | 0.73   | 67.45                          |
| Established patient, 1 through 4 years                   | Montana        | -0.03   | -0.34               | —               | 0.64   | 76.17                          |
| CAT scan, head or brain                                  | Pennsylvania   | —   | -0.36               | -0.02           | 0.44   | 85.03                          |
| Frontal chest x-ray                                      | Pennsylvania   | —   | -0.42               | -0.01           | 0.44   | 12.84                          |
| X-ray, chest, two views                                  | Pennsylvania   | —   | -0.44               | -0.04           | 0.72   | 18.57                          |
| Pharmacologic management                                 | South Carolina | —   | -0.18               | 0.00            | 0.76   | 43.86                          |
| Doppler echocardiograph                                  | South Carolina | —   | —                   | -0.13           | 0.30   | 68.49                          |
| New patient, low complexity                              | South Carolina | -0.11   | -0.28               | -0.02           | 0.79   | 71.84                          |
| Established patient, low complexity                      | South Carolina | -0.14   | -0.29               | -0.02           | 0.76   | 48.76                          |
| Subsequent hospitalization, per day, high complexity     | South Carolina | -0.23   | —                   | -0.19           | 0.38   | 88.71                          |
| CAT scan, head or brain                                  | Texas          | —   | 0.79                | 0.00            | 0.31   | 377.67                         |
| Frontal chest x-ray                                      | Texas          | —   | 0.98                | -0.05           | 0.75   | 38.55                          |
| X-ray, chest, two views                                  | Texas          | —   | 1.03                | -0.05           | 0.78   | 48.59                          |
| New patient, low complexity                              | Texas          | -0.06   | -0.40               | -0.11           | 0.76   | 58.46                          |
| New patient, moderate complexity                         | Texas          | -0.08   | -0.41               | -0.11           | 0.79   | 82.23                          |
| Established patient, low complexity                      | Texas          | -0.07   | -0.38               | -0.11           | 0.75   | 36.79                          |
| Established patient, moderate complexity                 | Texas          | -0.08   | -0.38               | -0.11           | 0.74   | 50.36                          |
| Initial hospitalization, per day, moderate complexity    | Texas          | -0.08   | —                   | -0.10           | 0.55   | 102.54                         |
| Subsequent hospitalization, per day, low complexity      | Texas          | -0.09   | —                   | -0.10           | 0.87   | 33.70                          |
| Subsequent hospitalization, per day, moderate complexity | Texas          | -0.08   | —                   | -0.11           | 0.84   | 48.38                          |

| Services   | State | Percent difference in payment rate <sup>a</sup> |                     |                 | Percent of payment rate variation due to 3 factors | Mean payment rate <sup>b</sup> |
|--|-------|---|---------------------|-----------------|--|--------------------------------|
|  |       | Non-physician vs. physician                     | Facility vs. office | Adult vs. child |  |                                |
| Subsequent hospitalization, per day, high complexity | Texas | -0.09   | —                   | -0.10           | 0.85   | 65.71                          |

Source: GAO analysis of Centers for Medicare & Medicaid Services' data.

Note: Table includes only those services with payment variation of at least 10 percent between the 90<sup>th</sup> and 10<sup>th</sup> percentiles and where at least 25 percent of the variation could be explained by the 3 factors in our regression analysis—provider type (physician/dentist vs. non-physician), service setting (facility vs. office), and patient age (adult vs. child). Percentage difference in payment rate is shown as missing when there was insufficient variation in that factor (N < 30 for one or more values of the factor); services where all factors had insufficient variation were not included in the table. Facilities included inpatient hospital, outpatient hospital, and emergency department.

<sup>a</sup>The percent difference in payments are relative to the second value listed in the column. For example, a percentage difference of 0.30 in the facility vs. office column implies that the payment rate when the service was provided in a facility was, on average, 30 percent more than the rate when the service was performed in an office.

<sup>b</sup>The mean payment is the rate paid for services provided by a physician or dentist, in an office, and to a child.

