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## Birth Hospitalization Costs and Days of Care for Mothers and Neonates in California 2009-2011

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### Abstract

**Objective:** To provide population-based estimates of the hospital-related costs of maternal and newborn care, and how these vary by gestational age and birth weight.

**Study design:** We conducted a retrospective analysis of 2009–2011 California in-hospital deliveries at non-Federal hospitals with the infant and maternal discharge data successfully (96%) linked to birth certificates. Cost-to-charge ratios were used to estimate costs from charges. Physician hospital payments were estimated by mean DRG-specific reimbursement and costs were adjusted for inflation to December 2017 values. After exclusions for incomplete or missing data, the final sample was 1,265,212.

**Results:** Mean maternal costs for all in-hospital deliveries was \$8,204, increasing to \$13,154 for late preterm (32–36 weeks) and \$22,702 for very preterm (<32 weeks) mothers. The mean cost for all newborns was \$6,389: \$2,433 for term infants, \$22,102 for late preterm, \$223,931 for very

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preterm infants, and \$317,982 for extremely preterm infants (<28 weeks). Preterm infants were 8.1% of cases but incurred 60.9% of costs; for very preterm and extremely preterm infants these shares were 1.0%/36.5% and 0.4%/20.0%, respectively. Overall, mothers incurred 56% of the total costs during the delivery hospitalization.

**Conclusions:** Both maternal and neonatal costs are skewed, with this being much more pronounced for infants. Preterm birth is much more expensive than term delivery, with the additional costs predominately incurred by the infants. The small share of infants who require extensive stays in neonatal intensive care incur a large share of neonatal costs, and these costs have increased over time.

## Keywords

Neonatal costs; gestational age; birth weight

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Pregnancy and delivery are the most common reasons for the hospitalization of women of childbearing age, with almost 4 million deliveries annually in the United States.<sup>1</sup> Peripartum and newborn infant care, particularly for the extremely premature infant, make up a substantial proportion of the costs of medical care for these patients, with estimates of the costs of preterm birth accounting for almost 26 billion dollars annually.<sup>2</sup> Neonatal and maternal care has continued to evolve over time, including rising rates of Cesarean deliveries and more aggressive management and resuscitation of infants born at periviable gestational ages (GA) <24 weeks.<sup>3–5</sup> However, with reductions in mortality and more aggressive resuscitation come greater use of health care resources. Although preterm rates have been relatively constant<sup>6,7</sup> the neonatal mortality rate has declined, especially for very preterm infants.<sup>4,8,9</sup> The reduction in very preterm mortality is especially significant, given the very large cost and length of stay differences between survivors and deaths.<sup>10</sup>

There currently are little data to quantify the economic impact of these changes in both maternal and neonatal care. The existing studies using data linking mothers to infants and transfers to accurately measure the total costs of delivery are from 2000 or earlier, and thus fail to capture the effects of more recent changes in costs, technologies, and outcomes.<sup>2,10–12</sup> More recent data tend to use hospital charges instead of costs, or use unlinked discharge data that cannot measure the economic impact of mothers or infants across the multiple hospitals where they receive care prior to being discharged home. As these women and infants tend to be the sickest, and most expensive cases, such data may underestimate the impact of certain subgroups of patients.<sup>13</sup> Finally, previous data omit physician costs.

The goal of this project is to provide population-based estimates of the costs and lengths of stay for hospitalizations associated with childbirth, including pregnancy-related maternal hospitalization and infant transfers prior to discharge home or death. We include both hospital costs, as performed in prior work, and updated methods to include an estimate of physician costs. Further, to provide policy makers and researchers with in-depth data useful for additional analyses, we provide data stratified by GA, birth weight (BW), and survival status.

## Methods

We used the California Office of Statewide Planning and Development (OSHPD) Vital Statistics-Patient Discharge Data to obtain a population-based study cohort of all in-hospital deliveries in that occurred in California non-Federal hospitals between 2009 and 2011. Maternal and infant hospital discharge records were probabilistically linked with birth, infant death, and fetal death certificates to provide linked information for mother/baby pairs. Approximately 96% of in-hospital birth records were successfully linked to maternal and infant hospital discharge abstract data.<sup>14</sup> Although these linkages are officially probabilistic, the vast majority are unique matches and most of the probabilistic linkages are for uncomplicated term infants for whom the non-exact linkages have minimal effect on the analyses conducted for this study. These data include maternal antepartum records for the nine months prior to delivery. Infant hospital discharge records include the delivery admission and subsequent transfers until the infant was initially discharged to home or died. This study was approved by the Stanford University Institutional Review Board and the California Department of Health Services Committee for the Protection of Human Subjects.

Cases were selected if the birth certificate was successfully linked to both the maternal delivery record and the infant delivery record, or if the fetal death certificate was linked to a maternal hospital record. Maternal prenatal hospitalization records were retained for pregnancy-related prenatal hospitalizations falling within the gestation period of the current pregnancy based on gestational age at birth (fetal death). Prenatal hospitalizations were considered pregnancy-related if the recorded Major Diagnostic Category value was 14 (Pregnancy, Childbirth, and the Puerperium), or International Classification of Diseases, 9<sup>th</sup> edition, Clinical Modification (ICD-9) V-Codes of 22.\*, 23.\*, 24.\*, 26.\*, 27.\*, 28.\* were recorded and *no* ICD-9 diagnosis codes 633.\*–639.\* were recorded.

The BW value from the birth certificate was set to missing in cases where the value was  $\geq 6,800\text{g}$  or  $< 400\text{g}$  for a live birth. Singleton cases with missing values were replaced with the median BW value for infants of the same GA at birth if there was a valid GA ( $n=74$ ). For GA, we used the best obstetric estimate of GA when it was available; the LMP GA was used for 2,436 cases. The GA value from the birth certificate (or fetal death certificate) was set to missing in cases indicating a live birth  $< 22$  weeks or a GA  $> 45$  weeks. For survivors, 3,317 infant records with a GA at discharge  $< 34$  weeks were removed as probable data errors.

