

# Medi-Cal DRG Project: Review of FY 2013-14 Utilization and Payment

Prepared for the California  
Department of Health Care  
Services  
March 9, 2015  
W577



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# Letter of Transmittal

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March 9, 2015

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RE: Medi-Cal DRG Project: Review of FY 2013-14 Utilization and Payment

Dear Pilar:

It is our pleasure to submit this documentation of inpatient payment during the first year of the DRG payment method. We performed this work under the payment method development (PMD) consulting statement of work described in FI letter A-3048 dated August 29, 2013.

In performing our work, we have benefited greatly from the close collaboration we have enjoyed with Department staff and especially the DRG section. Members of the Department of Health Care Services (DHCS) and Xerox policy project teams are listed below.

We also would like to acknowledge our use of the APR-DRG grouping software created, owned, and licensed by the 3M Company. 3M always provides helpful assistance when requested, but bears no responsibility for the judgments we have made in using the 3M software.

Anyone with questions may feel free to contact me at 262.365.3592 or dawn.weimar@xerox.com.

Sincerely,



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# Table of Contents

Letter of Transmittal .....	i
Acronyms .....	5
<b>1 Overview of DRG Payment.....</b>	<b>1</b>
1.1 Organization of This Document .....	1
1.2 Background on DRG Payment.....	2
1.2.1 DRG Payment .....	2
1.2.2 Scope of DRG Payment.....	3
1.2.3 Transition Period.....	4
1.3 Summary of Payment Policy Parameters for FY 2013-14.....	5
1.4 Data Sources for this Analysis.....	6
1.5 For Further Information.....	7
<b>2 Overview of Utilization and Payment.....</b>	<b>8</b>
2.1 Total Stays.....	8
2.2 Total Payment.....	10
2.3 Payment Relative to Expectations .....	12
<b>3 DRG Payment.....</b>	<b>14</b>
3.1 Medicaid Care Category.....	14
3.2 The Concentration of Spending .....	16
3.3 How Claims Were Paid.....	17
3.4 Outlier Payments.....	18
3.5 Obstetric Stays.....	19
3.6 Normal Newborn Stays.....	21
3.7 Adult Miscellaneous Stays.....	22
3.8 Pediatric Miscellaneous Stays.....	24
3.9 Adult Gastroenterology Stays.....	26
3.10 Adult Circulatory Stays.....	28
3.11 Neonate (Sick Newborn) Stays.....	30
3.12 Adult Respiratory Stays.....	33
3.13 Pediatric Respiratory Stays .....	34
3.14 Other Stays.....	35
3.15 Differences Between Non-ACA and ACA Populations.....	36

Appendix A: DRG Pricing Calculator.....39  
Appendix B: Reconciliation of Record Counts.....41  
Appendix C: Completion Factors for Medi-Cal DRG Stays.....43  
Notes .....44

# Acronyms

ALOS	Average length of stay
APR-DRG	All Patient Refined Diagnosis Related Group
CAMMIS	California Medicaid Management Information System
CAH	Critical access hospital (Medicare)
CCR	Cost-to-charge ratio
CCS	California Children's Services
CMS	Centers for Medicare and Medicaid Services
DHCS	California Department of Health Care Services
DPH	Designated public hospital
DRG	Diagnosis related group
GHPP	California Genetically Handicapped Persons Program
FFS	Fee-for-service
FY	California state fiscal year (July-June)
FFY	Federal fiscal year (October-September)
LIHP	Low income health program
LTCH	Long-term care hospital (Medicare)
MCC	Medicaid Care Category
MCP	Managed Care Plan
MDC	Major Diagnostic Category
NDPH	Non-designated public hospital
NICU	Neonatal intensive care unit
NIS	Nationwide Inpatient Sample from the Agency for Healthcare Research and Quality
OSHPD	California Office of Statewide Health Planning and Development
SNFD/DRG	Safety Net Finance Division of the California Department of Health Care Services/DRG Unit

# 1 Overview of DRG Payment

## 1.1 Organization of This Document

Effective for admissions on or after July 1, 2013, Medi-Cal implemented payment by diagnosis related group (DRG) for hospital inpatient services received by fee-for-service (FFS) beneficiaries, replacing the Selective Provider Contracting Program that had been in place for almost 30 years. The change was authorized by Senate Bill 853 of the 2009-2010 Legislature as signed by the Governor on October 19, 2010.

The present document summarizes the first year of experience with the new payment method. It is written for an audience of Medi-Cal beneficiaries, hospital staff, policymakers and others interested in the volume and nature of inpatient hospital services received by FFS beneficiaries.

- The remainder of Chapter 1 provides background on the DRG payment method.
- Chapter 2 provides an overview of DRG payment in state fiscal year 2013-14. The numbers include claims paid by September 22, 2014, plus an estimate of payments yet to occur.
- Chapter 3 provides a more detailed look at utilization, based only on claims paid for FY 2013-14 services. (These claims represent an estimated 94% of all stays in FY 2013-14.)
- An appendix includes related material such as the DRG pricing calculator.

Questions or comments are welcome and may be directed to [drq@dhcs.ca.gov](mailto:drq@dhcs.ca.gov).

# 1.2 Background on DRG Payment

## 1.2.1 DRG Payment

DRGs are often said to describe the “product of a hospital” where the “product” may be care for a patient with appendicitis or cesarean delivery of a baby. A grouping algorithm – Medi-Cal uses All Patient Refined Diagnosis Related Groups or APR-DRGs – assigns each stay to a single DRG based on clinical information on the claim submitted by the hospital, especially diagnosis and procedure data. Payment by DRG was introduced at the national level by Medicare in 1983 and has since been used to calculate more than \$2 trillion in payments worldwide.<sup>1</sup> More than 35 of the nation’s 51 Medicaid programs use DRG payment. The APR-DRG algorithm is also used by Florida, Illinois, New York, Texas and at least eight other states. Other states may use other DRG algorithms, especially the Medicare algorithm. California chose the APR-DRG algorithm because it is more appropriate for a Medicaid population.<sup>2</sup> The algorithm has 314 base DRGs (which may be thought as the reason for admission), each with four severity levels, for a total of 1,256 DRGs. The severity level scale ranges from 1 to 4 with 1 being least and 4 most severe reflecting the complexity of care provided.

The essence of DRG payment is quite simple. Each DRG has a relative weight that reflects the typical average hospital cost of that DRG relative to all hospital stays. When multiplied by a dollar denominated DRG base rate, the result is the DRG base payment. Consider the example of a cesarean section, severity 1, in the Los Angeles area in FY 2013-14.

APR-DRG 540-1	DRG relative weight x DRG base rate = DRG base payment
APR-DRG 540-1	0.5237 x \$7,200 = \$3,770.64

In FY 2013-14, the statewide DRG base rate was \$6,223 (\$10,218 for remote rural hospitals). For each hospital, the statewide base rate is adjusted to reflect differences in local area wages. In the above example, the base rate is adjusted for the Los Angeles wage area. The adjustment process and wage area assignments used by DHCS are based on the similar policy used by Medicare.

In general, individual hospital data such as length of stay, charges, or cost do not affect the DRG base payment. Hospitals therefore are rewarded for efficiency. And because sicker patients are assigned to higher-paying DRGs, a DRG payment method promotes access to care for the full spectrum of patients.

In certain cases, payments may be adjusted for some stays, most notably for “outlier” stays where the hospital’s cost for a specific patient is much higher or lower than the DRG base payment. For these stays, an outlier adjustment is made. The details of the payment method are most easily understood by viewing the Medi-Cal DRG Pricing Calculator, shown in Appendix A and available in interactive spreadsheet form on the DHCS DRG webpage at [www.dhcs.ca.gov/provgovpart/Pages/DRG.aspx](http://www.dhcs.ca.gov/provgovpart/Pages/DRG.aspx).

## 1.2.2 Scope of DRG Payment

The DRG payment method applies to FFS stays at general acute care hospitals, both in- and out-of-state, with exceptions being designated public hospitals (DPHs) as shown in Table 1.2.2.1. Non-designated public hospitals (NDPHs) were initially excluded from the DRG payment method but as of January 1, 2014, all NDPH admissions were included. Hospitals designated by Medicare as critical access hospitals (CAH) and long-term acute care (LTAC) hospitals are within the scope of DRG payment; DHCS does not recognize CAHs or LTACs as separate provider types. DHCS also does not recognize rehabilitation hospitals as a separate provider type, but rehabilitation stays in general are excluded from the DRG payment method.<sup>3</sup>

For the hospitals within the scope of the DRG payment method, essentially all services are within the scope of DRG payment. The only exceptions are psychiatric services (which are covered by the counties), rehabilitation stays, and administrative days. As of December 11, 2014, we estimate that in FY 2013-14 the DRG payment method was used to price 430,000 stays with \$3.765 billion in payment. (This estimate is an extrapolation based on claims already submitted and paid.) More than 300 California hospitals are affected by DRG payment.

Table 1.2.2.1 Designated Public Hospitals Outside the Scope of DRG Payment		
NPI	Hospital Name	OSHPD ID
1396764353	Alameda Co Med Ctr	106010846
1790781169	Arrowhead Reg Med Ctr	106364231
1497820203	Contra Costa Reg Med Ctr	106070924
1376623538	Kern Med Ctr	106150736
1497778401	LAC-Harbor UCLA Med Ctr	106191227
1417970567	LAC-Olive View-UCLA Med Ctr	106191231
1275540171	LAC-Rancho Los Amigos	106191306
1285647933	LAC-USC Med Ctr	106191228
1699979245	Natividad Med Ctr	106274043
1821159195	Riverside Co Reg Med Ctr	106334487
1164609962	San Francisco Gen Hosp	106380939
1275605180	San Joaquin Gen Hosp	106391010
1386713030	San Mateo Med Ctr	106410782
1063406551	Santa Clara Vly Med Ctr	106430883
1427055839	Santa Monica-UCLA Med Ctr	106190687
1710918545	UC Davis Med Ctr	106341006
1689608150	UC Irvine Med Ctr	106301279
1184722779	UC SD Med Ctr-San Diego	106370782
1902803315	UCLA Med Ctr	106190796
1457450116	UCSF Med Ctr	106381154
1629167457	Ventura Co Med Ctr	106560481

Note:

1. Designated public hospitals are outside the scope of the DRG payment method; except that Medi-Cal managed care plans use DRG calculations to pay DPHs for emergency and post-stabilization services if the plan does not have a contract with the hospital.

In addition to Medi-Cal FFS beneficiaries, the DRG method is used to pay for care received by patients who are ineligible for Medi-Cal but have coverage through California Children's Services (CCS) or the Genetically Handicapped Persons Program (GHPP). The DRG method is also used by Medi-Cal managed care plans (MCPs) to pay hospitals (including designated public hospitals) outside their networks for emergency and post-stabilization services. Note that this document only includes FFS stays; all managed care stays, including those paid by APR-DRG for out-of-network care, are excluded.

### 1.2.3 Transition Period

To mitigate the impacts – positive and negative – of the move from the previous payment method to DRG-based payment, DHCS implemented a three-year transition period.<sup>4</sup> Of the 332 California hospitals that were included in the ratesetting simulation for Year 1, 244 were designated as transition hospitals.<sup>5</sup> Except for NDPHs, DRG base rates were set with the intention of keeping DRG payment within plus or minus 5% of what would have been paid under the previous method, as estimated using the Year 1 ratesetting simulation dataset.<sup>6</sup> Based on the same simulation dataset, hospitals were advised in July 2013 of their projected base rates for Year 2 and Year 3.<sup>7</sup> For Year 2, projected DRG base rates were set with the intention that the change in payment per stay would be within plus or minus 5% of Year 1. Similarly, for Year 3, projected DRG base rates were set with the intention that the change in payment per stay would be within plus or minus 5% of Year 2. For NDPHs, Year 1 transition base rates were set with the aim of limiting changes in total payments to no more than plus or minus 2.5% in Year 1, plus or minus 5% in Year 2, and plus or minus 7.5% in Year 3.

Hospitals were advised that the projected rates were subject to change for the updates shown in this report as well as for reasons that stem from DHCS's monitoring of the new payment method after implementation. Although base rates were set with the intention of keeping changes in average payment per stay within specified bounds, a hospital's actual experience will depend on volume, casemix, prevalence of outliers, cost per stay, etc. Hospitals were advised that there would be no reconciliation process comparing actual payments with simulated payments. For FY 2014-15, 228 hospitals are paid using the transition methodology. For FY 2015-16, 213 hospitals will be paid using the transition methodology. As of July 1, 2016, the transition period will have ended. Every hospital will be paid based on the statewide base rate (or remote rural statewide base rate if applicable) adjusted for local area wage differences.

Per DHCS direction, DRG rates for FY 2013-14 were set with a goal of budget neutrality relative to the rates that were paid under the previous payment method as of June 30, 2013. Increases in payment due to increased utilization under the Affordable Care Act were not included in the budget neutrality calculation, as we will see in Section 2.3.

## 1.3 Summary of Payment Policy Parameters for FY 2013-14

Table 1.3.1 shows the key policy parameters used in FY 2013-14, with FY 2014-15 values also shown for purposes of comparison. For further background on these parameters, see the [Policy Design Document](#).

Table 1.3.1 Summary of Payment Policy Parameters		
Simulation Parameters	FY 2013-14 Value (DRG Year 1)	FY 2014-15 Value (DRG Year 2)
<b>Base rates</b>		
DRG base rate, statewide	\$6,223	\$6,289
DRG base rate, remote rural	\$10,218	\$10,640
DRG base rate, specific transition hospitals	Rates per January 2013 notice to hospitals (W206 5/13/13)	Rates per July 2013 notice to hospitals (W235 8/21/13)
DRG base rate, specific non-transition hospitals	\$10,218 adjusted for FFY 2013 Medicare wage areas	\$10,640 adjusted for FFY 2014 Medicare wage areas
Documentation & coding adjustment	3.5% in Year 1	None
<b>Technical updates</b>		
DRG grouper	APR-DRG V.29	APR-DRG V.31
DRG relative weights	V.29 APR-DRG national charge-based weights	V.31 APR-DRG national charge-based weights
Wage area adjustments	Per Medicare Impact File for FFY 2013; labor share is 68.8%	Per Medicare Impact File for FFY 2014; labor share is 69.6%
Transfer status codes	02, 05, 65 and 66	02, 05, 63, 65 and 66
<b>Outlier policy factors</b>		
Expected charge inflation		5.1% Year 1 to Year 2
Cost to charge ratios	Hospital fiscal years ending in 2011 with some exceptions	Hospital fiscal years ending in 2012 with some exceptions
High side (provider loss) tiers and marginal cost (MC) factor	i.e. \$0 - \$40,000: no outlier payment	i.e. \$0 - \$42,040: no outlier payment
	i.e. \$40,000 to \$125,000: MC = 0.60	i.e. \$42,040 to \$131,375: MC = 0.60
	i.e. > \$125,000: MC = 0.80	i.e. > \$131,375: MC = 0.80
Low side (provider gain) tiers and marginal cost (MC) factor	i.e. \$0 - \$40,000: no outlier reduction	i.e. \$0 - \$42,040: no outlier reduction
	i.e. > \$40,000: MC = 0.60	i.e. > \$42,040: MC = 0.60
<b>Other policies</b>		
Policy adjustor - neonate at designated NICU	1.75	1.75
Policy adjustor - neonate at other NICU	1.25	1.25
Policy adjustor - age - pediatric, respiratory and miscellaneous	1.25	1.25
Pediatric age cutoff	< 21	< 21
Separately payable services, supplies and devices	Bone marrow search and acquisition costs, blood factors	Bone marrow search and acquisition costs, blood factors

# 1.4 Data Sources for this Analysis

In general, data for this document are for DRG stays with dates of admission between July 1, 2013, and June 30, 2014, and paid by September 22, 2014. Because of the lags in submission and payment of claims, this volume represents an estimated 94% of all stays and 88% of all payment for stays in FY 2013-14. The data analysis is also complicated by the fact that the implementation date was July 1, 2013, for most hospitals and January 1, 2014, for non-designated public hospitals (NDPHs).