**Table 7: Median Medicaid Provider Payment Rates Calculated from Claims, Selected States and Services, Calendar Year 2010**

| Service  | Alabama | Iowa | Illinois | Louisiana | Montana | Nebraska | Pennsylvania | South Carolina | Texas |
|--|---------|------|----------|-----------|---------|----------|--------------|----------------|-------|
| Routine venipuncture                                     | —       | 3    | —        | —         | 3       | 4        | —            | 2              | —     |
| Vaginal delivery, no postpartum care                     | 1041    | 759  | 924      | 581       | 831     | 810      | 1200         | 1200           | 567   |
| Vaginal delivery and postpartum care                     | 1161    | 836  | 924      | 671       | 1002    | 960      | 1200         | —              | 663   |
| Cesarean delivery, no postpartum care                    | 1041    | 893  | 1070     | 687       | 986     | 1119     | 1200         | 1200           | 674   |
| CAT scan, head or brain                                  | 158     | 199  | 247      | 160       | —       | 197      | 117          | 168            | 174   |
| Frontal chest x-ray                                      | 20      | 25   | 17       | 18        | —       | —        | 19           | 18             | 19    |
| X-ray, chest, two views                                  | 23      | 32   | 22       | 23        | —       | 30       | 25           | 24             | 25    |
| Urinalysis, non-auto., without microscopy                | 3       | 4    | 3        | 3         | —       | —        | 4            | 3              | 4     |
| Rapid Streptococcus screen                               | 14      | 17   | 16       | 14        | —       | —        | 6            | 15             | 16    |
| One immunization administration                          | 5       | 7    | —        | —         | 16      | 6        | —            | 13             | 8     |
| Individual psychotherapy, 20-30 min                      | 47      | —    | 28       | —         | —       | 35       | —            | 55             | 50    |
| Individual psychotherapy, 45-50 min                      | 71      | —    | 48       | —         | —       | 64       | —            | 77             | 70    |
| Pharmacologic management                                 | 37      | —    | 22       | 48        | 71      | 42       | —            | 45             | 45    |
| Ophthalmological services, new patient                   | 84      | 96   | 46       | 107       | 130     | 45       | 59           | 103            | 104   |
| Ophthalmological services, established patient           | 62      | 70   | 44       | 87        | 106     | 47       | 45           | 84             | 86    |
| Screening test, hearing evaluation                       | 16      | 14   | —        | —         | 10      | 13       | 8            | 8              | 16    |
| Echocardiography   | 134     | —    | 91       | 144       | —       | —        | 140          | —              | 122   |
| Doppler echocardiograph                                  | 71      | 88   | 20       | 63        | 65      | 106      | 65           | 70             | 53    |
| New patient, low complexity                              | 78      | 81   | 44       | 77        | 97      | 69       | 54           | 74             | 62    |
| New patient, moderate complexity                         | 111     | 117  | 70       | 118       | 152     | 104      | 90           | 115            | 90    |
| Established patient, problem-focused                     | 31      | 31   | 26       | 31        | 38      | 30       | 26           | 29             | 25    |
| Established patient, low complexity                      | 42      | 43   | 47       | 52        | 63      | 45       | 35           | 50             | 38    |
| Established patient, moderate complexity                 | 67      | 66   | 73       | 76        | 98      | 68       | 54           | 75             | 53    |
| Initial hospitalization per day, moderate complexity     | 95      | 106  | 51       | 103       | 130     | 83       | 30           | 101            | 105   |
| Subsequent hospitalization, per day, low complexity      | 30      | 33   | 16       | 32        | 39      | 28       | 17           | 30             | 35    |
| Subsequent hospitalization, per day, moderate complexity | 40      | 51   | 25       | 55        | 71      | 45       | 17           | 55             | 50    |
| Subsequent hospitalization, per day, high complexity     | 102     | 72   | 35       | 79        | 102     | 76       | 17           | 110            | 68    |