ICD-9 procedure codes were used to identify infants who underwent surgical procedures using a procedure classification system developed by the Agency for Healthcare Research and Quality Healthcare Cost and Utilization Project that classifies procedures as “major” or “minor” therapeutic or diagnostic procedures.<sup>17</sup> We performed a further review of major therapeutic surgical procedures to flag procedures likely having major costs associated with them (such as a major heart surgery). Flagging such cases was done to assist in the identification of infant cost outliers – “big” cases with large costs were retained rather than being classified as outliers.

The OSHPD annual hospital financial data for 2009–2011 were utilized to construct cost-to-charge ratios for each hospital and these were used to convert hospital charges recorded in

the maternal and infant hospital discharge records to estimated costs.<sup>18</sup> Data on the mean professional/physicians fees for each Diagnosis Related Group (DRG) and payer source (Medicaid or Private Insurance) were matched to the DRGs of each hospital discharge to incorporate estimated professional fees, with separate adjustment factors for Medicaid and private insurance.<sup>19</sup> Although these physician data are fees, not “costs” we believe that they represent the best available method for adding an estimate of physician costs to our data. For simplicity, we use the term “costs” even when this refers to estimates derived from other sources. The Bureau of Labor Statistics Producer Price Index was used to adjust costs to December 2017 values.<sup>20,21</sup>

We excluded cases when the estimated costs were clearly inconsistent with the care that was provided. Maternal costs were flagged as data errors and set to missing if hospital costs-per-day were <\$500 or >\$10,000, or if total hospital costs were <\$1,000. Neonatal costs were examined separately for survivors, non-survivors, and major surgical cases. One surgical case with a total hospital cost-per-day of <\$125 was flagged as a data error and hospital costs were set to missing. For non-surgical cases, for survivors, hospital costs were set to missing if hospital cost-per-day was less than the 1<sup>st</sup> percentile for GA, as this threshold represented the point at which the costs were clearly in error across all gestations. For survivors with a length of stay (LOS) <=5 days, observations with hospital costs-per-day > \$10,000 were capped at \$10,000. For non-survivors with a LOS of 2–5 days with hospital costs-per-day >\$20,000, hospital costs-per-day were capped at \$20,000.

The Figure (available at [www.jpeds.com](http://www.jpeds.com)) outlines how the various criteria above affected the study sample. Of the 1,562,901 in-hospital deliveries, 1,499,769 (96 %) were linked to both maternal and infant discharge abstracts. 6,470 cases were excluded due to missing or excluded BW or GA. The main reason cases were excluded was missing hospital charge data, which dropped 203,096 cases (over 85% of the excluded cases). Of these, 98% were excluded because they included one or more stays at a hospital operated by the Kaiser Permanente health system which does not report hospital charges. An additional 24,991 cases were excluded because either the maternal or infant costs were considered to be outliers relative to their disease state, as described above. Cases were retained only if cost and LOS information were available for both the mother and infant (only maternal costs were required for the fetal deaths). The final sample included 1,265,212 retained cases.

In addition to reporting the estimated costs, lengths of stay and mortality for all infants, we report these by GA and BW groups. For GA, we used the following groups: <25 weeks, 25–27 weeks, 28–32 weeks, 32–36 weeks, 37–38 weeks, 39–41 weeks, and >41 weeks. We also provided summary groups for extremely preterm (<28 weeks), very preterm (<32 weeks), and any preterm (<37 weeks). For BW, we report on the following groups: <1000g, <1500g, 1000–1499g, 1500–2499g, <2500g, and >=2500g. For each of the tables reported in the results, there is a corresponding table available online that reports by week of GA and narrower BW intervals.

## Results:

Table 1 reports the number of maternal cases, live births, number of the live births that were multiple births, the number of fetal and infant deaths, and the mean maternal and infant length of stay, for all cases, and for each of the GA and BW groups described above (see Table 2 [available at [www.jpeds.com](http://www.jpeds.com)] for more detailed data). For length of stay, we also report the standard deviation, median, and inter-quartile range. The final sample includes 1,245,622 deliveries (includes fetal deaths), 1,260,457 live births, and 4,755 fetal deaths. 19,280 of the maternal deliveries and 37,649 of the live births were from a multiple delivery. The deaths are predominately preterm (77.7%), with 60.4% of the deaths being very preterm and half (50.1%) being extremely preterm.

Table 3 reports the newborn costs until hospital discharge; these data are reported for all infants, including multiple births, by GA and BW (see Table 4 [available at [www.jpeds.com](http://www.jpeds.com)] for more detailed data). The mean and median costs per case declined dramatically as GA and BW increase, from a mean total cost of \$350,000 for the smallest infants to about \$2,500 for term infants. In aggregate, the 8.1% of the live births that are preterm (<37 weeks) incur 60.9% of all newborn costs. Of these, the 1.0% who are very preterm (<32 weeks) incur 36.5% of all newborn costs, and the 0.4% who are extremely preterm (<28 weeks) incur 20.0% of newborn costs. This represents a modest increase in the proportion of costs for each of these groups compared with our data in 2000, when preterm infants, very preterm, and extremely preterm infants incurred 54%, 34%, and 19% of costs, respectively.<sup>12</sup> When the overall cost distribution is considered (not shown) the results are even more skewed; the 1.2% of cases with costs of more than \$100,000 incur 51.0% of all infant costs. Conversely, 87.2% of the infants with costs under \$3,000 incur only 15.8% of all newborn costs. We also provide this for survivors (Table 5; available at [www.jpeds.com](http://www.jpeds.com)), deaths (Table 6; available at [www.jpeds.com](http://www.jpeds.com)), singletons (Table 7; available at [www.jpeds.com](http://www.jpeds.com)), and multiple births (Table 8; available at [www.jpeds.com](http://www.jpeds.com)).