In Chapter 2 of this document, we focus on expected total payment for services in FY 2013-14. We take into account both claims paid and claims expected to be paid after September 22, 2014. We also show all payments to NDPHs, both before and after the DRG cutover date. In Chapter 3, we are more interested in the services paid for by DRG. This dataset includes only claims paid by DRG by September 22, 2014, thereby excluding claims paid after that date as well as NDPH claims for admissions before January 1, 2014.

In reviewing this document, two key points about payment must be borne in mind.

- **Allowed vs. paid.** Throughout this document, “payment” refers to the amount actually paid, which equals the allowed amount minus any applicable deductions for patient share of cost and other health coverage. On average, the paid amount equals 98% of the allowed amount.
- **Supplementary payments.** “Payment” also refers to payment for specific services as calculated under the DRG payment method. DHCS also makes billions of dollars in supplementary payments to hospitals, which are outside the scope of this document. In some analyses, it would be essential to take into account both DRG payments and supplementary payments.

	Chapter 2 (Overview)	Chapter 3 (DRG Analysis)
Payment date cutoff	Claims paid through 9/22/14 plus an estimate of additional claims to be paid after 9/22/14	Claims paid through 9/22/14 only
Non-designated public hospitals	All admissions in FY 2013-14	Admissions between 1/1/14 and 6/30/14
Total stays	404,756 plus 24,910 estimated to be paid after 9/22/14	393,716
Total payment	\$3.297 billion plus \$468 million estimated to be paid after 9/22/14	\$3.220 billion (without extrapolation and NDPH stays prior to 1/1/14)
Stays for beneficiaries newly eligible under the Affordable Care Act	Shown separately	Not shown separately
Stays and payment extrapolated to the full year	Yes	No

## 1.5 For Further Information

The following documents should be useful to readers interested in more detail on the DRG payment method. Many are available on the DHCS DRG webpage at <http://www.dhcs.ca.gov/provgovpart/pages/DRG.aspx>.

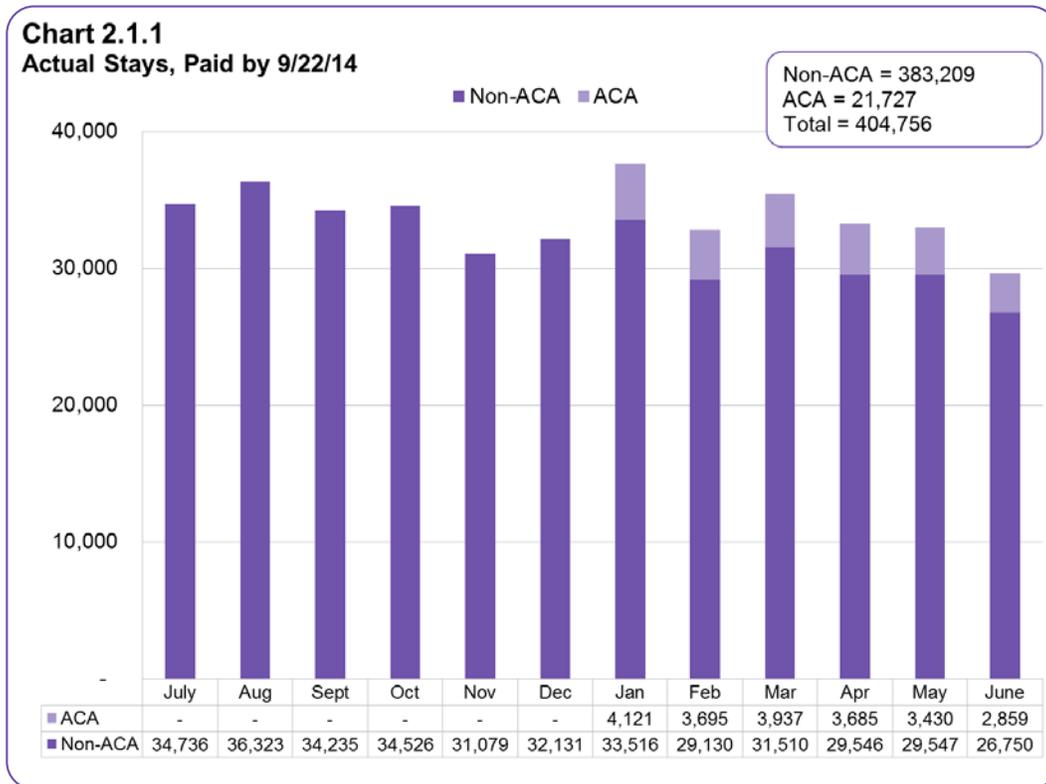
- DRG Pricing Calculator: An interactive tool to estimate the price of a claim based on the APR-DRG, hospital characteristics, and clinical information.
- Frequently asked questions: A resource that describes the scope of the DRG payment method, impacts on provider billing, and other changes.
- Policy Design Document: A detailed document that describes all aspects leading up to and following the implementation of DRG payment.
- Medicaid State Plan<sup>8</sup>: The document approved by CMS that authorizes Medi-Cal to implement DRG payment.

# 2 Overview of Utilization and Payment

## 2.1 Total Stays

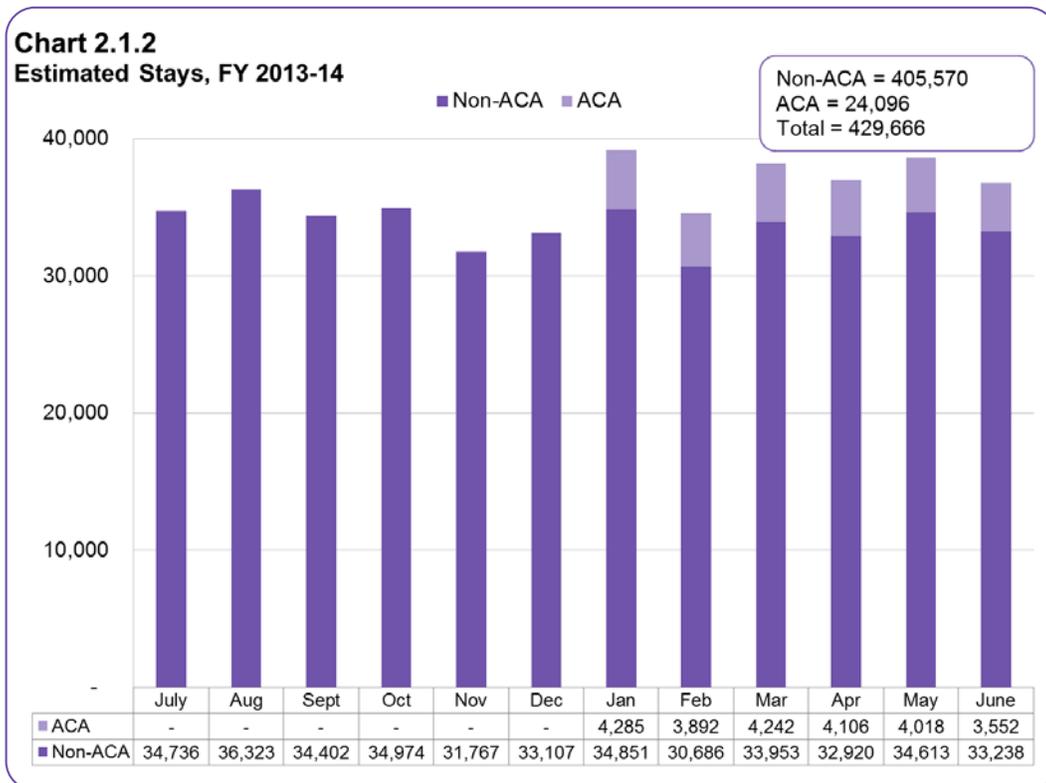
As of September 22, 2014, Medi-Cal had paid for 404,756 inpatient stays with admission dates between July 1, 2013 and June 30, 2014 (Chart 2.1.1). As mentioned in Section 1.2.2, this number excludes stays at University of California hospitals and other designated public hospitals; these hospitals are paid using a separate payment method. The number includes all FY 2013-14 stays at non-designated public hospitals, comprising stays from July-December 2013 that were paid by the previous payment method and stays from January-June 2014 that were paid by DRG.

Under the Affordable Care Act (ACA), Medi-Cal eligibility was expanded as of January 1, 2014.<sup>9</sup> The impact of the expansion can be seen in the lighter colored sections of Chart 2.1.1.



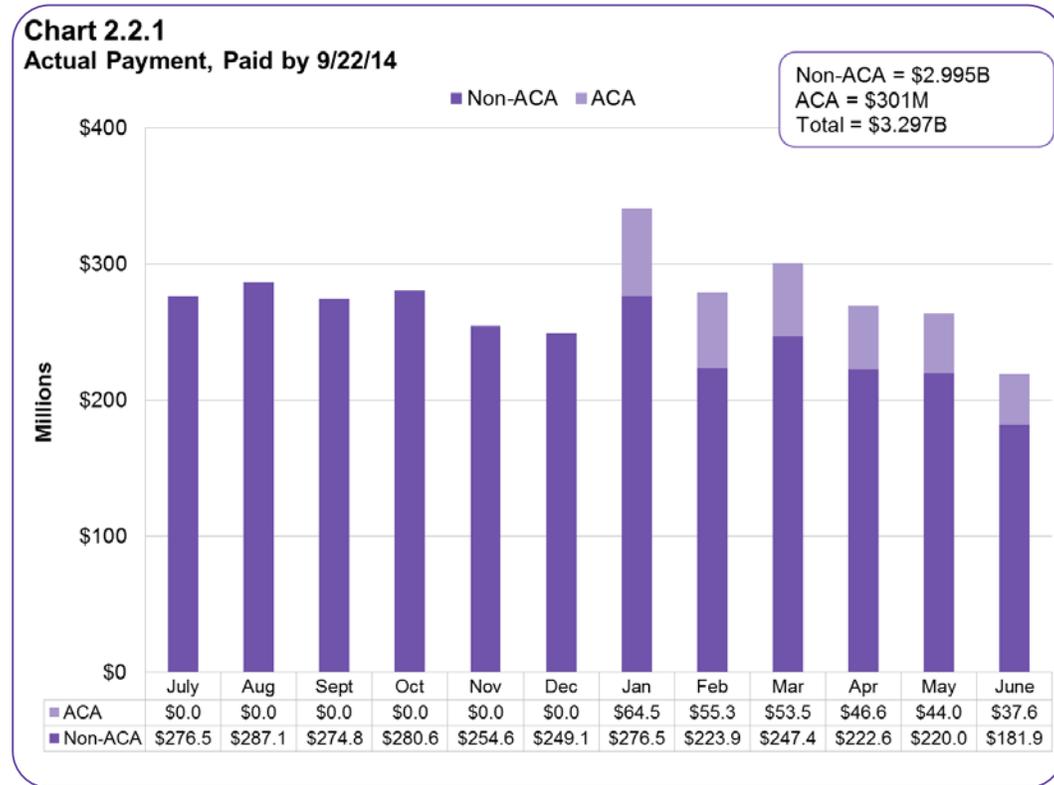
We also estimated total FY 2013-14 stays to include not only those paid by September 22, 2014, but also stays paid after that date. (See Appendix C for the completion factors used in making the estimates.) Chart 2.1.2 shows the estimate of 429,666 stays. By September 22, therefore, an estimated 94% of claims for inpatient admissions in FY 2013-14 had been submitted and paid.

Of the 429,666 estimated stays, an estimated 24,096 stays were for beneficiaries newly eligible under the ACA. There were about 4,000 ACA stays a month. This number is expected to vary month to month, depending on the number of people becoming newly eligible for Medi-Cal and the number of people moving from fee-for-service to managed care.



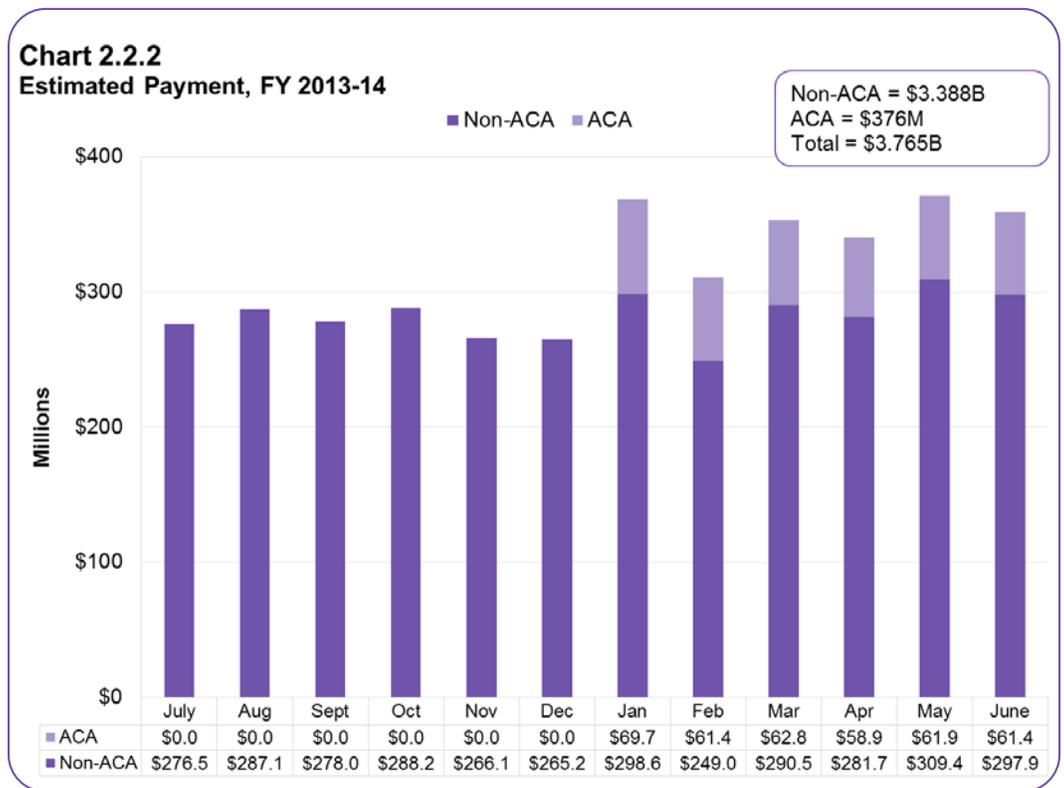
## 2.2 Total Payment

Actual payment for admissions in FY 2013-14 through September 22, 2014, was \$3.297 billion, of which \$301 million was for ACA stays between January 1 and June 30.



As with stays, we estimated total payment for the full year using completion factors that adjust for typical lags in claims submission and adjudication. Chart 2.2.2 shows estimated payment as \$3.765 billion. That is, by September 22, 2014, an estimated 88% of payments had been made for FY 2013-14 admissions. The 88% figure for payment is lower than the 94% figure for stays. The reason is that the most expensive stays tend to be longer and more complicated. For example, a sick newborn admitted in June might not be discharged until August creating a lag in claim submission. Then, such a patient would have a detailed and complicated claim, which can be time-consuming for a hospital to compile and submit. (Once a claim is submitted to the Medi-Cal claims processing system, the time to adjudication tends to be the same regardless of how big or small the claim is.)

Of the \$3.765 billion, an estimated \$376 million was for beneficiaries newly eligible for Medi-Cal under the ACA. Average Medi-Cal payment per stay was \$8,763 overall, \$7,385 for non-ACA stays, and \$15,604 for ACA patients. More detail is in Section 3.15.