Enclosure II

| <b>Service</b>                              | <b>Alabama</b> | <b>Iowa</b> | <b>Illinois</b> | <b>Louisiana</b> | <b>Montana</b> | <b>Nebraska</b> | <b>Pennsylvania</b> | <b>South Carolina</b> | <b>Texas</b> |
|---|----------------|-------------|-----------------|------------------|----------------|-----------------|---------------------|-----------------------|--------------|
| Emergency department visit, problem focused | 21             | 29          | 24              | 35               | 41             | 34              | 27                  | 32                    | 27           |
| Emergency department visit, expanded        | 42             | 59          | 32              | 53               | 65             | 51              | 35                  | 50                    | 37           |
| Emergency department visit, detailed        | 66             | 90          | 44              | 97               | 122            | 60              | 50                  | 94                    | 89           |
| Established patient, under 1 year           | —              | 72          | —               | 61               | 77             | —               | 20                  | —                     | —            |
| Established patient, 1 through 4 years      | —              | 76          | —               | 68               | 85             | —               | 20                  | —                     | —            |
| Periodic exam (dental)                      | 18             | 18          | 28              | —                | —              | 17              | 20                  | 23                    | 29           |
| Prophylaxis, child (dental)                 | 28             | 23          | 41              | —                | —              | 21              | 30                  | 29                    | 38           |
| Sealant, per tooth (dental)                 | 26             | 20          | 36              | —                | —              | —               | 25                  | 24                    | —            |

Source: GAO analysis of Centers for Medicare & Medicaid Services' data.

Notes: (1) To help ensure comparability, we restricted the claims in this part of our analysis to those most comparable to the fees used by the American Academy of Pediatrics and the Urban Institute studies. Generally, this involved restricting those claims to the service provided by a physician or dentist, in an office, and to a child. (See table 4 in enclosure 1.) (2) Missing data for a particular state and service could be due to (a) the states' Medicaid fee-for-service program never providing the service in the selected circumstances, or (b) limitations of the claims data that make it difficult to definitively identify all services that were provided in the selected circumstances.

**Table 8: Percentage Difference between Medicaid Provider Payment Rates Published in Previous Studies Based on Fee Schedules and Rates Calculated from Claims Data, Selected States and Services, Calendar Year 2010**