Table 9 reports total maternal costs for all live births, which includes the costs of pregnancy-related prenatal hospitalizations (see Table 10 [available at [www.jpeds.com](http://www.jpeds.com)] for more detailed data). The mean maternal costs for term deliveries were \$7,600-\$7,900. These costs were slightly higher for late preterm deliveries (\$9,600), and much higher for very preterm deliveries (\$13,200-\$23,300). The maternal costs are much less skewed than the infant costs; 76.5% of them were under \$10,000 and these cases incurred 53.0% of all maternal costs. There were many fewer expensive cases and these cases had a much smaller share of total maternal costs; the 2.1% of the cases that exceeded \$25,000 incurred 11.0% of costs. Table 9 also provides separate information on the frequency and costs of pregnancy-related prenatal hospitalizations. About 5.5% of the maternal cases had one or more pregnancy-related prenatal hospitalizations and the women who had such admissions averaged 1.2 admissions. These prenatal hospitalizations represent only those cases that were officially classified as a hospital admission, and do not include those cases where a woman was observed on the obstetric ward for a few hours, but not officially admitted to the hospital. Table 11 (available at [www.jpeds.com](http://www.jpeds.com)) includes the cases that result in a fetal death. Summary information about the differences in maternal costs by type of delivery are reported in Table 12 (available at [www.jpeds.com](http://www.jpeds.com)). As would be expected, maternal costs were markedly higher for

cesarean deliveries; the mean cost was \$11,006 vs. \$6,754 for vaginal deliveries, and these differences were larger for preterm deliveries.

Table 13 provides data on how costs are split between hospitals and physicians by GA and BW (see Table 14 [available at [www.jpeds.com](http://www.jpeds.com)] for more detailed data). For each cell, we report the number of cases and mean hospital and physician costs, separately for mothers and infants. Overall, physician costs are 31% of total costs for mothers and 18% of the total costs for newborns. The physician's share of total costs is almost unchanged as GA changes for both mothers and infants; the infant physician share increases to 29% for extremely preterm cases, and the maternal physician share decreases to 29% for these cases.

Table 15 (available at [www.jpeds.com](http://www.jpeds.com)) reports the combined maternal and infant costs.

## Discussion:

These data provide a population-based update to the birth hospitalization costs and days of care for mothers and neonates. These cost estimates also include physician costs, which have been lacking in most previous studies. Both maternal and especially newborn costs are sensitive to GA and BW, with the highest average costs accruing for infants born with a GA<28 weeks, and for mothers delivering between 28 and 36 weeks gestation. Newborn costs, especially those for the most preterm infants, are also sensitive to changes in survival. Compared with prior work,<sup>12</sup> the increase in survival among premature infants is the driver behind the 7% increase in the share of infant costs incurred by preterm infants.

Our data show how the costs for maternity and neonatal care have increased in the 10 years since we previously reported these population-based costs for California.<sup>12</sup> The mean maternal cost increased from \$3,641 to \$8,204, and the mean infant cost increased from \$3,567 to \$6,389. Our previous estimates did not include estimated physician reimbursement; if physician fees are excluded, the mean maternal cost is \$5660 (55% increase) and the mean newborn cost is \$5,239 (47% increase). Adjusting for inflation, these cost increases are modest; 10.3% for maternal delivery hospitalizations and 4.3% for neonatal hospitalization costs.<sup>20</sup> Some of the increase in maternal costs is likely associated with the increased rate of cesarean deliveries (mean difference of \$4,550 (Table 12), which has reversed in more recent years.<sup>22</sup> These differences help highlight why it is important to periodically update the estimates of the costs of maternal and infant care to account for changes in survival and clinical practice.

Although the overall newborn costs have been essentially constant, those for the smallest infants have increased; after adjustment for physician fees and inflation, the costs for very preterm infants increased by 92.4%. Some of this can be attributed to the fact the survival roughly doubled for these smallest infants, and the difference is sensitive to GA, at the lowest GA the average cost for a survivor is hundreds of thousands more than for non-survivors (Table 5 and Table 6). But because the mean LOS for these infants only increased by about 10 days, the increased survival does not account for the all, or even most of the 90% increase in costs for these infants. Although our analyses are not designed to identify the causes, this implies that these infants have become significantly more expensive to treat,



both overall, and in cost/day. Additional analyses are needed to understand why very preterm infants have become so much more expensive to treat.

The maternal data highlight some important public health trends in maternal child health. First, operative mode of delivery increases the costs of childbirth by 63%, with even greater increases seen in women who deliver prematurely. These costs are secondary to both physician fees, which are increased for operative deliveries, and for the longer lengths of stay typically seen in women who deliver via Cesarean delivery. With growing evidence that many of these deliveries may be occurring in low-risk women,<sup>5,23</sup> the baseline added costs of these deliveries are a concerning trend in maternity care. Second, we found significant economic impact of the women who deliver moderately and late preterm, with similar lengths of stay for women who deliver 32–36 weeks gestation to those who deliver at 24 weeks or less and greater overall costs of care.

Neonatal data differ from maternal data in the importance of the outlier patients: for neonates, the 1.2% of infants whose costs were >\$100,000 made up 51% of the economic impact of newborn care, whereas the 2.1% of women whose costs were >\$25,000 only made up 11% of the maternal costs. These infants are the sickest, smallest infants whose lengths of stay, medical requirements, and transfers of care within the medical system are the greatest, and provide an area of intervention to reduce the economic costs of neonatal care.

There are limitations to our data. They are from California, where hospital costs are higher than the US average. Care patterns and costs could be different in other parts of the country. In 2014, average US hospital costs were 69% of those in California,<sup>24</sup> which can be used as the basis of adjusting our results to obtain estimates of the national average costs for delivery care.<sup>24</sup> When considering aggregate costs, one also needs to consider that preterm rates in California are lower than the national average. Thus, using these data to project national costs would require adjustments for the differences in the GA distribution.