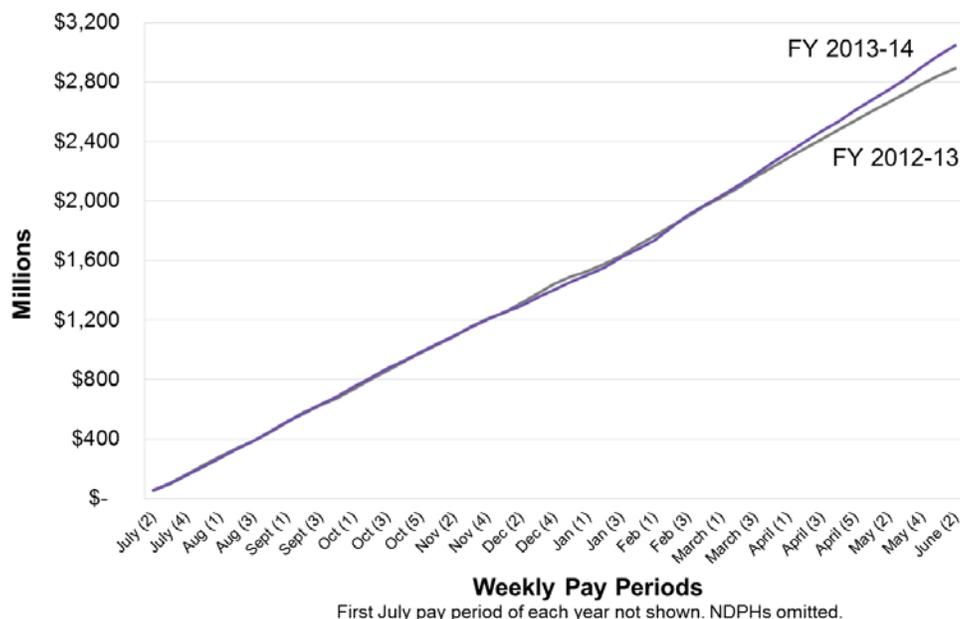
## 2.3 Payment Relative to Expectations

In implementing DRG payment July 1, 2013, the goal was budget neutrality relative to what would have been paid under the previous method as of June 30, 2013. The previous payment method was quite different in many respects, including not only incentives and pricing calculations but also billing rules. Before July 1, 2013, for example, hospitals often submitted multiple claims for different days of the same stay and mothers and normal newborns were billed on the same claim. The Medi-Cal claims processing system also stored only two diagnosis codes and two procedure codes. Moreover, Medi-Cal was also undertaking a significant shift of FFS beneficiaries to managed care plans. Extensive analysis of the CY 2009 baseline dataset was therefore necessary to simulate payment and set rates for implementation July 1, 2013.<sup>10</sup>

In such a dynamic environment, we analyzed the question of budget neutrality from several perspectives. (In general, we value robustness in analyzing evidence on complex policy questions.) Our conclusion is that budget neutrality was achieved, as evidenced by the following considerations.

- **Comparison with FY 2012-13.** Chart 2.3.1 shows that FY 2013-14 cumulative weekly payments very closely tracked the previous year, except that the impact of additional ACA stays can be seen starting in January 2014. Increased utilization due to the ACA expansion was budgeted separately, so aggregate payment for non-ACA stays was very similar to what it had been the previous year. These two payment streams are by payment date, including all stays regardless of admission date.

**Chart 2.3.1**  
**Cumulative Payments to Private Hospitals, Year over Year**  
**Regardless of Admission Date**



- **Comparison with previous method.** A precise comparison of payment for individual stays under the DRG method vs the previous method was not possible, due to differences in billing practices (especially for newborns), changes in treatment authorization rules, and growth in billed charges at hospitals that previously were non-contract and paid at a percentage of charges. (Payment to non-contract hospitals also was previously subject to cost settlement, whereas payment under the DRG method is final, subject to certain exceptions.) To the extent that a comparison was possible, it showed DRG payment overall was very similar to what would have been paid under the previous method using FY 2012-13 rates.

Although DRG payment overall was budget neutral, some individual hospitals did see payment levels above or below projections. The projections had been based on CY 2009 utilization and payment trended forward to June 30, 2013. Differences between projections and actual experience reflected differences in volume, casemix, the managed care transition, and billed charges (which affect outlier payment under the DRG method). In percentage terms, even if payment changes between the simulation and FY 2013-14 were not always as projected, we expect changes between FY 2013-14 and FY 2014-15 to be quite close to projections for individual hospitals, for two reasons. First, for individual hospitals volume and casemix are less likely to differ between FY 2013-14 and FY 2014-15 than between CY 2009 and FY 2013-14. Second, now that DRG payment is in place, a change of, say, 5% in a hospital's DRG base rate can be expected to result in a 5% change in total payment, all other things equal. In July 2013, hospitals were advised of their projected DRG base rates for FYs 2014-15, 2015-16, and 2016-17.

# 3 DRG Payment

## 3.1 Medicaid Care Category

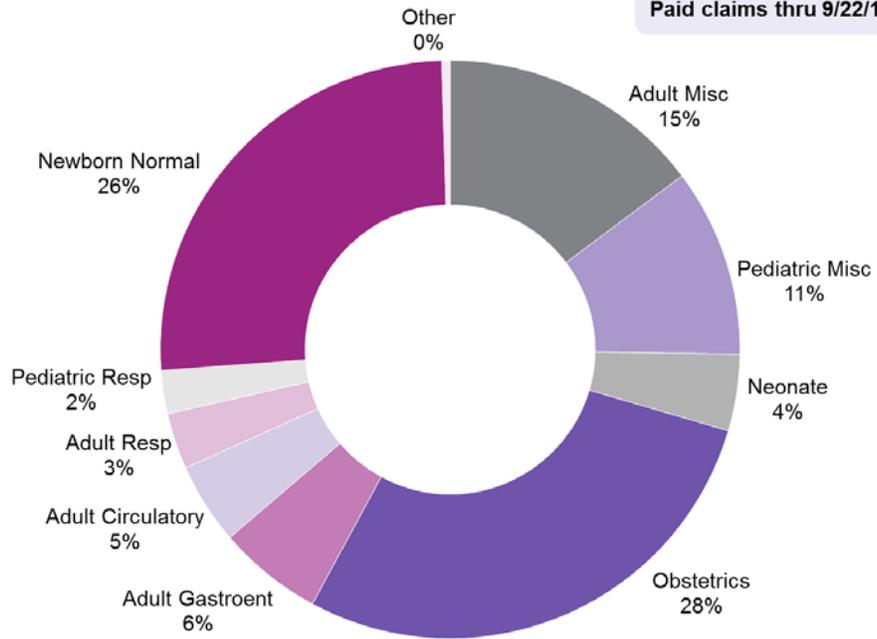
Medicaid Care Category (MCC) is an algorithm developed by Xerox for purposes of analyzing Medicaid inpatient utilization.<sup>11</sup> Its 10 categories reflect the policy areas of a typical Medicaid program and the internal organization of a typical hospital. In purpose, it is similar to the familiar Major Diagnostic Category (MDC) scheme used by Medicare. The main differences are that we differentiate pediatric vs. adult patients and normal newborns vs. sick newborns. Adult patients are those 21 years old and older; obstetric patients may be of any age. The number of MCCs (10 for California) is also more manageable than the number of MDCs (25).

Charts 3.1.1 and Charts 3.1.2 for Medi-Cal are quite typical of national Medicaid inpatient utilization, except for the exclusion of psychiatric stays that are paid by the counties in California. Obstetrics, pediatrics, and newborns account for 71% of all stays. For these categories, Medi-Cal is a significant part of the market, especially when Medi-Cal managed care plans are also included. (Managed care stays are excluded from all numbers in this report.)

While obstetrics and normal newborns represent 54% of all stays, they represent just 15% of all payments. The reason is that these stays are typically short (two to four days) and relatively inexpensive. Neonate (sick newborn) stays, by contrast, represented 4% of stays but 19% of payment. For neonates, average length of stay was 16.6 days, average hospital charges were \$196,620, and average Medi-Cal payment was \$35,882. Similarly, the miscellaneous pediatric and adult categories represented 11% and 15% of stays respectively but 20% and 26% of payment.

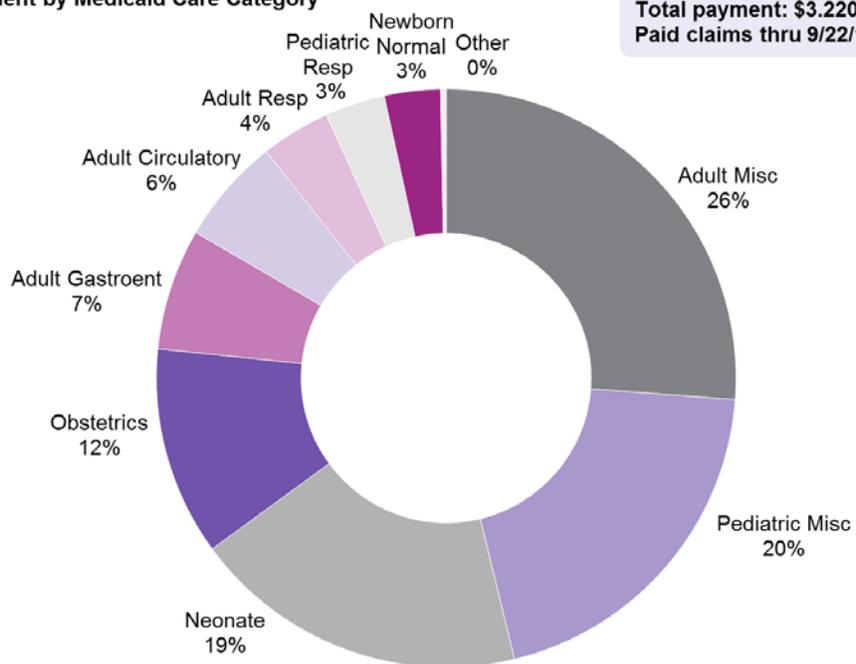
**Chart 3.1.1**  
Stays by Medicaid Care Category

Total stays: 393,716  
Paid claims thru 9/22/14



**Chart 3.1.2**  
Payment by Medicaid Care Category

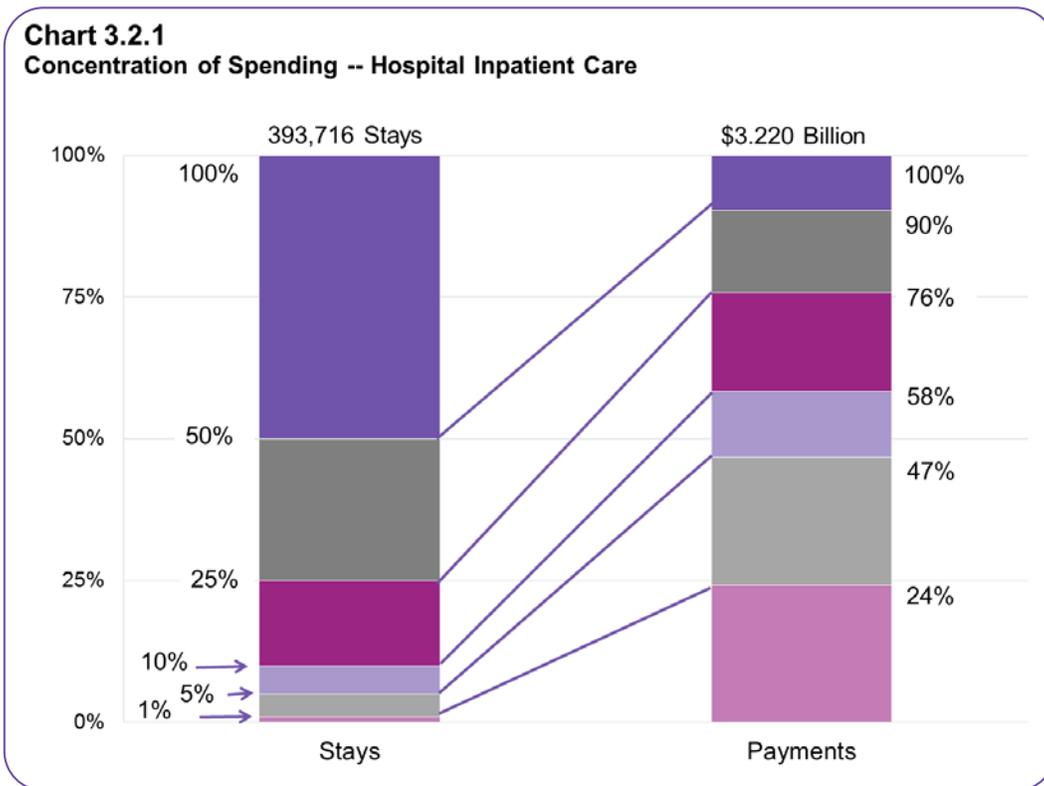
Total payment: \$3.220 billion  
Paid claims thru 9/22/14



## 3.2 The Concentration of Spending

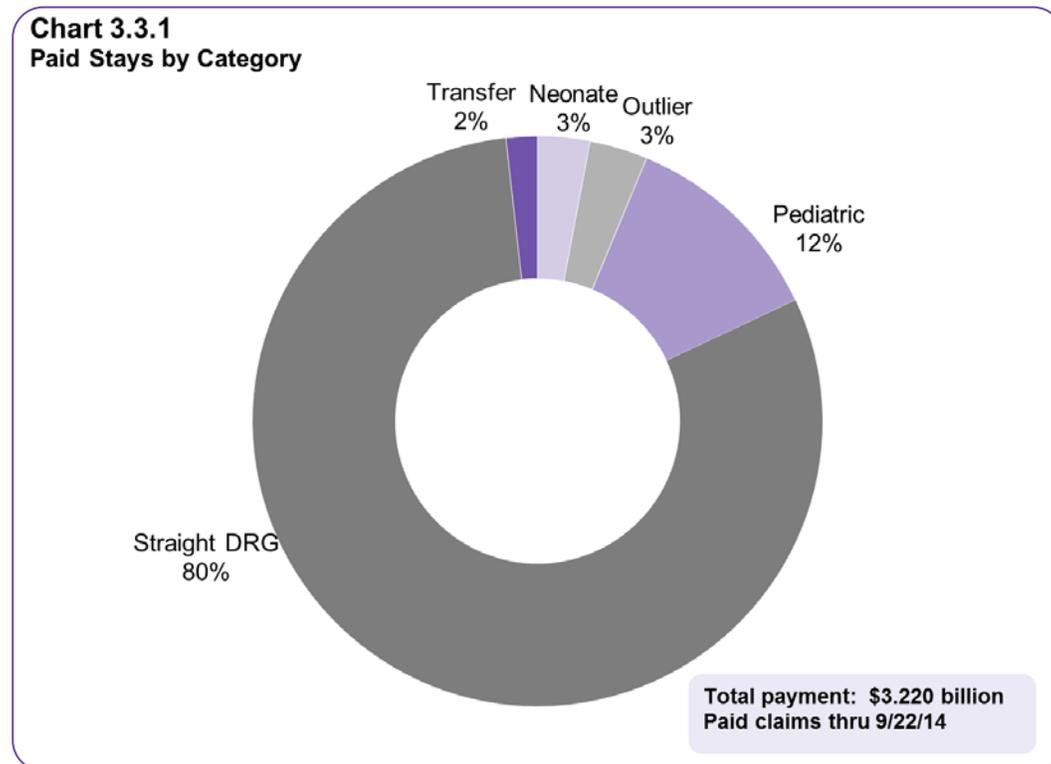
Any analysis of healthcare spending must take into account the so-called concentration of spending.<sup>12</sup> At the national level, 5% of patients account for 50% of health care spending. This pattern tends to repeat itself in less aggregated analyses for different types of services and different populations. So it is with the Medi-Cal FFS inpatient hospital benefit, as shown in Chart 3.2.1. Five percent of the stays accounted for 47% of Medi-Cal payments; indeed, the top 1% accounted for 24% of payments. The most expensive stays tend to be very sick newborns, multisystem traumas, and patients with co-occurring serious conditions such as septicemia and organ failure. The least expensive 50% of stays, by contrast, are almost all deliveries and normal newborns. They accounted for just 10% of payments.