| Services   | Percentage Difference |     |      |      |     |      |      |      |      |
|--|-----------------------|-----|------|------|-----|------|------|------|------|
|  | AL                    | IA  | IL   | LA   | MT  | NE   | PA   | SC   | TX   |
| Routine venipuncture                                     | —                     | -5% | —    | —    | 0%  | -10% | —    | -29% | —    |
| Vaginal delivery only, no postpartum care                | 9%                    | 0%  | 0%   | -12% | 0%  | 0%   | 0%   | 0%   | -2%  |
| Vaginal delivery and postpartum care                     | 1%                    | 0%  | 0%   | -12% | 3%  | 0%   | -35% | —    | -2%  |
| Cesarean delivery and no postpartum care                 | 9%                    | 0%  | 0%   | -6%  | 0%  | 0%   | 0%   | 0%   | -2%  |
| CAT scan, head or brain                                  | 37%                   | 0%  | 0%   | 7%   | —   | 0%   | 0%   | 0%   | 3%   |
| Frontal chest x-ray                                      | 0%                    | 65% | 0%   | 2%   | —   | —    | 0%   | -4%  | 1%   |
| X-ray, chest, two views                                  | 40%                   | 2%  | 2%   | 0%   | —   | -2%  | 0%   | -3%  | 2%   |
| Urinalysis, non-auto., without microscopy                | 0%                    | 10% | 13%  | 4%   | —   | —    | 11%  | -7%  | 12%  |
| Rapid Streptococcus screen                               | 0%                    | 40% | 2%   | -6%  | —   | —    | -5%  | 0%   | -3%  |
| One immunization administration                          | 0%                    | 28% | —    | —    | 3%  | 3%   | —    | 0%   | 0%   |
| Individual psychotherapy, 20-30 minutes face-to-face     | 0%                    | —   | 2%   | —    | —   | —    | —    | —    | -1%  |
| Individual psychotherapy, 45-50 minutes face-to-face     | 0%                    | —   | 1%   | —    | —   | —    | —    | —    | 0%   |
| Pharmacologic management                                 | 0%                    | —   | -2%  | —    | 20% | —    | —    | —    | 1%   |
| Ophthalmological services, new patient                   | 0%                    | 0%  | -1%  | 8%   | -1% | -22% | 0%   | 0%   | 1%   |
| Ophthalmological services, established patient           | 0%                    | 0%  | -1%  | 8%   | -2% | -1%  | -1%  | 0%   | 2%   |
| Screening test, hearing evaluation                       | 69%                   | 0%  | —    | —    | 2%  | -2%  | 0%   | 0%   | 2%   |
| Echocardiography, with image documentation               | 0%                    | —   | 0%   | 17%  | —   | —    | 0%   | —    | 0%   |
| Doppler echocardiograph                                  | 0%                    | 74% | -99% | 16%  | 1%  | 0%   | 0%   | 14%  | -1%  |
| New patient, low complexity                              | 0%                    | 1%  | 1%   | 16%  | 0%  | -1%  | 0%   | 0%   | 1%   |
| New patient, moderate complexity                         | 0%                    | 0%  | 0%   | 14%  | 0%  | 0%   | 0%   | 0%   | 0%   |
| Established patient, problem-focused                     | 0%                    | 0%  | 1%   | 16%  | -1% | 1%   | 0%   | -3%  | 0%   |
| Established patient, low complexity                      | 0%                    | 0%  | 1%   | 16%  | -4% | 0%   | 0%   | 0%   | 1%   |
| Established patient, moderate complexity                 | 0%                    | 0%  | 0%   | 14%  | 0%  | 0%   | -1%  | 0%   | 0%   |
| Initial hospitalization, per day, moderate complexity    | 15%                   | 0%  | -1%  | 13%  | -1% | -1%  | 2%   | -1%  | 0%   |
| Subsequent hospitalization, per day, low complexity      | 20%                   | 0%  | -2%  | 16%  | 0%  | -2%  | 0%   | -2%  | 0%   |
| Subsequent hospitalization, per day, moderate complexity | 0%                    | -1% | 0%   | 12%  | 1%  | -1%  | 0%   | -1%  | -1%  |
| Subsequent hospitalization, per day, high complexity     | 44%                   | 0%  | 0%   | 12%  | 1%  | 0%   | 0%   | 28%  | 0%   |
| Emergency department visit, problem focused              | 0%                    | 1%  | -1%  | 18%  | -1% | -1%  | 1%   | -2%  | -69% |
| Emergency department visit, expanded                     | 0%                    | 1%  | -1%  | 15%  | 3%  | -1%  | 0%   | -1%  | -66% |
| Emergency department visit, detailed                     | 0%                    | 0%  | 0%   | 14%  | 3%  | -1%  | 0%   | -1%  | -1%  |
| Established patient, under 1 year                        | —                     | 0%  | —    | -4%  | 1%  | —    | 0%   | —    | —    |
| Established patient, 1 through 4 years                   | —                     | -4% | —    | -5%  | 0%  | —    | 0%   | —    | —    |
| Periodic exam (dental)                                   | 0%                    | 10% | 0%   | —    | —   | 0%   | 0%   | -2%  | -2%  |



Enclosure II

| Services                    | Percentage Difference |     |    |    |    |     |    |     |    |  |
|-----------------------------|-----------------------|-----|----|----|----|-----|----|-----|----|--|
|                             | AL                    | IA  | IL | LA | MT | NE  | PA | SC  | TX |  |
| Prophylaxis, child (dental) | 0%                    | -6% | 0% | —  | —  | -5% | 0% | -3% | 1% |  |
| Sealant, per tooth (dental) | 0%                    | -1% | 0% | —  | —  | —   | 0% | 0%  | —  |  |

Source: GAO analysis of Centers for Medicare & Medicaid Services, American Academy of Pediatrics (AAP), and Urban Institute data.

Note: A positive value indicates that the median payment rate calculated from Medicaid claims data is higher than the payment rate presented in recent AAP and Urban Institute studies using fee schedule data. To help ensure comparability, we restricted the claims in this part of our analysis to those most comparable to the fees used by the AAP and the Urban Institute studies. Generally, this involved restricting those claims to the service provided by a physician or dentist, in an office, and to a child. (See table 4 in enclosure 1.)

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