There are some limitations to the estimated costs in our study as we did not directly observe either physician or hospital costs. First, the hospital and physician costs are not fully equivalent. The hospital costs are estimated by converting hospital charges to estimated costs using hospital-level cost to charge ratios, and physician costs are estimated by the average payments to physicians, measured separately for privately insurance and Medicaid. In addition to not being equivalent, each of these methods of estimating costs has limitations. For hospital costs, it is possible that these ratios do not reflect the actual difference between costs and charges for care provided in neonatal and obstetric units. However, these methods have been used for estimating neonatal and obstetric unit hospital costs in prior work. There is no way to know the extent that this may bias the estimates, but we expect that any bias will be moderate. For physician costs, we are making the assumption that the actual physician revenue is a reasonable proxy for costs.

Our results are also sensitive to the choice of index to adjust for inflation, but there is no “perfect” index to adjust hospital costs for inflation.<sup>21</sup> It has been demonstrated that the medical component of the consumer price index (MCPI) significantly overstates actual medical care inflation. Because the results of our analysis are the production costs of care

for mothers and neonates, a producer price index (PPI) is more consistent with our intent. Producer price indices also have limitations as they are based on revenue to producers and there are significant disconnects between revenue and production costs for hospitals, which vary greatly across different types of insurance. Although the Bureau of Labor Statistics recently started reporting separate hospital PPIs for different types of insurance, these don't extend back to 2000, which would preclude the comparisons that we make to our previous work. Table 16 (available at [www.jpeds.com](http://www.jpeds.com)) shows how the different measures would affect the inflation adjustments for 2010 to 2017 and 1999 to 2017. In general, with the exception of the MCPI, the effect of the choice of index on the inflation adjustment is small. Of note, there is no consistency over which measure has the higher inflation adjustment; for example the overall PPI has a larger inflation adjustment than the Hospital Services PPI for 1999 to 2017, but a lower adjustment for 2010 to 2017.

The exclusion of all Kaiser cases due to a lack of cost information is also a potential source of bias, as these cases are predominantly patients with private insurance. However, the share of patients with private insurance is still large (48%) and the net effect of this exclusion is modest; if all of the Kaiser cases had been included, privately insured patients would make up 54% of the sample.

Our exclusion of infant readmissions does result in the exclusion of some costs that could be considered related to delivery. Although the highest volume of these cases is probably related to neonatal jaundice, the impact of excluding the jaundice cases should be moderate, given their relatively low cost.<sup>25</sup> Conversely, there are cases of readmission incurring much higher costs; such as infants readmitted for major cardiac surgery. Also, the sickest infants born at the youngest gestational ages have the highest risk of a hospital readmission, which adds to the economic burden of these high severity patients.<sup>26</sup>

In conclusion, our data demonstrate that maternal and infant costs are sensitive to both the timing of delivery; the mode of delivery; and changes in survival especially for the sickest of infants. Even with these increasing costs, neonatal intensive care remains a highly cost-effective intervention when compared with other interventions.<sup>27-29</sup> Such data highlight the persistent economic impact of childbirth in the United States and areas for further intervention in the face of ongoing changes in survival and technology.

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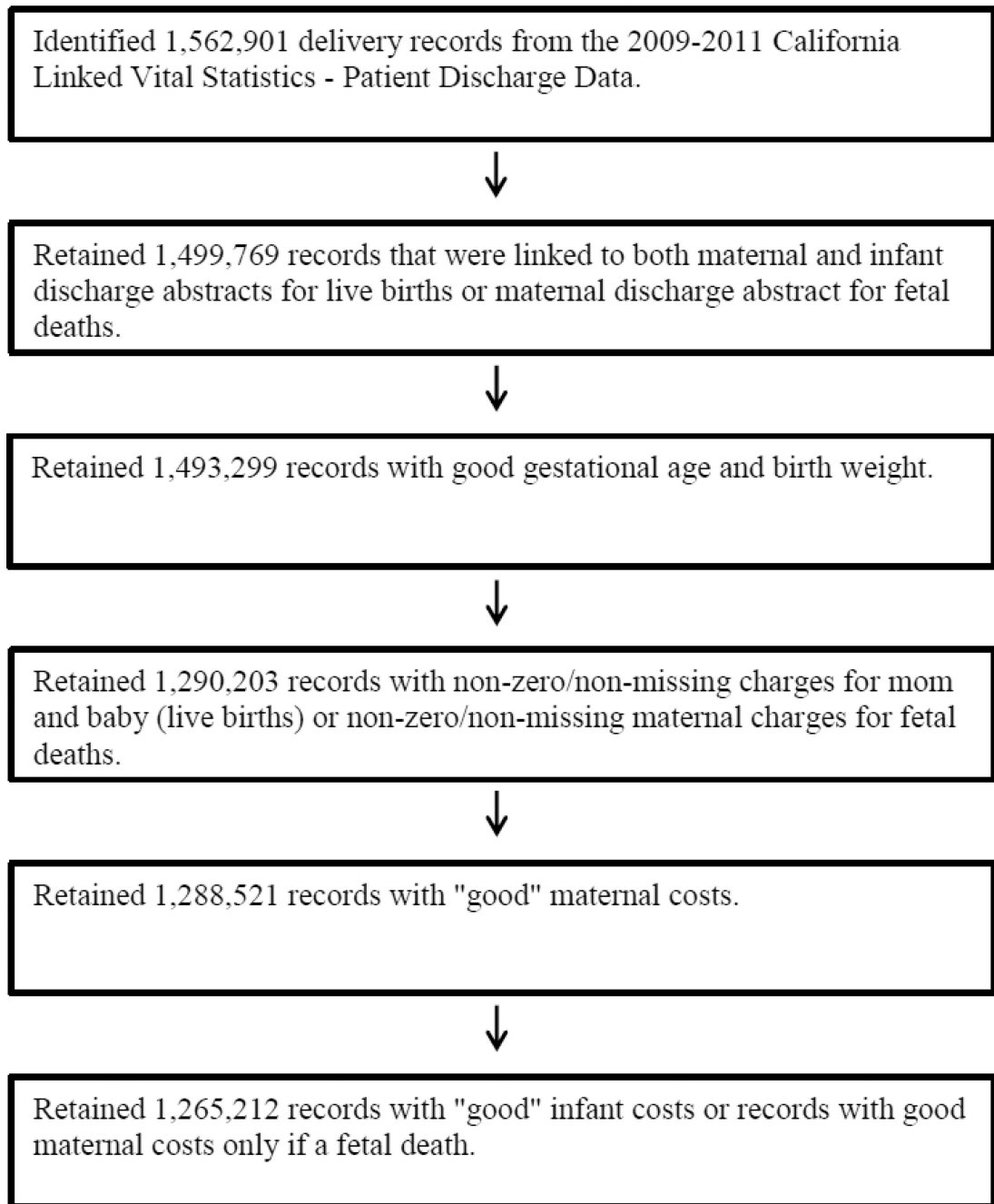
## Abbreviations