Because the sickest patients are much more likely to have multiple admissions within a year, the spending pattern in Chart 3.2.1 would be even more concentrated if the left-hand column represented patients rather than stays. Chart 3.2.1 percentages are cumulative to correlate stays to level of payment.



## 3.3 How Claims Were Paid

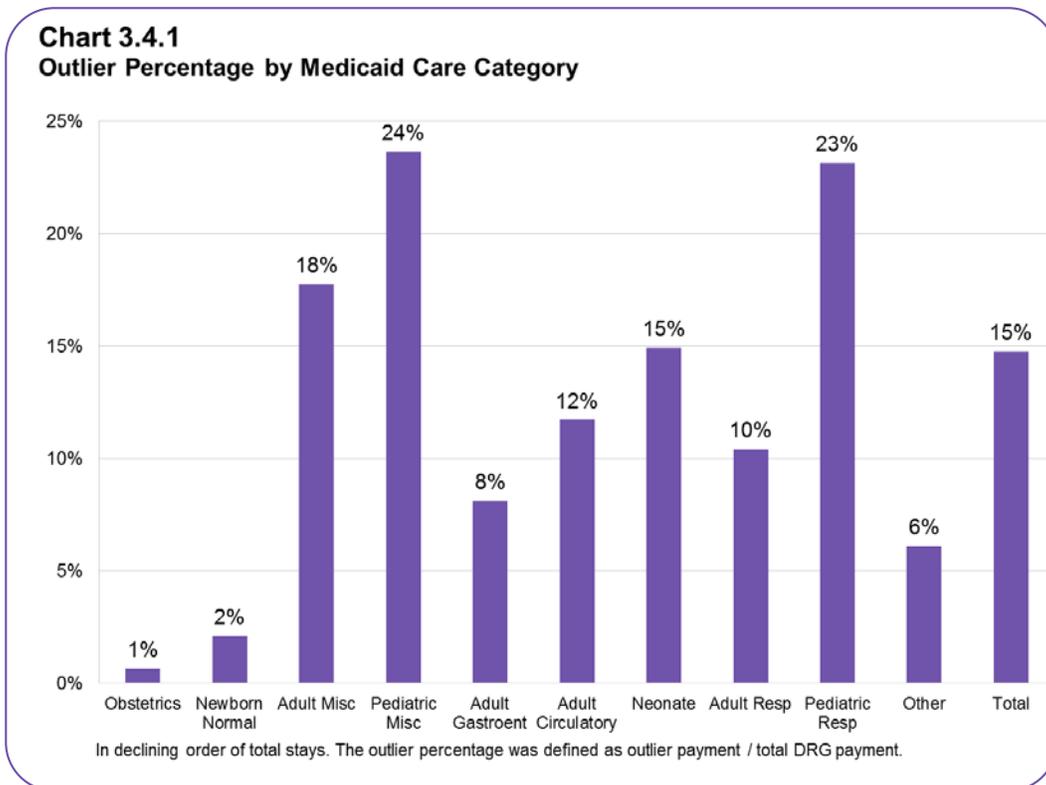
An advantage of DRG payment is its relative simplicity. Once the DRG is assigned to a stay, 80% of claims price very straightforwardly as the DRG base rate times the DRG relative weight. For neonate and pediatric claims, which represented 15% of the total, the relative weight was multiplied by a “policy adjustor” that has the effect of increasing payment for these services where Medi-Cal is a significant part of the market. Payment calculations for the remaining 5% of claims, which involved outlier and/or transfer pricing calculations, were more complicated but nevertheless simple enough to be shown in a single-page pricing calculator (Appendix A).



## 3.4 Outlier Payments

For exceptionally expensive stays that are not predicted by the grouping algorithm, Medi-Cal makes cost outlier payment adjustments, as do other DRG payers.<sup>13</sup> (We refer to these as high-side outliers; there are also low-side outlier adjustments for exceptionally profitable stays. These are less important because of the statistical distribution of inpatient stays.) As shown in the DRG Pricing Calculator in Appendix A, cost is estimated as charges on the claim times a hospital-specific cost-to-charge ratio (CCR). When a stay qualifies as a cost outlier, then an additional outlier payment is added to the DRG base payment.

Chart 3.4.1 shows that outlier payments represented 15% of overall total DRG payments. This figure was three points less than the 18% that resulted from the simulation we did before DRG payment was implemented. As a general statement, a lower outlier percentage is desirable. The reason is that outlier payments depend on a hospital's own charges and cost, so excessive outlier payments can create undesirable incentives to increase charges and cost. We believe the lower percentage reflects a level of accuracy in grouping complex stays that was not possible in the simulation because of data limitations



## 3.5 Obstetric Stays

In this and the following sections, we show data by Medicaid Care Category and by base APR-DRG. Because DRG algorithms have come to define “the product of a hospital,” they enable conversations among clinicians, administrators and policy makers about inpatient hospital care. Table 3.5.1, for example, shows the Obstetrics care category, which represented 28% of stays and 12% of payment FY 2013-14. The table also shows that deliveries (APR-DRGs 540, 541, 542 and 560) represented 92% of obstetric stays and that cesarean sections (APR-DRG 540) represented 33% of deliveries.

In reviewing these tables by Medicaid Care Category, four reminders are pertinent.

- **Managed care stays are excluded.** This document includes data only for the Medi-Cal FFS hospital inpatient benefit. The managed care plans, of course, pay for a large volume of inpatient hospital care.
- **Payments exclude supplementary payments.** DHCS pays billions of dollars to hospitals in supplementary payments that are separate from the claim payments shown in these tables. Any analysis of overall payment levels for hospital care must take these payments into account.
- **Billed charges are a misleading benchmark.** On average, California hospitals set charges about four times higher than their actual costs. Medi-Cal, Medicare, and many commercial payers appropriately pay substantially less than charges.
- **DRG detail is at the level of the base APR-DRG.** The APR-DRG system includes 314 base DRGs, each with four levels of severity of illness (minor, moderate, severe, and extreme). Table 3.5.1 shows results at the level of the base DRG, which can be thought of as the reason for the visit. For each base DRG, payment varies depends on whether the severity of illness is 1, 2, 3 or 4.

Table 3.5.1 Medicaid Care Category: Obstetrics											
APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages			
								Days	Charges	Payment	
560	Vaginal Del	66,900	144,938	\$1,297,938,813	\$181,357,079	0.33	\$368,217	2.2	\$19,401	\$2,711	
540	Cesarean Del	33,769	117,894	\$1,195,229,637	\$155,722,271	0.57	\$1,446,404	3.5	\$35,394	\$4,611	
566	Oth Antepartum Diags	4,770	11,894	\$102,143,321	\$13,367,985	0.36	\$118,282	2.5	\$21,414	\$2,803	
541	Vag Del w Ster &/or D&C	2,154	5,227	\$74,846,175	\$9,398,766	0.51	\$11,089	2.4	\$34,748	\$4,363	
563	Threatened Abortion	1,406	3,417	\$25,334,158	\$3,550,757	0.33	\$31,061	2.4	\$18,019	\$2,525	
561	Postpartum Diags w/o Proc	783	2,352	\$27,541,529	\$3,300,329	0.51	\$98,593	3.0	\$35,174	\$4,215	
545	Ectopic Pregnancy Proc	458	929	\$20,360,968	\$2,905,230	0.77	\$38,161	2.0	\$44,456	\$6,343	
544	D&C for Obstetric Diags	456	805	\$15,184,209	\$2,424,075	0.63	\$29,617	1.8	\$33,299	\$5,316	
564	Abortion w/o D&C	314	487	\$6,186,784	\$833,271	0.33	\$0	1.6	\$19,703	\$2,654	
546	Oth O.R. Proc for Ob Diag Exc Del	218	683	\$10,593,878	\$1,727,579	0.86	\$359,208	3.1	\$48,596	\$7,925	
565	False Labor	192	224	\$1,473,606	\$269,003	0.16	\$0	1.2	\$7,675	\$1,401	
542	Vag Del w Proc Exc Ster &/or D&C	166	453	\$5,119,987	\$722,209	0.46	\$11,863	2.7	\$30,843	\$4,351	
<b>Total</b>		<b>111,586</b>	<b>289,303</b>	<b>\$2,781,953,066</b>	<b>\$375,578,554</b>	<b>0.41</b>	<b>\$2,512,496</b>	<b>2.6</b>	<b>\$24,931</b>	<b>\$3,366</b>	

Note: Total day counts may differ from CA-MMIS data summaries because same-day stays are counted as 1-day stays in this table and as 0-day stays in CA-MMIS.

## 3.6 Normal Newborn Stays

DRGs 626 and 640 are “normal newborns,” or, more correctly, newborns without a medical condition that would qualify them as a sick newborn according to our Medicaid Care Category algorithm. Normal newborns represented 26% of stays and 3% of payments. Of all newborn stays (normal newborn plus neonate), normal newborns represented 86% of stays but just 14% of payment. Average length of stay was 2.3 days.

APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages		
								Days	Charges	Payment
640	Normal Newborn, Bwt >2499G	98,987	217,564	\$641,333,136	\$92,359,027	0.11	\$1,703,100	2.2	\$6,479	\$933
626	Normal Newborn, Bwt 2000-2499G	2,192	11,464	\$79,429,317	\$8,274,686	0.44	\$419,763	5.2	\$36,236	\$3,775
<b>Total</b>		<b>101,179</b>	<b>229,028</b>	<b>\$720,762,453</b>	<b>\$100,633,713</b>	<b>0.12</b>	<b>\$2,122,863</b>	<b>2.3</b>	<b>\$7,124</b>	<b>\$995</b>

Note: Total day counts may differ from CA-MMIS data summaries because same-day stays are counted as 1-day stays in this table and as 0-day stays in CA-MMIS.

## 3.7 Adult Miscellaneous Stays

The Adult Miscellaneous category includes all stays for adults except obstetrics, circulatory, respiratory, and gastroenterological conditions. It represented 15% of stays and 26% of payment.

**Table 3.7.1**  
**Medicaid Care Category: Adult Miscellaneous**  
**Sorted in Order of Declining Stays**

APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages		
								Days	Charges	Payment
720	Septicemia & Disseminated Inf	9,805	79,220	\$1,105,672,247	\$154,968,378	1.91	\$22,207,926	8.1	\$112,766	\$15,805
383	Cellulitis & Oth Bact Skin Inf	2,959	12,761	\$125,246,086	\$15,944,016	0.65	\$445,292	4.3	\$42,327	\$5,388
460	Renal Failure	2,331	13,322	\$153,092,146	\$17,776,670	0.98	\$1,375,942	5.7	\$65,677	\$7,626
463	Kidney & Urinary Tract Inf	2,266	8,296	\$86,221,782	\$10,480,695	0.66	\$160,691	3.7	\$38,050	\$4,625
420	Diabetes	2,120	6,983	\$88,687,809	\$11,608,769	0.67	\$285,871	3.3	\$41,834	\$5,476
045	CVA & Precereb Occl w Infarct	2,026	12,744	\$166,134,591	\$18,059,600	1.13	\$1,780,371	6.3	\$82,001	\$8,914
710	Inf & Parasit Dis Incl HIV w O.R. Proc	1,418	22,818	\$348,908,413	\$60,789,362	4.52	\$13,008,618	16.1	\$246,057	\$42,870
663	Oth Dis of Blood & Rel Organs	1,348	4,314	\$55,183,825	\$6,934,255	0.72	\$192,107	3.2	\$40,938	\$5,144
812	Poisoning of Medicinal Agents	1,204	4,823	\$71,332,423	\$9,978,848	0.83	\$1,581,656	4.0	\$59,246	\$8,288
425	Electrolyte Dis Exc Hypovolemia	1,202	4,097	\$50,353,475	\$6,034,484	0.70	\$204,476	3.4	\$41,891	\$5,020
053	Seizure	1,162	4,578	\$59,947,657	\$7,608,478	0.83	\$732,622	3.9	\$51,590	\$6,548
052	Nontraumatic Stupor & Coma	766	3,816	\$44,372,462	\$6,315,132	1.10	\$608,602	5.0	\$57,927	\$8,244
951	Mod Ext Proc Unrel To Diag	744	6,216	\$91,085,426	\$14,986,332	2.31	\$2,189,334	8.4	\$122,427	\$20,143
347	Oth Back & Neck Dis, Fx & Injuries	695	2,612	\$34,371,550	\$3,660,362	0.73	\$198,644	3.8	\$49,455	\$5,267
861	Signs, Symptoms & Oth Factors	688	2,521	\$26,249,233	\$3,250,376	0.60	\$140,077	3.7	\$38,153	\$4,724
048	Nerve Disorders	687	2,914	\$31,335,925	\$4,298,151	0.78	\$231,541	4.2	\$45,613	\$6,256
313	Knee & Lower Leg Procs Exc Foot	658	3,414	\$71,266,987	\$9,004,675	1.48	\$951,241	5.2	\$108,308	\$13,685
721	Post-Op, Post-Trauma, Device Inf	646	5,451	\$63,190,222	\$7,961,832	1.51	\$1,257,993	8.4	\$97,818	\$12,325
044	Intracranial Hemorrhage	628	5,947	\$82,003,559	\$9,987,911	1.78	\$1,644,047	9.5	\$130,579	\$15,904
308	Hip & Femur Procs for Trauma	628	4,172	\$74,363,931	\$8,512,699	1.67	\$777,882	6.6	\$118,414	\$13,555
466	Complic Genitourin Dev or Proc	623	3,375	\$45,233,269	\$6,110,299	1.28	\$552,672	5.4	\$72,606	\$9,808
351	Oth Muscskl & Connect Tis Diags	615	2,457	\$27,439,226	\$3,339,302	0.69	\$129,583	4.0	\$44,617	\$5,430
021	Craniotomy Exc for Trauma	579	8,345	\$173,579,434	\$28,707,488	5.49	\$5,885,778	14.4	\$299,792	\$49,581
047	Transient Ischemia	552	1,255	\$21,159,727	\$2,572,056	0.65	\$22,328	2.3	\$38,333	\$4,660
468	Oth Kidney & Urinary Diags	546	2,511	\$30,918,552	\$3,702,673	0.81	\$378,806	4.6	\$56,627	\$6,781

**Table 3.7.1**

**Medicaid Care Category: Adult Miscellaneous**

**Sorted in Order of Declining Stays**

APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages		
								Days	Charges	Payment
<b>Subtotal</b>		<b>36,896</b>	<b>228,962</b>	<b>\$3,127,349,957</b>	<b>\$432,592,846</b>	<b>1.40</b>	<b>\$56,944,100</b>	<b>6.2</b>	<b>\$84,761</b>	<b>\$11,725</b>
<b>Other</b>		<b>21,189</b>	<b>167,154</b>	<b>\$2,720,510,379</b>	<b>\$410,399,424</b>	<b>2.05</b>	<b>\$92,726,324</b>	<b>7.9</b>	<b>\$128,393</b>	<b>\$19,369</b>
<b>Total</b>		<b>58,085</b>	<b>396,116</b>	<b>\$5,847,860,336</b>	<b>\$842,992,270</b>	<b>1.64</b>	<b>\$149,670,424</b>	<b>6.8</b>	<b>\$100,678</b>	<b>\$14,513</b>

Note: Total day counts may differ from CA-MMIS data summaries because same-day stays are counted as 1-day stays in this table and as 0-day stays in CA-MMIS.