<b>BW</b>	birth weight
<b>GA</b>	gestational age
<b>IQR</b>	interquartile range
<b>LBW</b>	low birth weight
<b>LOS</b>	length of stay
<b>Std</b>	Dev standard deviation

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**Figure 1:**  
Derivation of the Study Sample

Table 1.

Deliveries, Mortality, & Maternal/Newborn Length of Stay by Gestational Age and Birth Weight<sup>a,b</sup>

	Maternal Cases		Live Births		Deliveries of Multiples		Newborn Mortality Group				Total Maternal LOS				Total Newborn LOS						
	N		N		N		Survivors		In-Hospital Death		Fetal Death		Mean	Std Dev	Median	IQR	Mean	Std Dev	Median	IQR	
		(%)		(%)		(%)	N	(%)	N	(%)	N	(%)	N	(%)							
By Gestational Age																					
<24	2,695	1,883	258	9.6	754	25.4	1,129	38.1	1,082	36.5	4.6	5.3	3.0	4.0	54.9	64.0	9.0	112.0			
24-27	3,366	3,182	379	11.3	2,695	71.5	1,129	38.1	590	15.6	7.6	8.0	5.0	6.0	81.5	40.0	83.0	36.0			
28-31	7,510	8,055	1,121	14.9	7,719	87.8	487	12.9	737	8.4	8.5	10.1	5.0	6.0	49.8	24.5	46.0	24.0			
32-36	81,012	88,985	8,841	10.9	88,422	98.1	1,129	38.1	1,191	1.3	4.8	6.9	3.0	3.0	8.7	11.9	4.0	10.0			
37-38	336,080	342,624	7,308	2.2	342,279	99.7	563	0.6	650	0.2	2.7	2.4	2.0	1.0	2.7	4.1	2.0	1.0			
39-41	808,107	808,873	1,360	0.2	808,500	99.9	1,129	38.1	490	0.1	2.5	1.5	2.0	1.0	2.4	2.8	2.0	1.0			
41-44	6,852	6,855	13	0.2	6,844	99.6	373	0.1	15	0.2	2.9	1.4	3.0	2.0	2.6	2.9	2.0	1.0			
45-48	6,061	5,065	637	10.5	3,449	51.2	1,616	24.0	1,672	24.8	6.3	7.1	4.0	6.0	71.6	51.9	79.0	95.0			
49-52	13,571	13,120	1,758	13.0	11,168	71.9	1,952	12.6	2,409	15.5	7.5	8.9	5.0	6.0	58.2	39.0	52.0	44.0			
53-57	94,583	102,105	10,599	11.2	99,590	94.2	2,515	2.4	3,600	3.4	5.2	7.3	3.0	3.0	15.0	24.4	4.0	15.0			
All Deliveries																					
	1,245,622	1,260,457	19,280	1.6	1,257,213	99.4	3,244	0.3	4,755	0.4	2.8	2.7	2.0	1.0	3.5	8.3	2.0	1.0			
By Birth Weight																					
<1000g	6,588	5,549	834	12.7	3,903	52.0	1,646	21.9	1,964	26.1	6.4	7.3	4.0	6.0	69.7	51.0	76.0	88.0			
<1500g	13,271	13,017	2,035	15.3	11,037	70.9	1,980	12.7	2,543	16.3	7.5	9.0	5.0	5.0	56.5	40.5	51.0	51.0			
1000-1499g	6,683	7,468	1,201	18.0	7,134	88.7	334	4.2	579	7.2	8.5	10.2	5.0	6.0	46.7	26.6	44.0	30.0			
<2500g	75,920	84,983	12,143	16.0	82,408	93.1	2,575	2.9	3,555	4.0	5.4	7.4	3.0	3.0	17.2	26.1	6.0	17.0			
1500-2499g	62,649	71,966	10,108	16.1	71,371	97.8	595	0.8	1,012	1.4	4.9	7.0	3.0	3.0	10.1	13.2	4.0	12.0			
>=2500g	1,169,702	1,175,474	7,137	0.6	1,174,805	99.8	669	0.1	1,200	0.1	2.6	2.0	2.0	1.0	2.5	3.3	2.0	1.0			

Abbreviations: LOS, length of stay; Std Dev, standard deviation; IQR, interquartile range.