## 3.8 Pediatric Miscellaneous Stays

The Pediatric Miscellaneous category includes all stays for beneficiaries under age 21 except obstetrics, respiratory conditions, and newborns. It represented 11% of stays and 20% of payment. In noting that chemotherapy was the most common DRG in this category, it is important to bear in mind that many children with cancer and other serious illnesses are covered by FFS Medi-Cal. The list of miscellaneous pediatric stays likely would be quite different if it also included all pediatric stays covered by the Medi-Cal managed care plans.

3M Health Information Systems (the developers of the APR-DRG algorithm) classifies DRGs as medical or procedural. Within the miscellaneous pediatric and respiratory pediatric categories, the most common procedural DRG was for appendectomies, with an average length of stay of 2.8 days, average billed charges of \$49,324 and average Medi-Cal payment of \$8,883.

**Table 3.8.1**  
**Medicaid Care Category: Pediatric Miscellaneous**  
**Sorted in Order of Declining Stays**

APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages		
								Days	Charges	Payment
693	Chemotherapy	2,332	13,088	\$172,439,132	\$32,778,973	1.44	\$4,462,680	5.6	\$73,945	\$14,056
053	Seizure	1,961	6,091	\$79,681,319	\$13,224,633	0.77	\$955,999	3.1	\$40,633	\$6,744
420	Diabetes	1,740	5,061	\$52,861,393	\$8,420,796	0.50	\$194,994	2.9	\$30,380	\$4,840
463	Kidney & Urinary Tract Inf	1,553	6,365	\$49,778,647	\$8,008,123	0.55	\$172,716	4.1	\$32,053	\$5,157
225	Appendectomy	1,375	3,843	\$67,820,779	\$12,213,615	0.90	\$94,575	2.8	\$49,324	\$8,883
720	Septicemia & Disseminated Inf	976	8,667	\$122,748,987	\$17,952,157	1.48	\$5,403,468	8.9	\$125,767	\$18,394
249	Non-Bact Gastroenteritis, N & V	908	2,304	\$22,568,403	\$4,158,178	0.51	\$120,711	2.5	\$24,855	\$4,579
254	Oth Digestive Sys Diags	847	2,902	\$32,589,903	\$5,112,892	0.64	\$534,814	3.4	\$38,477	\$6,036
660	Maj Hem/Immun Diag	834	5,375	\$65,690,234	\$10,699,090	1.20	\$2,336,283	6.4	\$78,765	\$12,829
315	Shoulder And Arm Procs	780	1,338	\$30,722,336	\$8,243,440	1.12	\$113,266	1.7	\$39,388	\$10,569
722	Fever	751	1,968	\$17,885,444	\$3,094,832	0.46	\$43,895	2.6	\$23,816	\$4,121
861	Signs, Symptoms & Oth Factors	750	2,330	\$25,039,252	\$3,877,882	0.53	\$288,650	3.1	\$33,386	\$5,171
662	Sickle Cell Anemia Crisis	647	3,118	\$28,640,547	\$4,575,551	0.77	\$113,615	4.8	\$44,267	\$7,072
383	Cellulitis & Oth Bact Skin Inf	622	2,093	\$19,385,158	\$3,284,453	0.52	\$223,923	3.4	\$31,166	\$5,280
309	Hip & Femur Procs Non-Trauma	613	2,135	\$43,519,942	\$8,247,093	1.46	\$588,929	3.5	\$70,995	\$13,454
222	Oth Stomach & Esophag Procs	547	1,665	\$24,306,129	\$4,998,441	0.97	\$225,691	3.0	\$44,435	\$9,138
346	Connective Tissue Dis	529	1,898	\$24,326,590	\$4,366,645	0.88	\$330,782	3.6	\$45,986	\$8,255
721	Post-Op, Post-Trauma, Device Inf	524	4,945	\$58,339,100	\$8,768,229	1.61	\$2,040,855	9.4	\$111,334	\$16,733

Table 3.8.1 Medicaid Care Category: Pediatric Miscellaneous Sorted in Order of Declining Stays											
APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages			
								Days	Charges	Payment	
313	Knee & Lower Leg Procs Exc Foot	518	1,735	\$34,951,562	\$6,683,449	1.29	\$320,626	3.3	\$67,474	\$12,902	
812	Poisoning of Medicinal Agents	495	1,085	\$13,571,530	\$2,496,830	0.54	\$1,968	2.2	\$27,417	\$5,044	
021	Craniotomy Exc for Trauma	466	6,160	\$118,071,120	\$21,963,456	4.19	\$5,909,555	13.2	\$253,372	\$47,132	
723	Viral Illness	458	1,363	\$15,654,360	\$2,439,040	0.58	\$163,963	3.0	\$34,180	\$5,325	
095	Cleft Lip & Palate Repair	456	675	\$20,181,866	\$2,965,434	0.74	\$58,049	1.5	\$44,258	\$6,503	
663	Oth Dis of Blood & Rel Organs	454	1,584	\$17,724,714	\$2,874,205	0.59	\$488,511	3.5	\$39,041	\$6,331	
421	Nutritional Dis	452	2,993	\$25,763,647	\$3,410,089	0.68	\$676,951	6.6	\$56,999	\$7,544	
<b>Subtotal</b>		<b>21,588</b>	<b>90,781</b>	<b>\$1,184,262,096</b>	<b>\$204,857,528</b>	<b>0.95</b>	<b>\$25,865,468</b>	<b>4.2</b>	<b>\$54,857</b>	<b>\$9,489</b>	
<b>Other</b>		<b>19,818</b>	<b>134,526</b>	<b>\$2,370,483,453</b>	<b>\$440,486,915</b>	<b>1.87</b>	<b>\$126,713,310</b>	<b>6.8</b>	<b>\$119,613</b>	<b>\$22,227</b>	
<b>Total</b>		<b>41,406</b>	<b>225,307</b>	<b>\$3,554,745,549</b>	<b>\$645,344,443</b>	<b>1.39</b>	<b>\$152,578,778</b>	<b>5.4</b>	<b>\$85,851</b>	<b>\$15,586</b>	
Note: Total day counts may differ from CA-MMIS data summaries because same-day stays are counted as 1-day stays in this table and as 0-day stays in CA-MMIS.											

## 3.9 Adult Gastroenterology Stays

The Adult Gastroenterology includes disorders of the digestive and hepatobiliary systems. It represented 6% of stays and 7% of payment. With the adult gastroenterology, circulatory and respiratory categories, the most common procedural DRG was for laparoscopic cholecystectomies, with average length of stay of 3.2 days, average charges of \$66,302, and average Medi-Cal payment of \$9,628.

**Table 3.9.1**  
**Medicaid Care Category: Adult Gastroenterology**  
**Sorted in Order of Declining Stays**

APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages		
								Days	Charges	Payment
263	Laparoscopic Cholecystectomy	3,253	10,329	\$215,680,546	\$31,321,267	1.15	\$545,748	3.2	\$66,302	\$9,628
282	Dis of Pancreas Exc Malig	1,680	7,146	\$80,275,966	\$12,811,622	0.91	\$455,236	4.3	\$47,783	\$7,626
225	Appendectomy	1,662	3,965	\$89,129,698	\$12,962,417	0.94	\$252,627	2.4	\$53,628	\$7,799
241	Peptic Ulcer & Gastritis	1,325	5,060	\$68,553,583	\$9,400,489	0.92	\$244,242	3.8	\$51,739	\$7,095
254	Oth Digestive Sys Diags	1,325	5,001	\$59,995,674	\$7,608,576	0.76	\$292,588	3.8	\$45,280	\$5,742
279	Hepatic Coma & Oth Maj Liver Dis	1,097	6,566	\$80,775,565	\$12,194,536	1.39	\$1,302,994	6.0	\$73,633	\$11,116
249	Non-Bact Gastroenteritis, N & V	1,053	3,090	\$38,247,977	\$4,371,633	0.53	\$33,182	2.9	\$36,323	\$4,152
247	Intestinal Obstruction	1,039	3,815	\$42,662,921	\$5,832,891	0.72	\$299,022	3.7	\$41,062	\$5,614
253	Oth & Unspec GI Hemorrhage	1,022	4,191	\$56,055,013	\$7,075,269	0.95	\$196,901	4.1	\$54,848	\$6,923
284	Dis of Gallbladder	1,000	3,553	\$46,076,513	\$6,101,921	0.83	\$309,871	3.6	\$46,077	\$6,102
280	Alcoholic Liver Disease	898	5,821	\$71,090,237	\$10,665,051	1.33	\$1,175,086	6.5	\$79,165	\$11,876
221	Maj Small & Large Bowel Procs	810	9,099	\$134,881,487	\$20,824,728	2.77	\$3,241,702	11.2	\$166,520	\$25,710
251	Abdominal Pain	747	2,027	\$24,710,455	\$3,334,414	0.61	\$21,149	2.7	\$33,080	\$4,464
244	Diverticulitis & Diverticulosis	714	2,559	\$29,458,809	\$4,059,911	0.68	\$132,519	3.6	\$41,259	\$5,686
248	Maj Gastroint & Peritoneal Inf	619	4,170	\$45,276,920	\$6,215,799	1.15	\$569,213	6.7	\$73,145	\$10,042
283	Oth Dis of the Liver	564	2,366	\$33,109,424	\$4,721,016	1.10	\$204,739	4.2	\$58,705	\$8,371
243	Oth Esophageal Dis	513	1,559	\$21,788,424	\$3,122,411	0.80	\$27,108	3.0	\$42,473	\$6,087
252	Complic of GI Device or Proc	485	2,683	\$29,686,755	\$4,348,934	1.27	\$377,080	5.5	\$61,210	\$8,967
240	Digestive Malig	446	3,263	\$36,898,011	\$4,617,113	1.36	\$319,846	7.3	\$82,731	\$10,352
281	Malig of Hepatobiliary Sys	419	2,525	\$30,235,839	\$4,261,624	1.32	\$176,586	6.0	\$72,162	\$10,171
245	Inflammatory Bowel Disease	306	1,346	\$14,595,911	\$2,077,046	0.83	\$3,734	4.4	\$47,699	\$6,788
227	Oth Hernia Procs	260	1,168	\$21,451,533	\$2,830,818	1.37	\$46,963	4.5	\$82,506	\$10,888
228	Inguin, Fem & Umbil Hernia Procs	244	776	\$14,350,778	\$1,925,544	0.96	\$53,491	3.2	\$58,815	\$7,892

Table 3.9.1 Medicaid Care Category: Adult Gastroenterology Sorted in Order of Declining Stays											
APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages			
								Days	Charges	Payment	
242	Maj Esophageal Dis	210	897	\$13,520,949	\$1,845,517	1.11	\$54,595	4.3	\$64,385	\$8,788	
220	Maj Stomach & Esophag Procs	206	2,537	\$42,030,144	\$7,239,680	3.83	\$1,875,047	12.3	\$204,030	\$35,144	
<b>Subtotal</b>		<b>21,897</b>	<b>95,512</b>	<b>\$1,340,539,132</b>	<b>\$191,770,227</b>	<b>1.07</b>	<b>\$12,211,271</b>	<b>4.4</b>	<b>\$61,220</b>	<b>\$8,758</b>	
<b>Other</b>		<b>1,158</b>	<b>10,226</b>	<b>\$180,140,950</b>	<b>\$26,650,868</b>	<b>2.79</b>	<b>\$5,518,569</b>	<b>8.8</b>	<b>\$155,562</b>	<b>\$23,015</b>	
<b>Total</b>		<b>23,055</b>	<b>105,738</b>	<b>\$1,520,680,082</b>	<b>\$218,421,095</b>	<b>1.16</b>	<b>\$17,729,840</b>	<b>4.6</b>	<b>\$65,959</b>	<b>\$9,474</b>	

Note: Total day counts may differ from CA-MMIS data summaries because same-day stays are counted as 1-day stays in this table and as 0-day stays in CA-MMIS.

## 3.10 Adult Circulatory Stays

The Adult Circulatory category includes disorders of the cardiovascular and lymphatic systems, except strokes which are considered neurology and therefore within the Adult Miscellaneous category. This category represented 5% of stays and 6% of payment. The six most common DRGs were cardiac in nature.

**Table 3.10.1**  
**Medicaid Care Category: Adult Circulatory**  
**Sorted in Order of Declining Stays**

APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages		
								Days	Charges	Payment
194	Heart Failure	4,205	19,983	\$256,080,853	\$30,745,856	0.95	\$2,025,517	4.8	\$60,899	\$7,312
203	Chest Pain	2,191	3,920	\$62,010,326	\$8,082,656	0.51	\$60,556	1.8	\$28,302	\$3,689
201	Cardiac Arrhythmias	1,554	4,795	\$67,703,285	\$7,655,859	0.68	\$172,270	3.1	\$43,567	\$4,927
198	Angina Pect & Atherosclerosis	1,517	3,355	\$48,499,266	\$5,485,092	0.53	\$24,739	2.2	\$31,971	\$3,616
190	Acute Myocardial Infarction	1,097	4,730	\$80,928,517	\$9,771,368	1.17	\$748,965	4.3	\$73,773	\$8,907
174	Percut CV Procs w AMI	1,022	4,228	\$157,160,905	\$19,981,705	2.47	\$1,712,711	4.1	\$153,778	\$19,552
197	Peripheral & Oth Vascular Dis	871	4,371	\$54,235,654	\$6,369,600	0.89	\$836,282	5.0	\$62,268	\$7,313
204	Syncope & Collapse	648	1,572	\$22,910,864	\$2,683,142	0.61	\$12,175	2.4	\$35,356	\$4,141
191	Cardiac Cath Exc Ischem Disease	556	3,660	\$67,806,183	\$8,643,414	1.76	\$1,666,942	6.6	\$121,954	\$15,546
175	Percut CV Procs w/o AMI	543	2,438	\$81,886,250	\$8,529,456	2.16	\$1,304,177	4.5	\$150,803	\$15,708
192	Cardiac Cath for Ischem Disease	539	1,534	\$36,067,230	\$4,213,896	1.00	\$101,694	2.8	\$66,915	\$7,818
199	Hypertension	535	1,342	\$19,304,322	\$2,296,557	0.58	\$21,250	2.5	\$36,083	\$4,293
173	Oth Vascular Procs	482	4,467	\$92,477,315	\$11,584,607	2.87	\$2,024,248	9.3	\$191,862	\$24,034
207	Oth Circulatory Sys Diags	337	1,270	\$17,462,098	\$2,205,539	0.89	\$77,920	3.8	\$51,816	\$6,545
165	Coronary Bypass w Cath	328	4,010	\$107,308,223	\$16,162,899	5.15	\$3,525,882	12.2	\$327,159	\$49,277
171	Pacemaker Impl w/o AMI or Shock	238	1,076	\$27,925,582	\$3,020,632	2.01	\$120,283	4.5	\$117,334	\$12,692
161	Defib & Heart Assist Implant	233	1,895	\$67,825,234	\$12,122,779	6.25	\$1,708,644	8.1	\$291,095	\$52,029
206	Complic of CV Device or Proc	145	902	\$12,255,113	\$1,526,991	1.38	\$121,968	6.2	\$84,518	\$10,531
166	Coronary Bypass w/o Cath	140	1,325	\$39,787,869	\$5,091,043	3.88	\$1,115,586	9.5	\$284,199	\$36,365
180	Oth Circulatory Sys Procs	134	1,416	\$21,896,840	\$3,328,615	2.69	\$527,849	10.6	\$163,409	\$24,840
162	Cardiac Valve Procs w Cath	114	1,758	\$48,460,077	\$7,262,256	7.42	\$1,126,411	15.4	\$425,088	\$63,704
163	Cardiac Valve Procs w/o Cath	111	1,320	\$46,141,134	\$6,381,923	6.13	\$1,844,503	11.9	\$415,686	\$57,495
196	Cardiac Arrest	69	305	\$8,409,412	\$889,885	1.32	\$146,322	4.4	\$121,876	\$12,897

Table 3.10.1 Medicaid Care Category: Adult Circulatory Sorted in Order of Declining Stays										
APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages		
								Days	Charges	Payment
169	Maj Vascular Procs	66	681	\$17,914,812	\$3,319,589	4.67	\$876,378	10.3	\$271,437	\$50,297
200	Cardiac Structural Dis	57	263	\$3,428,702	\$343,004	0.93	\$27,213	4.6	\$60,153	\$6,018
205	Cardiomyopathy	41	130	\$1,916,146	\$270,738	0.82	\$0	3.2	\$46,735	\$6,603
193	Acute & Subacute Endocarditis	34	462	\$5,055,296	\$722,515	2.24	\$122,988	13.6	\$148,685	\$21,250
176	Pacemaker & Defib Replacement	30	109	\$3,626,726	\$471,558	2.45	\$50,576	3.6	\$120,891	\$15,719
170	Pacemaker Impl w AMI or Shock	28	182	\$4,309,563	\$597,092	3.19	\$12,496	6.5	\$153,913	\$21,325
167	Oth Cardiothoracic Procs	23	209	\$8,375,621	\$1,032,782	5.20	\$269,148	9.1	\$364,157	\$44,904
177	Pacemaker & Defib Revision	22	118	\$1,912,084	\$299,429	1.79	\$1,136	5.4	\$86,913	\$13,610
<b>Total</b>		<b>17,910</b>	<b>77,826</b>	<b>\$1,491,081,500</b>	<b>\$191,092,476</b>	<b>1.33</b>	<b>\$22,386,830</b>	<b>4.35</b>	<b>\$83,254</b>	<b>\$10,670</b>

Note: Total day counts may differ from CA-MMIS data summaries because same-day stays are counted as 1-day stays in this table and as 0-day stays in CA-MMIS.