<sup>a</sup>Data Source: 2009-2011 California Linked Vital Statistics – Patient Discharge Data

<sup>b</sup>Costs Producer Price Index Adjusted to December 2017

**Table 2.**

Deliveries, Mortality, and Maternal/Infant Length of Stay<sup>a</sup>

Gestational Age in Complete Weeks	Maternal Cases		Live Births		Deliveries of Multiples		Mortality Group			Total Maternal LOS				Total Newborn LOS							
	N		N		N	(%)	N	(%)	In-Hospital Death (%)	Mean	StdDev	Median	IQR	Mean	StdDev	Median	IQR				
22	317		351		32	10.1	26	7.4	325	92.6				3.7	4.2	2.0	3.0	15.0	46.2	1.0	0.0
23	586		649		68	11.6	208	32.1	441	68.0				5.2	6.0	3.0	4.0	46.0	62.7	2.0	108.0
24	798		883		89	11.2	520	58.9	363	41.1				6.7	6.2	5.0	6.0	77.2	61.7	94.0	116.0
25	855		962		105	12.3	745	77.4	217	22.6				7.8	7.4	5.0	7.0	87.8	48.2	95.0	41.0
26	928		1,038		108	11.6	881	84.9	157	15.1				8.6	7.9	6.0	9.0	82.7	38.4	85.0	32.0
27	1,036		1,182		141	13.6	1,069	90.4	113	9.6				9.0	8.9	6.0	7.0	75.2	32.5	74.0	27.0
28	1,213		1,435		186	15.3	1,338	93.2	97	6.8				9.4	10.4	6.0	7.0	66.6	28.4	64.0	25.0
29	1,440		1,681		225	15.6	1,599	95.1	82	4.9				9.4	9.9	6.0	7.0	56.6	23.7	53.0	20.0
30	1,825		2,149		282	15.5	2,071	96.4	78	3.6				9.3	11.2	6.0	6.0	48.0	21.2	45.0	17.0
31	2,327		2,790		405	17.4	2,711	97.2	79	2.8				8.5	10.1	5.0	6.0	38.6	18.2	35.0	16.0
32	3,692		4,388		635	17.2	4,295	97.9	93	2.1				8.3	10.2	5.0	6.0	29.5	15.1	27.0	13.5
33	5,589		6,601		949	17.0	6,508	98.6	93	1.4				7.4	9.5	5.0	4.0	20.8	14.1	18.0	11.0
34	11,522		13,266		1,621	14.1	13,150	99.1	116	0.9				6.4	8.9	4.0	3.0	12.8	12.2	11.0	11.0
35	19,111		21,401		2,255	11.8	21,296	99.5	105	0.5				4.6	6.4	3.0	2.0	7.1	9.8	4.0	7.0
36	39,957		43,329		3,351	8.4	43,173	99.6	156	0.4				3.8	4.9	3.0	2.0	4.2	7.4	3.0	2.0
37	96,127		100,075		3,957	4.1	99,911	99.8	164	0.2				3.0	3.1	2.0	1.0	3.0	5.2	2.0	1.0
38	239,322		242,549		3,339	1.4	242,368	99.9	181	0.1				2.6	1.9	2.0	1.0	2.5	3.5	2.0	1.0
39	428,873		429,703		977	0.2	429,495	100.0	208	0.1				2.5	1.5	2.0	1.0	2.4	3.0	2.0	1.0
40	296,857		297,185		313	0.1	297,065	100.0	120	0.0				2.5	1.4	2.0	1.0	2.3	2.7	2.0	1.0
41	81,887		81,985		70	0.1	81,940	100.0	45	0.1				2.8	1.7	3.0	1.0	2.4	2.8	2.0	1.0
42	6,169		6,183		9	0.2	6,175	99.9	8	0.1				2.9	1.4	3.0	2.0	2.5	2.9	2.0	1.0
43	473		476		3	0.6	474	99.6	2	0.4				2.7	1.8	2.0	1.0	2.7	3.1	2.0	2.0

	Maternal Cases		Live Births		Deliveries of Multiples		Mortality Group				Total Maternal LOS				Total Newborn LOS				
	N		N		N	(%)	N	(%)	N	(%)	In-Hospital Death (%)	Mean	StdDev	Median	IQR	Mean	StdDev	Median	IQR
44	147		148		1	0.7	147	99.3	1	0.7		2.4	1.0	2.0	1.0	2.9	4.3	2.0	1.0
45	48		48		0	0.0	48	100.0	.	.		2.3	0.9	2.0	1.0	2.3	1.5	2.0	0.5
All	1,241,099		1,260,457		19,121	1.5	1,257,213	99.7	3,244	0.3		2.8	2.7	2.0	1.0	3.5	8.3	2.0	1.0
<b>Birth Weight Group</b>	353		397		46	13.0	82	20.7	315	79.4		5.5	5.5	4.0	5.0	32.5	58.1	1.0	21.0
<500g																			
500g-599g	748		831		83	11.1	323	38.9	508	61.1		5.9	6.1	4.0	5.0	52.6	63.6	8.0	108.0
600g-699g	829		939		94	11.3	573	61.0	366	39.0		7.2	6.9	5.0	6.0	75.0	58.6	91.0	112.0
700g-799g	878		978		103	11.7	775	79.2	203	20.8		7.8	7.2	6.0	6.0	85.1	47.4	91.0	48.0
800g-899g	843		966		136	16.1	826	85.5	140	14.5		8.5	7.8	6.0	7.0	81.8	39.7	85.0	37.0
900g-999g	991		1,116		114	11.5	1,020	91.4	96	8.6		9.3	9.7	6.0	7.0	72.8	32.6	72.0	31.0
1000g-1099g	955		1,105		132	13.8	1,022	92.5	83	7.5		8.8	8.8	6.0	6.0	62.6	29.5	62.0	28.0
1100g-1199g	1,067		1,262		186	17.4	1,183	93.7	79	6.3		9.7	11.4	6.0	6.0	56.8	28.0	54.0	30.0
1200g-1299g	1,076		1,282		174	16.2	1,216	94.9	66	5.2		9.2	10.4	6.0	6.0	50.7	23.4	50.0	25.0
1300g-1399g	1,417		1,663		223	15.7	1,602	96.3	61	3.7		8.7	10.3	5.0	6.0	43.1	25.1	41.0	25.0
1400g-1499g	1,386		1,672		232	16.7	1,613	96.5	59	3.5		8.9	10.9	5.0	5.0	37.7	21.6	35.0	23.0
1500g-1599g	1,800		2,167		347	19.3	2,119	97.8	48	2.2		8.1	10.3	5.0	5.0	33.4	20.6	31.0	21.0
1600g-1699g	1,839		2,219		360	19.6	2,163	97.5	56	2.5		7.8	9.8	5.0	5.0	28.2	16.4	25.0	20.0
1700g-1799g	2,462		3,007		466	18.9	2,957	98.3	50	1.7		7.5	9.7	5.0	4.0	24.0	15.2	21.0	17.0
1800g-1899g	3,263		3,903		675	20.7	3,846	98.5	57	1.5		6.6	8.6	4.0	3.0	19.2	15.3	16.0	16.0
1900g-1999g	3,548		4,287		715	20.2	4,233	98.7	54	1.3		6.5	8.9	4.0	3.0	16.4	14.7	14.0	15.0
2000g-2249g	14,836		17,343		2,456	16.6	17,179	99.1	164	1.0		5.3	7.4	4.0	3.0	10.3	11.7	7.0	11.0
2250g-2499g	32,250		35,680		3,397	10.5	35,511	99.5	169	0.5		3.9	5.2	3.0	2.0	5.6	8.9	3.0	3.0
2500g-2749g	67,400		70,948		3,426	5.1	70,806	99.8	142	0.2		3.1	3.8	3.0	1.0	3.4	5.6	2.0	1.0
2750g-2999g	150,074		152,824		2,930	2.0	152,684	99.9	140	0.1		2.7	2.6	2.0	1.0	2.6	3.9	2.0	1.0
3000g-3249g	239,748		241,354		1,606	0.7	241,220	99.9	134	0.1		2.6	1.8	2.0	1.0	2.4	3.3	2.0	1.0
3250g-3499g	266,796		267,527		721	0.3	267,424	100.0	103	0.0		2.5	1.6	2.0	1.0	2.4	3.0	2.0	1.0