## 3.11 Neonate (Sick Newborn) Stays

The Neonate category includes stays for sick newborns. These stays may be at the birth hospital or the baby may have been transferred to a specialty center. The APR-DRG algorithm, which was developed by 3M and what is now the national Children's Hospital Association, defines "newborn" as babies within the first two weeks or month of life, depending on the specific condition. The neonate category represented 4% of stays but 19% of payment. Sick babies, of course, tend to be very expensive. For example, DRG 588 includes babies born at less than 1,500 grams (3.3 pounds) who undergo a major procedure. Average length of stay for DRG 588 was 96.2 days, average charges \$1.4 million and average payment \$322,519.

Table 3.11.1

Medicaid Care Category: Neonate  
Sorted in Order of Declining Stays

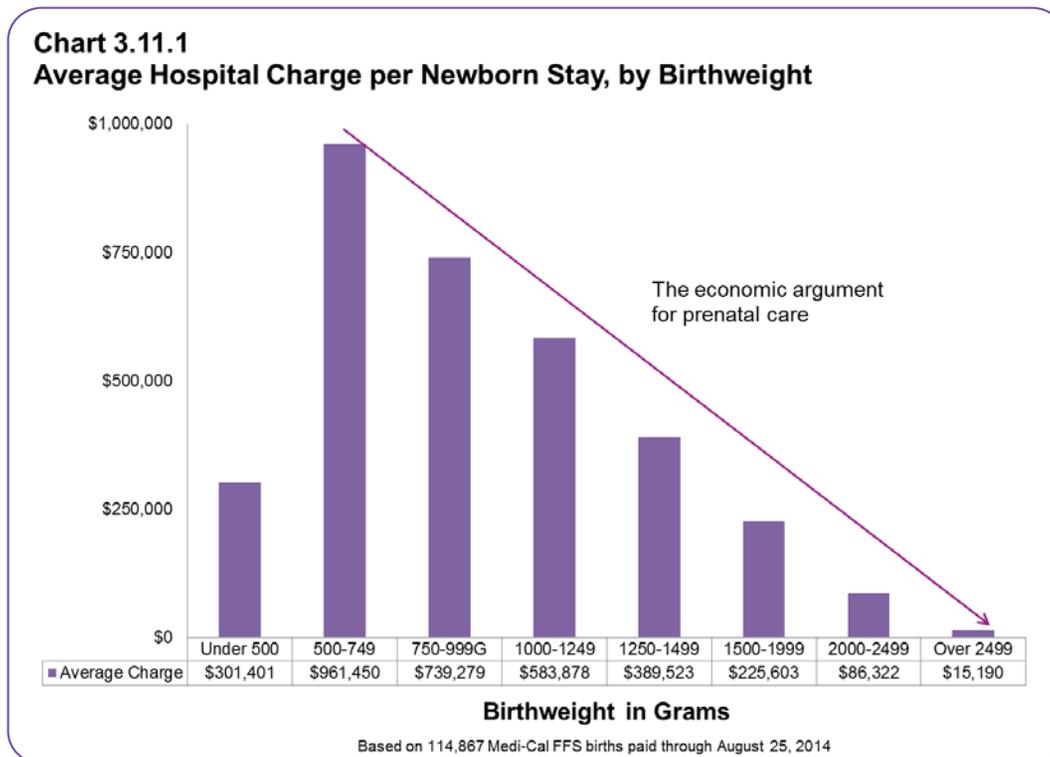
APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages		
								Days	Charges	Payment
639	Neo Bwt >2499G w Oth Sig Cond	2,687	16,219	\$141,934,770	\$17,521,931	0.54	\$2,025,356	6.0	\$52,823	\$6,521
636	Neo Bwt >2499G w Inf	2,200	16,385	\$153,265,767	\$22,073,016	0.88	\$616,048	7.4	\$69,666	\$10,033
581	Neo, Tsf <5 Days Old, Born Here	2,029	2,476	\$21,467,399	\$3,420,552	0.19	\$0	1.2	\$10,580	\$1,686
633	Neo Bwt >2499G w Maj Anomaly	1,698	17,184	\$203,914,224	\$33,426,571	1.52	\$6,574,283	10.1	\$120,091	\$19,686
634	Neo, Bwt >2499G w Maj Resp Cond	1,603	16,415	\$201,043,375	\$33,387,700	1.73	\$3,822,961	10.2	\$125,417	\$20,828
614	Neo Bwt 1500-1999G	1,004	18,046	\$170,870,058	\$23,614,108	1.98	\$1,958,849	18.0	\$170,189	\$23,520
625	Neo Bwt 2000-2499G w Oth Sig Cond	632	8,720	\$80,711,932	\$11,140,259	1.57	\$562,275	13.8	\$127,709	\$17,627
612	Neo Bwt 1500-1999G Maj Resp Cond	478	14,020	\$140,909,408	\$22,765,290	3.83	\$2,593,922	29.3	\$294,790	\$47,626
622	Neo Bwt 2000-2499G Maj Resp Cond	449	7,443	\$75,592,573	\$11,883,761	2.20	\$771,944	16.6	\$168,358	\$26,467
593	Neo Bwt 750-999G w/o Maj Proc	384	23,698	\$295,814,720	\$58,350,256	13.22	\$7,180,762	61.7	\$770,351	\$151,954
607	Neo Bwt 1250-1499G w Maj Problem	364	15,423	\$159,590,305	\$28,909,076	6.28	\$4,758,448	42.4	\$438,435	\$79,421
602	Neo Bwt 1000-1249G w Maj Problem	352	19,498	\$231,935,582	\$40,356,572	8.95	\$7,755,486	55.4	\$658,908	\$114,649
631	Neo Bwt >2499G w Oth Maj Proc	320	11,092	\$154,614,966	\$36,489,997	7.99	\$6,887,982	34.7	\$483,172	\$114,031
623	Neo Bwt 2000-2499G w Inf	294	3,902	\$37,315,707	\$5,470,695	1.68	\$305,698	13.3	\$126,924	\$18,608
621	Neo Bwt 2000-2499G w Maj Anomaly	283	5,121	\$67,249,226	\$9,601,575	2.88	\$1,574,224	18.1	\$237,630	\$33,928
611	Neo Bwt 1500-1999G w Maj Anomaly	271	7,846	\$90,136,615	\$15,112,517	4.76	\$2,357,910	29.0	\$332,607	\$55,766
608	Neo Bwt 1250-1499G	246	8,135	\$86,379,920	\$13,250,134	4.53	\$1,562,821	33.1	\$351,138	\$53,862
630	Neo Bwt >2499G w Maj CV Proc	219	8,796	\$165,074,892	\$41,720,753	13.95	\$7,771,877	40.2	\$753,767	\$190,506
589	Neo Bwt <500G or <24 Wks	218	5,207	\$71,424,911	\$14,154,326	4.58	\$4,707,931	23.9	\$327,637	\$64,928
588	Neo Bwt <1500G w Maj Proc	211	20,291	\$295,612,084	\$68,051,476	25.35	\$7,756,507	96.2	\$1,401,005	\$322,519
613	Neo Bwt 1500-1999G w Inf	207	5,172	\$54,600,565	\$7,812,204	3.09	\$909,319	25.0	\$263,771	\$37,740

Table 3.11.1 Medicaid Care Category: Neonate Sorted in Order of Declining Stays										
APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages		
								Days	Charges	Payment
591	Neo Bwt 500-749G w/o Maj Proc	160	10,769	\$156,612,348	\$31,879,029	18.84	\$3,179,566	67.3	\$978,827	\$199,244
863	Neonatal Aftercare	139	4,152	\$46,394,814	\$8,038,283	3.72	\$2,486,932	29.9	\$333,776	\$57,829
609	Neo Bwt 1500-2499G w Maj Proc	132	7,027	\$108,367,592	\$24,447,773	11.90	\$7,704,769	53.2	\$820,967	\$185,210
603	Neo Bwt 1000-1249G	114	5,076	\$50,976,378	\$9,230,020	6.79	\$902,043	44.5	\$447,161	\$80,965
580	Neo, Tsf <5 Days, Not Born Here	93	150	\$2,572,102	\$475,593	0.52	\$0	1.6	\$27,657	\$5,114
583	Neo w Ecmo	32	1,551	\$42,571,829	\$10,922,552	22.47	\$3,269,842	48.5	\$1,330,370	\$341,330
<b>Total</b>		<b>16,819</b>	<b>279,814</b>	<b>\$3,306,954,062</b>	<b>\$603,506,019</b>		<b>\$89,997,755</b>	<b>16.6</b>	<b>\$196,620</b>	<b>\$35,882</b>

Note: Total day counts may differ from CA-MMIS data summaries because same-day stays are counted as 1-day stays in this table and as 0-day stays in CA-MMIS.

Chart 3.11.1 combines data for normal newborns and neonates to show the dramatic relationship between cost and birthweight. The actual figures reflect an earlier dataset than the dataset used for the rest of this report, but in our experience the relationship is very strong across different states regardless of whether resources are measured using charges, hospital cost, or Medicaid payment. Babies with a birthweight of at least 500 grams (1.1 pounds) have a good chance at viability that comes at great expense. On average, expense falls sharply as gestational age lengthens and birthweight increases. That, in a nutshell, is the economic argument for good prenatal care.

If anything, the chart understates the resource cost of premature birth, since it includes only the hospital charges for the neonatal stay. The cost of neonatal physician care and any subsequent health care costs related to premature birth would be additional.



## 3.12 Adult Respiratory Stays

The Adult Respiratory category represented 3% of stays and 4% of payment.

**Table 3.12.1**  
**Medicaid Care Category: Adult Respiratory**

APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages		
								Days	Charges	Payment
139	Oth Pneumonia	2,980	14,484	\$172,294,544	\$20,397,344	0.87	\$1,179,069	4.9	\$57,817	\$6,845
140	COPD	2,482	10,467	\$124,860,352	\$14,675,547	0.80	\$362,770	4.2	\$50,306	\$5,913
133	Pulmon Edema & Resp Failure	1,451	10,138	\$137,798,729	\$18,314,246	1.41	\$2,793,082	7.0	\$94,968	\$12,622
137	Maj Resp Inf & Inflammations	1,056	9,174	\$99,456,975	\$11,880,802	1.44	\$909,269	8.7	\$94,183	\$11,251
141	Asthma	763	2,113	\$26,338,754	\$3,095,371	0.51	\$20,296	2.8	\$34,520	\$4,057
144	Resp Symptoms & Minor Diags	597	1,659	\$22,869,357	\$2,642,140	0.60	\$35,671	2.8	\$38,307	\$4,426
130	Resp Sys Diag w MV 96+ Hrs	572	10,384	\$166,420,851	\$26,631,843	4.92	\$5,402,650	18.2	\$290,946	\$46,559
134	Pulmonary Embolism	481	2,554	\$35,546,686	\$4,623,903	1.14	\$277,129	5.3	\$73,902	\$9,613
143	Oth Resp Diags Exc Minor	457	2,110	\$29,501,898	\$3,851,547	1.05	\$322,870	4.6	\$64,556	\$8,428
136	Resp Malig	383	2,625	\$33,433,185	\$3,702,598	1.30	\$148,368	6.9	\$87,293	\$9,667
113	Inf of Upper Resp Tract	327	873	\$12,071,526	\$1,307,713	0.53	\$7,513	2.7	\$36,916	\$3,999
135	Maj Chest & Resp Trauma	222	833	\$15,261,751	\$1,737,014	0.90	\$30,576	3.8	\$68,747	\$7,824
121	Oth Resp & Chest Procs	187	1,973	\$32,523,012	\$4,767,848	2.85	\$556,990	10.6	\$173,920	\$25,497
120	Maj Resp & Chest Procs	147	1,716	\$33,152,750	\$4,951,022	3.43	\$807,433	11.7	\$225,529	\$33,680
131	Cystic Fibrosis - Pulmon Dis	140	1,433	\$22,272,263	\$1,538,572	2.13	\$141,066	10.2	\$159,088	\$10,990
142	Interstitial & Alveolar Lung Dis	120	692	\$8,325,254	\$1,003,252	1.16	\$31,034	5.8	\$69,377	\$8,360
138	Bronchiolitis & RSV Pneumonia	10	49	\$650,807	\$88,094	0.95	\$14,100	4.9	\$65,081	\$8,809
<b>Total</b>		<b>12,375</b>	<b>73,277</b>	<b>\$972,778,694</b>	<b>\$125,208,856</b>	<b>1.22</b>	<b>\$13,039,888</b>	<b>5.92</b>	<b>\$78,608</b>	<b>\$10,118</b>

Note: Total day counts may differ from CA-MMIS data summaries because same-day stays are counted as 1-day stays in this table and as 0-day stays in CA-MMIS.

## 3.13 Pediatric Respiratory Stays

The Pediatric Respiratory category represented 2% of stays and 3% of payment. Bronchiolitis and respiratory syncytial virus pneumonia, which is common in infants, was the most common DRG, with average length of stay of 3.3 days, average charges of \$31,655 and average payment of \$4,452.

APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages		
								Days	Charges	Payment
138	Bronchiolitis & RSV Pneumonia	2,262	7,556	\$71,604,172	\$10,070,877	0.46	\$451,813	3.3	\$31,655	\$4,452
139	Oth Pneumonia	1,536	6,739	\$73,032,842	\$11,357,933	0.73	\$1,259,687	4.4	\$47,547	\$7,394
113	Inf of Upper Resp Tract	1,249	3,395	\$38,938,302	\$5,990,431	0.48	\$721,551	2.7	\$31,176	\$4,796
141	Asthma	978	2,477	\$30,424,649	\$4,682,289	0.49	\$207,355	2.5	\$31,109	\$4,788
137	Maj Resp Inf & Inflammations	559	4,319	\$50,094,987	\$7,490,883	1.29	\$1,207,466	7.7	\$89,615	\$13,401
143	Oth Resp Diags Exc Minor	475	2,171	\$25,866,267	\$4,075,527	0.89	\$584,398	4.6	\$54,455	\$8,580
144	Resp Symptoms & Minor Diags	468	1,651	\$20,170,230	\$2,894,158	0.72	\$200,869	3.5	\$43,099	\$6,184
131	Cystic Fibrosis - Pulmon Dis	453	5,729	\$75,721,331	\$10,332,451	2.22	\$1,682,444	12.6	\$167,155	\$22,809
130	Resp Sys Diag w MV 96+ Hrs	432	8,337	\$152,254,215	\$27,120,151	4.59	\$10,619,306	19.3	\$352,440	\$62,778
133	Pulmon Edema & Resp Failure	318	2,133	\$37,686,343	\$5,282,333	1.50	\$1,434,205	6.7	\$118,511	\$16,611
132	Chronic Resp Dis Fm Perinatal	284	2,362	\$27,037,165	\$4,491,339	1.26	\$1,395,274	8.3	\$95,201	\$15,815
121	Oth Resp & Chest Procs	211	2,963	\$50,977,202	\$8,694,799	2.56	\$4,229,754	14.0	\$241,598	\$41,208
120	Maj Resp & Chest Procs	114	1,294	\$20,593,025	\$3,869,432	2.93	\$865,678	11.4	\$180,641	\$33,942
135	Maj Chest & Resp Trauma	78	274	\$4,649,226	\$681,298	0.90	\$0	3.5	\$59,605	\$8,735
140	COPD	26	188	\$1,742,851	\$180,730	0.75	\$10,330	7.2	\$67,033	\$6,951
134	Pulmonary Embolism	22	120	\$1,358,368	\$239,285	1.24	\$0	5.5	\$61,744	\$10,877
136	Resp Malign	14	143	\$1,900,676	\$190,319	1.32	\$42,492	10.2	\$135,763	\$13,594
142	Interstitial & Alveolar Lung Dis	12	74	\$934,969	\$110,724	1.11	\$22,932	6.2	\$77,914	\$9,227
<b>Total</b>		<b>9,491</b>	<b>51,925</b>	<b>\$684,986,820</b>	<b>\$107,754,958</b>	<b>1.01</b>	<b>\$24,935,554</b>	<b>5.47</b>	<b>\$72,172</b>	<b>\$11,353</b>

Note: Total day counts may differ from CA-MMIS data summaries because same-day stays are counted as 1-day stays in this table and as 0-day stays in CA-MMIS.

## 3.14 Other Stays

The Other category represented less than 1% of both stays and payment. It includes DRGs for substance abuse and psychiatric disorders. Although the counties have primary responsibility for mental health care under Medi-Cal, in certain limited circumstances the stay may be covered by DHCS.

APR-DRG	Description	Stays	Days	Charges	Payment	Casemix	Outlier Amt	Averages		
								Days	Charges	Payment
775	Alcohol Abuse & Dependence	1,013	4,712	\$52,004,028	\$6,360,678	0.71	\$260,603	4.7	\$51,337	\$6,279
756	Acute Anxiety & Delirium States	151	329	\$4,779,507	\$543,362	0.49	\$20,670	2.2	\$31,652	\$3,598
770	Drug & Alcohol Abuse, AMA	120	319	\$4,179,089	\$364,756	0.40	\$8,630	2.7	\$34,826	\$3,040
773	Opioid Abuse & Dependence	105	491	\$5,170,278	\$523,385	0.57	\$26,427	4.7	\$49,241	\$4,985
751	Maj Depression	76	377	\$2,768,875	\$330,498	0.58	\$39,630	5.0	\$36,433	\$4,349
776	Oth Drug Abuse & Dependence	73	233	\$2,840,685	\$367,540	0.61	\$0	3.2	\$38,913	\$5,035
757	Organic Mental Health Disturb	67	538	\$4,001,184	\$374,196	0.75	\$71,236	8.0	\$59,719	\$5,585
750	Schizophrenia	48	237	\$1,583,839	\$221,718	0.78	\$0	4.9	\$32,997	\$4,619
753	Bipolar Dis	33	145	\$1,054,166	\$118,751	0.58	\$0	4.4	\$31,944	\$3,599
760	Oth Mental Health Dis	28	261	\$1,693,186	\$197,226	0.68	\$83,783	9.3	\$60,471	\$7,044
774	Cocaine Abuse & Dependence	28	83	\$1,082,043	\$131,305	0.63	\$0	3.0	\$38,644	\$4,689
755	Adjust Dis & Neuroses Exc Dep	17	67	\$657,918	\$43,230	0.41	\$0	3.9	\$38,701	\$2,543
754	Depression Exc Maj Dep	15	47	\$450,159	\$35,749	0.46	\$0	3.1	\$30,011	\$2,383
758	Childhood Behavioral Dis	10	61	\$464,589	\$43,170	0.65	\$0	6.1	\$46,459	\$4,317
759	Eating Dis	10	120	\$1,331,078	\$128,601	1.61	\$56,903	12.0	\$133,108	\$12,860
772	Alc & Drug Dep w Rehab or Detox	6	43	\$141,852	\$36,324	0.58	\$0	7.2	\$23,642	\$6,054
740	Mental Illness Diag w O.R. Proc	5	56	\$681,349	\$114,719	2.29	\$41,388	11.2	\$136,270	\$22,944
752	Dis of Personality	5	10	\$79,856	\$23,525	0.55	\$0	2.0	\$15,971	\$4,705
<b>Total</b>		<b>1,810</b>	<b>8,129</b>	<b>\$84,963,682</b>	<b>\$9,958,731</b>	<b>0.66</b>	<b>\$609,269</b>	<b>4.49</b>	<b>\$46,941</b>	<b>\$5,502</b>

Note: Total day counts may differ from CA-MMIS data summaries because same-day stays are counted as 1-day stays in this table and as 0-day stays in CA-MMIS.

## 3.15 Differences Between Non-ACA and ACA Populations

The Medi-Cal expansion under the Affordable Care Act January 1, 2014 meant that several populations became newly eligible for Medicaid. In our analytical dataset, there were 21,727 ACA admissions between January 1 and June 30, not counting any admissions for which the claims were adjudicated and paid after September 22, 2014. Of the 21,727 stays, 81% were for adults age 19-64 (aid code M1), 7% were for people transitioning from the Low Income Health Program (LIHP, aid code L1), 6% were for people eligible for CalFresh but not previously eligible for Medi-Cal or LIHP (7U), and 5% were for undocumented adults age 19-64 with restricted benefits (M2).

Chart 3.15.1 shows the patient age profile of the ACA stays compared with the non-ACA stays. On average, the ACA stays were for markedly older patients, reflecting the predominance of obstetric stays and newborns in the non-ACA population. Another clear difference is that males accounted for 61% of ACA stays while females accounted for 66% of non-ACA stays. (Historically, pregnant women and infants have been priority populations for Medicaid eligibility.) For the same reasons, average casemix, length of stay, and payment were all higher for ACA stays than for non-ACA stays.

**Chart 3.15.1**  
**Percent of ACA and Non-ACA Stays by Age Group**

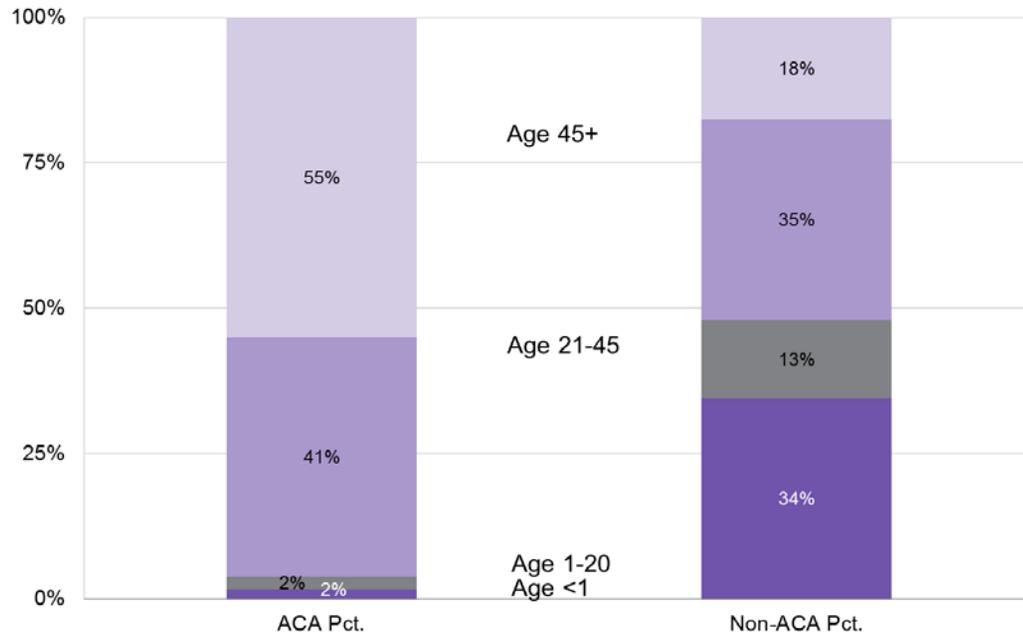


Table 3.15.1 shows the most common DRGs and the most expensive DRGs for the ACA population. The prevalence of particularly serious DRGs – e.g., septicemia, ventilator patients, HIV, and heart failure – implies that many of these patients would have been in the hospital with or without the ACA. Presumably, they would have been uninsured (except for the small number previously covered by the LIHP). For these stays, the ACA expansion generated payment to hospitals for care that otherwise likely would have been uncompensated except for any money collected from patients.

Table 3.15.1 Top Reasons for Admission for Inpatients Newly Eligibility for Medicaid under the ACA						
Ranked in Declining Order of Stays			Ranked in Declining Order of Payment			
APR-DRG	Stays	Payment	APR-DRG	Stays	Payment	
720 Septicemia & disseminated inf	1,239	\$20,651,176	4 Trach, MV 96+ hrs, w ext proc	114	\$22,112,072	
383 Cellulitis & oth bact skin inf	898	\$4,636,647	720 Septicemia & disseminated inf	1,239	\$20,651,176	
194 Heart failure	685	\$5,436,554	710 Inf & parasit dis incl HIV w OR proc	327	\$15,100,658	
263 Laparoscopic cholecystectomy	573	\$6,111,445	5 Trach, MV 96+ hrs, w/o ext proc	84	\$11,968,364	
420 Diabetes	529	\$3,058,237	21 Craniotomy exc for trauma	138	\$7,866,243	
139 Oth pneumonia	495	\$3,630,979	911 Ext trunk procs mult sig trauma	76	\$6,707,432	
775 Alcohol abuse & dependence	455	\$3,047,618	174 Percut CV procs w ami	311	\$6,422,650	
282 Dis of pancreas exc malig	440	\$3,627,766	263 Laparoscopic cholecystectomy	573	\$6,111,445	
45 CVA & precereb occl w infarct	439	\$4,024,789	194 Heart failure	685	\$5,436,554	
225 Appendectomy	413	\$3,588,154	912 Muscskl procs mult sig trauma	104	\$5,312,119	
203 Chest pain	398	\$1,607,179	165 Coronary bypass w cath	94	\$5,260,433	
812 Poisoning of medicinal agents	368	\$3,028,252	221 Maj small & large bowel procs	195	\$5,237,435	
140 COPD	341	\$2,127,550	383 Cellulitis & oth bact skin inf	898	\$4,636,647	
710 Inf & parasit dis incl HIV w OR proc	327	\$15,100,658	130 Resp sys diag w MV 96+ hrs	73	\$4,063,272	
174 Percut CV procs w ami	311	\$6,422,650	45 CVA & precereb OCCL w infarct	439	\$4,024,789	
<b>Top 15</b>	<b>7,911</b>	<b>\$86,099,654</b>	<b>Top 15</b>	<b>5,350</b>	<b>\$130,911,288</b>	
<b>All others</b>	<b>13,816</b>	<b>\$215,382,336</b>	<b>All others</b>	<b>16,377</b>	<b>\$170,570,702</b>	
<b>Total ACA stays</b>	<b>21,727</b>	<b>\$301,481,991</b>	<b>Total ACA stays</b>	<b>21,727</b>	<b>\$301,481,991</b>	
Notes:						
1. "ACA stays" are defined as stays for people newly eligible for Medicaid under the Affordable Care Act, comprising aid codes M1, 7U, L1 and M2 for admission dates on or after January 1, 2014.						
2. Base DRGs are shown; payment is calculated by base DRG plus severity of illness.						

# Appendix A: DRG Pricing Calculator

The DRG Pricing Calculator is probably the single most useful tool in understanding the DRG payment method. It is posted to the Medi-Cal DRG webpage at [www.dhcs.ca.gov/provgovpart/Pages/DRG.aspx](http://www.dhcs.ca.gov/provgovpart/Pages/DRG.aspx). The cover page shown below provides context while the calculator on the next page shows details of the pricing algorithm. The calculator spreadsheet file on the webpage also includes a list of APR-DRGs and a list of hospital-specific information that is not included here due to space limitations.

The calculator is intended to mirror the calculations within the Medi-Cal claims processing system but in cases of disagreement then the system will be taken as correct. This caveat is particularly pertinent in moving from the allowed amount to the paid amount due to various adjustments, e.g., other health coverage, beneficiary's share of cost, and payment reductions due to timely filing. These adjustments can be complex. The DRG project changed the calculation of the allowed amount but not the logic between the allowed amount and the paid amount.

## Medi-Cal DRG Pricing Calculator for FY 2014-15

Effective for Dates of Admission on or after July 1, 2014

September 5, 2014

This DRG Pricing Calculator is intended to enable hospitals and other interested parties to understand and predict estimated payment for inpatient stays covered by fee-for-service Medi-Cal. This version applies to stays with dates of admission on or after July 1, 2014, through June 30, 2015. Annual updates necessitate a new calculator that reflects new wage index values, hospital-specific base rates, and other changes. For stays with dates of admission prior to July 1, 2014, see the 2013 version of the calculator dated July 16, 2013, on the DHCS DRG webpage. The "Calculator" sheet incorporates the pricing logic for the DRG base payment, cost outlier payments, etc. The "DRG Table" sheet shows information specific to each DRG. The "Hospital Characteristics" sheet shows information specific to each hospital. "The FY 14-15 DRG Transition Rate" file can be found on the DRG webpage.

Under DRG payment, the Medicaid claims processing system assigns each complete inpatient stay to an All Patient Refined Diagnosis Related Group (APR-DRG) based on the diagnoses and procedures on the claim. (Note that Medi-Cal does not use Medicare DRGs, which were not designed for a Medicaid population.) Hospitals need not put the DRG on the claim and need not purchase APR-DRG software. The "Calculator" sheet assumes the user knows which APR-DRG applies to a particular stay. For more information on APR-DRGs, contact 3M Health Information Systems, which developed and owns the software.

This calculator is intended to be helpful to users to estimate pricing, but it cannot capture all the editing and pricing complexity of the Medicaid claims processing system. In cases of difference, the claims processing system is correct.

A "Frequently Asked Questions" document is available and is essential in understanding the payment method. This DRG Pricing Calculator is also available in spreadsheet form as an interactive Excel file. Both documents are at the Medi-Cal DRG page at <http://www.dhcs.ca.gov>. To sign up for the DRG listserv or to ask a DRG policy question, email [drg@dhcs.ca.gov](mailto:drg@dhcs.ca.gov). (Do not send any protected health information by email.) For questions about claims, contact the Medi-Cal Telephone Service Center at 800.541.5555.