	Maternal Cases		Live Births		Deliveries of Multiples		Mortality Group				Total Maternal LOS				Total Newborn LOS									
	N		N		N	(%)	Survivors	N	(%)	In-Hospital Death	N	(%)	Mean	StdDev	Median	IQR	Mean	StdDev	Median	IQR				
3500g-3749g	216,315		216,594	0.1	313	0.1	216,521	100.0	73	0.0	2.6	1.6	2.6	1.6	2.0	1.0	2.4	2.6	2.0	1.0	2.4	2.6	2.0	1.0
3750g-3999g	130,749		130,853	0.1	114	0.1	130,821	100.0	32	0.0	2.6	1.5	2.6	1.5	2.0	1.0	2.4	2.7	2.0	1.0	2.4	2.7	2.0	1.0
>=4000g	99,476		99,540	0.1	72	0.1	99,494	100.0	46	0.1	2.7	1.5	2.7	1.5	3.0	1.0	2.7	3.3	2.0	1.0	2.7	3.3	2.0	1.0

Abbreviations: LOS, length of stay; Std Dev, standard deviation; IQR, interquartile range.

<sup>a</sup>2009-2011 California Linked Data, Matched Good Cost/Length of Stay Cases Only, By Gestational Age and Birth Weight (Live Births Only)

**Table 3.**

Newborn Costs by Gestational Age and Birth Weight<sup>a,b</sup>

Gestational Age Group	Live Births		Total Newborn Costs					Newborn Costs/Day	
	N	Total	Mean	Std Dev	Median	IQR	Mean	Median	
<b>Gestational Age Group</b>									
<=24 Weeks	1883	\$494,855,663	\$262,802	\$339,862	\$71,329	\$464,280	\$4,488	\$3,897	
25-27 Weeks	3,182	\$1,115,722,584	\$350,636	\$269,326	\$296,191	\$270,226	\$4,680	\$3,825	
28-31 Weeks	8,055	\$1,327,398,922	\$164,792	\$149,503	\$123,595	\$114,818	\$3,275	\$2,698	
32-36 Weeks	88,985	\$1,966,778,897	\$22,102	\$54,961	\$3,208	\$25,088	\$1,615	\$1,031	
37-38 Weeks	342,624	\$1,156,140,160	\$3,374	\$21,571	\$1,135	\$955	\$760	\$546	
39-41 Weeks	808,873	\$1,968,261,372	\$2,433	\$13,366	\$1,097	\$894	\$729	\$554	
>41 Weeks	6,855	\$23,926,547	\$3,490	\$14,688	\$1,260	\$1,205	\$875	\$619	
<28 Weeks	5,065	\$1,610,578,247	\$317,982	\$300,489	\$269,974	\$376,964	\$4,609	\$3,837	
<32 Weeks	13,120	\$2,937,977,169	\$223,931	\$232,676	\$150,136	\$210,179	\$3,790	\$3,045	
<37 Weeks	102,105	\$4,904,756,065	\$48,036	\$118,955	\$6,956	\$39,639	\$1,894	\$1,379	
All Deliveries	1,260,457	\$8,053,084,144	\$6,389	\$39,263	\$1,153	\$1,042	\$833	\$565	
<b>Birth Weight Group</b>									
Extremely LBW, <1000g	5,549	\$1,711,096,197	\$308,361	\$300,869	\$250,711	\$366,233	\$4,521	\$3,769	
Very LBW <1500g	13,017	\$2,859,433,962	\$219,669	\$237,120	\$145,768	\$223,414	\$3,756	\$3,024	
BW 1000-1499g	7,468	\$1,148,337,765	\$153,768	\$143,393	\$117,195	\$123,514	\$3,188	\$2,653	
All LBW, <2500g	84,983	\$4,728,079,717	\$55,636	\$127,807	\$11,818	\$49,178	\$1,987	\$1,551	
BW 1500-2499g	71,966	\$1,868,645,755	\$25,966	\$58,075	\$4,428	\$29,872	\$1,667	\$1,169	
BW >=2500g	1,175,474	\$3,325,004,427	\$2,829	\$16,856	\$1,113	\$925	\$749	\$554	

Abbreviations: Std Dev, standard deviation; IQR, interquartile range; LBW, low birth weight; BW, birth weight.