*This calculator was developed by Xerox, the fiscal intermediary for Medi-Cal. It includes data obtained through the use of proprietary computer software created, owned, and licensed by the 3M Company. All copyrights in and to the 3M™ Software are owned by 3M. All rights reserved. 3M bears no responsibility for the contents of this document.*

A	B	C	D
2	<b>Medi-Cal DRG Pricing Calculator Effective Dates of Admission on or after July 1, 2014</b>		
3	September 5, 2014		
4	<b>Instructions:</b>		
5	1. The hospital or other user inputs data in cells C14-C23 & C33. Values for cell C33 can be found on the Hospital Characteristics tab.		
6	2. Medi-Cal payment policy parameters have already been entered in cells C34-C40.		
7	3. The calculator will show the predicted allowed amount and paid amount in cells C68 and C72 respectively.		
8	4. LOS = discharge date minus admission date. If a patient is admitted and discharged on the same day, the calculated LOS equals zero.		
9	5. "Transfer" discharge statuses include 02, 05, 63, 65, and 66.		
10	6. This calculator spreadsheet is intended to be helpful to users, but it cannot capture all the editing and pricing complexity of the Medicaid claims processing system. In cases of difference, the claims processing system is correct.		
11	Indicates information to be input by the user.		Indicates payment policy parameters set by Medi-Cal
12	Information	Data	COMMENTS OR FORMULA
13	<b>INFORMATION FROM THE HOSPITAL-- TO BE INPUT BY THE USER</b>		
14	Total charges	\$100,000.00	UB-04 Form Locator 47
15	Hospital-specific cost-to-charge ratio	35.00%	Used to estimate the hospital's cost of this stay
16	Length of stay	1	See instruction 4; used for transfer pricing adjustment
17	Patient discharge status = transfer?	No	See instruction 5; used for transfer pricing adjustment
18	Patient age (in years)	15	Used for age adjustor
19	Other health coverage	\$300.00	UB-04 Form Locator 54 for payments by third parties
20	Patient share of cost	\$300.00	Includes spend-down or copayment
21	Is discharge status equal to 30?	No	Indicates an interim claim
22	Designated NICU facility	No	Policy adjustor for designated NICU facilities
23	APR-DRG	001-1	From separate APR-DRG grouping software
24	<b>APR-DRG INFORMATION</b>		
25	APR-DRG description	LIVER TRANSPLANT &/OR INTESTINAL TRANSPLANT	Look up from DRG table (Tab 3, Column B)
26	Casemix relative weight--unadjusted	6.6674	Look up from DRG table (Tab 3, Column D)
27	NICU service adjustor - hospital with designated NICU	1.0000	Look up from DRG table (Tab 3, Column I)
28	NICU service adjustor - all other hospitals	1.0000	Look up from DRG table (Tab 3, Column E)
29	Pediatric age adjustor	1.2500	Look up from DRG table (Tab 3, Column G)
30	Payment relative weight	8.3343	IF C18<21, then if (C22="Yes"), then (C26*C27*C29), else if (C22="Yes"), then (C26*C27), else (C26*C28)
31	Average length of stay for this APR-DRG	7.6	Look up from DRG table (Tab 3, Column C)
32	<b>PAYMENT POLICY PARAMETERS SET BY MEDI-CAL</b>		
33	DRG base rate	\$7,373	Specific to each hospital. (Tab 4, Row 14)
34	Cost outlier threshold 1	\$42,040	Threshold qualifying high and low-cost outlier adjustments
35	Cost outlier threshold 2	\$131,375	Threshold qualifying high-cost outlier adjustments
36	Marginal cost percentage_1	60%	Used for high and low-cost outlier adjustments
37	Marginal cost percentage_2	80%	Used for high-cost outlier adjustments
38	Casemix adjustment factor	1.00	Used to adjust DRG relative weights should a need arise, else leave set to 1.00.
39	Interim claim threshold	29	Threshold qualifying interim claims
40	Interim per diem amount	\$600	Used for pricing interim claims
41	<b>IS THIS AN INTERIM CLAIM?</b>		
42	Is discharge status equal to 30?	No	Look up C21
43	Is length of stay > interim claim threshold?	N/A	IF C42="Yes", then if (C16 > C39), "Yes", else "No", else "N/A"
44	Skip to C72 for final interim claim payment amount	\$0.00	IF C43="Yes", (C40*C16) rounded to 2 places, else 0
45	<b>WHAT IS THE DRG BASE PAYMENT?</b>		
46	DRG base payment for this claim	\$61,448.43	C33*C30*C38
47	<b>IS A TRANSFER PAYMENT ADJUSTMENT MADE?</b>		
48	Is a transfer adjustment potentially applicable?	No	Look up C17
49	Calculated transfer payment adjustment	N/A	IF C48="Yes", then (C46/C31)*(C16+1) rounded to 2 places, else "NA"
50	Is transfer payment adjustment < allowed amount so far	N/A	IF C49="N/A" then "N/A", else if (C49<C46), then "Yes" else "No"
51	Allowed amount after transfer adjustment	\$61,448.43	IF C50="Yes", then C49, else C46
52	<b>IS A COST OUTLIER ADJUSTMENT MADE?</b>		
53	Estimated cost of this case	\$35,000.00	C14*C15
54	Is estimated cost > allowed amount	Gain	IF C53 > C51 then "Loss" else "Gain"
55	<b>High-Side Outlier Payment When Payment Is Much Lower than Cost</b>		
56	Estimated loss on this case	N/A	IF C54 = "Loss", then (C53-C51), else "N/A"
57	Is loss > outlier threshold lower limit	N/A	IF C54 = "Loss", then if (C56 > C34), then "Yes", else "No", else "N/A"
58	DRG cost outlier payment increase 1	\$0.00	IF C57 = "Yes", then if (C56<C35), then ((C56-C34)*C36), else ((C35-C34)*C36), else 0
59	DRG cost outlier payment increase 2	\$0.00	IF C57="Yes", then if (C56>C35), then (C56-C35)*C37, rounded to 2 places else 0, else 0
60	<b>Low Side Outlier Payment When Payment Is Much Greater than Cost</b>		
61	Estimated gain on this case	\$26,448.43	IF C54="Gain", then (C51-C53), else"N/A"
62	Is gain > outlier threshold	No	IF C54="Gain", then if (C61>C34), then "Yes", else "No", else "N/A"
63	DRG cost outlier payment decrease	\$0.00	IF C54="Gain", then (if (C62="Yes"), then (C61-C34)*C36 rounded to 2
64	<b>ALLOWED AMOUNT AFTER TRANSFER AND OUTLIER ADJUSTMENTS</b>		
65	DRG payment so far	\$61,448.43	IF C54="Loss", then (C51+C58+C59), else (C51-C63)
66	<b>CALCULATION OF ALLOWED AMOUNT AND REIMBURSEMENT AMOUNT</b>		
67	Add-on amount	\$0.00	Hospital-specific payment separate from DRG payment (not used at this time)
68	Allowed amount	\$61,448.43	Allowed amount = C65+C67
69	Other health coverage	\$300.00	C19
70	Patient share of cost	\$300.00	C20
71	"Lesser of" calculation	\$61,448.43	Existing policy requires that payment amount cannot exceed total charges. IF C68>C14, then C14, else C68
72	Payment amount	\$60,848.43	If interim claim (C42="yes"), then interim claim (C44) amount is the payment amount. Otherwise, subtract other health coverage (C69) and patient share of cost (C70) from "Lesser of" (C71) to obtain payment amount.

# Appendix B: Reconciliation of Record Counts

Table B.1 shows the reconciliation of record counts. It shows how many claims were excluded and the excluded reason, how NDPH stays prior to January 1, 2014, were reconciled, and a breakdown of ACA and non-ACA stays.

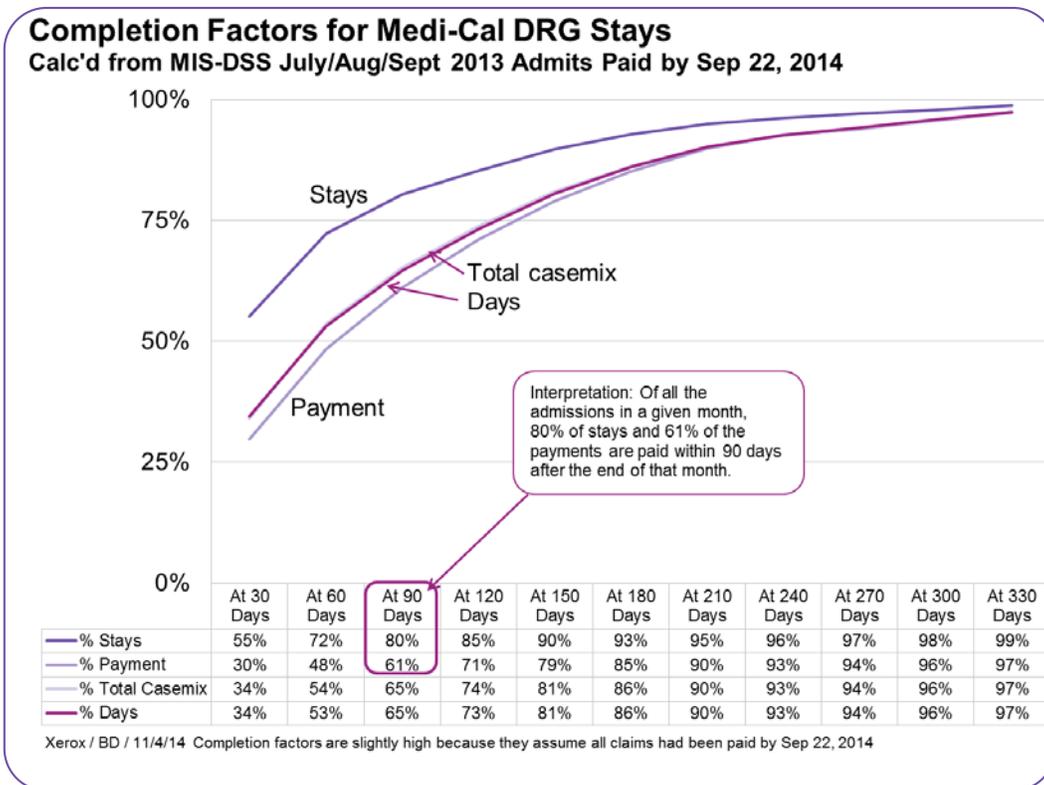
Table B.1					
Reconciliation of Record Counts					
MIS / DSS Paid Through 9/22/14: 681,317 stays; Admissions Through 6/30/14: 596,388					
Exclusion Reason	Stays	Days	Charges	Payments	Comment
Medicare crossover claim	150,330	859,579	\$204,638,059	\$67,190,145	Medicare Ind = 1
DPH	20,531	114,744	\$1,211,536,695	\$175,957,731	
Stay adjusted	7,539	143,176	\$1,357,198,098	\$118,262,424	
Negative payment amount	5,861	131,373	-\$1,353,297,155	-\$118,263,470	
Admission prior 7/1/13	3,397	518,372	\$536,680,661	\$80,872,703	
Missing DRG	2,347	69,833	\$386,462,081	\$44,158,082	Rehab and admin claims
Still a patient	945	8,710	\$67,126,196	\$11,013,599	Discharge status = 30
Negative charge amount	358	2,583	-\$3,904,259	\$0	
Missing DRG pricing indicator	232	3,568	\$9,005,627	\$4,807,860	
RAD code w desc: 0457-nopay ancillary S-VN I	85	3,010	\$4,706,455	\$0	
Error DRG	5	36	\$82,632	\$10,480	
Program code 29 (FPACT)	1	3	\$35,723	\$3,609	
Excessive OB charge	1	3	\$5,561,117	\$3,290	
<b>Total</b>	<b>191,632</b>	<b>1,854,990</b>	<b>\$2,425,831,930</b>	<b>\$384,016,453</b>	
Note: Some stays contain multiple exclusions. The order the exclusions are applied may affect counts in each category, but the overall number will not change.					

Table B.1					
Reconciliation of Record Counts					
MIS / DSS Paid Through 9/22/14: 681,317 stays; Admissions Through 6/30/14: 596,388					
Exclusion Reason	Stays	Days	Charges	Payments	Comment
<b>After applying above exclusions: 404,756 stays</b>					
Hospital	Stays	Days	Charges	Payments	Comment
Private/OOS/NDPH (after Jan 1, 2014)	393,716	1,736,463	\$20,966,766,244	\$3,220,491,113	Includes out-of-state, privates and NDPH hospital stays
NDPH	11,040	43,939	\$396,623,448	\$76,074,621	7/1/13-12/31/13 Admissions
<b>Total</b>	<b>404,756</b>	<b>1,780,402</b>	<b>\$21,363,389,692</b>	<b>\$3,296,565,734</b>	
Note: NDPH hospitals with admissions 7/1/13-12/31/13 are used in budget analysis only.					
ACA	Stays	Days	Charges	Payments	Comment
No	383,029	1,651,754	\$19,357,027,396	\$2,995,083,743	
Yes	21,727	128,648	\$2,006,362,296	\$301,481,991	Aid codes: M1, 7U, L1, M2 and admissions on or after 1/1/14
<b>Total</b>	<b>404,756</b>	<b>1,780,402</b>	<b>\$21,363,389,692</b>	<b>\$3,296,565,734</b>	

# Appendix C: Completion Factors for Medi-Cal DRG Stays

Lags exist between the day a patient is discharged from hospital, the day that the hospital submits the claim to Medi-Cal, and the day that Medi-Cal pays the claim. For patients admitted in, say, January, by the end of April, 80% of the claims had been paid, accounting for 61% of payment. One reason for the difference is that the claim for a short stay can be submitted in January while the claim for a long stay may not be submitted until February, March or even later. Longer stays also generate longer and more complicated claims that may take hospitals longer to submit.

We used Medi-Cal claims to calculate separate completion factors for stays, payment, casemix and days. If, for example, a dataset created at the end of April showed 100 admissions in January with payment of \$1,000,000, we would estimate that the complete January figures would end up at  $100 / 0.80 = 125$  stays and  $\$1,000,000 / 0.61 = \$1,639,344$  in payment.



# Notes

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- <sup>1</sup> Kevin Quinn, "After the Revolution: DRGs at Age 30," *Annals of Internal Medicine*, Vol. 160, No. 6. March 18, 2014.
- <sup>2</sup> Xerox State Healthcare LLC, *Medi-Cal DRG Project: Policy Design Document*, Report to the California Department of Health Care Services (West Sacramento, CA: Xerox, May 1, 2012). Hereafter, *Policy Design Document*. Re Principles in Recommending Payment Policy, see §1.3.
- <sup>3</sup> *Policy Design Document*, §5.5.
- <sup>4</sup> *Policy Design Document*, §3.6.
- <sup>5</sup> *Medi-Cal DRG Project: Base Prices for FY2013-14*.
- <sup>6</sup> The bounds for NDPHs differed, being plus or minus in Year 1 (defined as January 1-June 30, 2014), plus or minus 5% in Year 2, and plus or minus 7.5% in Year 3. Xerox State Healthcare. *DRG Base Prices for Years 2, 3 and 4*. Document W235. Memorandum to DHCS, August 21, 2013.
- <sup>7</sup> *DRG Base Prices for Years 2, 3 and 4*.
- <sup>8</sup> State Plan Amendment 13-004.
- <sup>9</sup> "ACA stays" are identified by the aid of the beneficiary.
- <sup>10</sup> *Policy Design Document*.
- <sup>11</sup> Kevin Quinn, "New Directions in Medicaid Payment for Hospital Care," *Health Affairs*. Vol. 27, No. 1. 269-280. January 2008.
- <sup>12</sup> Stephen B. Cohen and Namrata Uberoi, *Differentials in the Concentration in the Level of Health Expenditures across Population Subgroups in the U.S., 2010*. Statistical Brief #421. August 2013. Agency for Healthcare Research and Quality, Rockville, MD.
- <sup>13</sup> *Policy Design Document*, §4.2.