<sup>a</sup>Data Source: 2009-2011 California Linked Vital Statistics - Patient Discharge Data

<sup>b</sup>Costs Producer Price Index Adjusted to December 2017

**Table 4.**

Newborn Costs<sup>a</sup>

Gestational Age in Completed Weeks	Live Births		Total	Total Newborn Costs			Newborn Costs/Day	
	N			Mean	StdDev	Median	IQR	Mean
22	351	\$24,652,306	\$70,234	\$237,359	\$559	\$1,287	\$1,745	\$557
23	649	\$142,556,390	\$219,655	\$314,534	\$22,696	\$440,917	\$4,520	\$3,961
24	883	\$327,646,967	\$371,061	\$351,515	\$337,975	\$509,178	\$5,555	\$4,571
25	962	\$393,271,216	\$408,806	\$307,788	\$369,184	\$323,941	\$5,201	\$4,326
26	1,038	\$372,412,367	\$358,779	\$262,885	\$312,110	\$249,395	\$4,844	\$3,873
27	1,182	\$350,039,000	\$296,141	\$227,641	\$242,737	\$197,894	\$4,112	\$3,426
28	1,435	\$351,133,715	\$244,692	\$188,261	\$196,463	\$167,739	\$3,759	\$3,119
29	1,681	\$325,837,182	\$193,835	\$143,121	\$156,289	\$121,957	\$3,479	\$2,934
30	2,149	\$325,229,989	\$151,340	\$140,769	\$116,046	\$88,504	\$3,165	\$2,591
31	2,790	\$325,198,036	\$116,558	\$111,631	\$88,868	\$72,754	\$2,989	\$2,450
32	4,388	\$381,320,365	\$86,901	\$92,958	\$64,468	\$55,777	\$2,875	\$2,379
33	6,601	\$389,116,565	\$58,948	\$72,843	\$41,735	\$37,938	\$2,754	\$2,301
34	13,266	\$459,120,137	\$34,609	\$61,494	\$24,018	\$30,252	\$2,314	\$2,036
35	21,401	\$376,826,027	\$17,608	\$47,664	\$3,613	\$18,746	\$1,615	\$1,059
36	43,329	\$360,395,802	\$8,318	\$36,887	\$1,546	\$2,494	\$1,099	\$639
37	100,075	\$465,418,087	\$4,651	\$27,663	\$1,220	\$1,144	\$846	\$568
38	242,549	\$690,722,073	\$2,848	\$18,455	\$1,105	\$886	\$725	\$538
39	429,703	\$1,045,697,345	\$2,434	\$14,413	\$1,103	\$873	\$704	\$539
40	297,185	\$690,522,574	\$2,324	\$11,490	\$1,065	\$884	\$740	\$565
41	81,985	\$232,041,453	\$2,830	\$13,967	\$1,190	\$1,074	\$823	\$602
42	6,183	\$20,973,517	\$3,392	\$14,210	\$1,251	\$1,190	\$868	\$617
43	476	\$1,882,972	\$3,956	\$12,464	\$1,269	\$1,297	\$911	\$609
44	148	\$940,707	\$6,356	\$32,293	\$1,333	\$1,335	\$1,022	\$685
45	48	\$129,351	\$2,695	\$6,584	\$1,348	\$1,292	\$897	\$764

	Live Births		Total	Total Newborn Costs			Newborn Costs/Day		
	N			Mean	StdDev	Median	IQR	Mean	Median
All	1,260,457		\$8,053,084,144	\$6,389	\$39,263	\$1,153	\$1,042	\$833	\$565
<b>Birth Weight Group</b>									
<500g	397		\$66,281,751	\$166,957	\$335,084	\$1,608	\$124,975	\$3,375	\$1,510
500g-599g	831		\$207,867,322	\$250,141	\$337,161	\$63,772	\$450,110	\$4,522	\$3,889
600g-699g	939		\$334,348,652	\$356,069	\$334,340	\$326,416	\$500,329	\$5,228	\$4,408
700g-799g	978		\$378,904,094	\$387,428	\$303,918	\$341,603	\$327,263	\$4,953	\$4,135
800g-899g	966		\$353,997,882	\$366,457	\$279,308	\$316,643	\$271,971	\$4,791	\$4,010
900g-999g	1,116		\$309,005,181	\$276,886	\$219,191	\$224,128	\$201,403	\$3,999	\$3,308
1000g-1099g	1,105		\$248,588,531	\$224,967	\$181,474	\$182,427	\$170,528	\$3,642	\$3,041
1100g-1199g	1,262		\$248,215,139	\$196,684	\$161,653	\$153,732	\$145,142	\$3,492	\$2,873
1200g-1299g	1,282		\$219,051,194	\$170,867	\$139,705	\$135,772	\$127,617	\$3,377	\$2,764
1300g-1399g	1,663		\$224,088,089	\$134,749	\$132,908	\$103,183	\$100,037	\$2,962	\$2,505
1400g-1499g	1,672		\$196,322,490	\$117,418	\$110,494	\$88,552	\$89,758	\$3,033	\$2,506
1500g-1599g	2,167		\$214,676,945	\$99,066	\$105,407	\$72,780	\$74,826	\$2,816	\$2,379
1600g-1699g	2,219		\$181,948,009	\$81,996	\$86,181	\$60,384	\$66,025	\$2,809	\$2,316
1700g-1799g	3,007		\$199,769,094	\$66,435	\$71,538	\$48,352	\$53,861	\$2,631	\$2,233
1800g-1899g	3,903		\$208,447,459	\$53,407	\$78,460	\$35,478	\$45,892	\$2,468	\$2,151
1900g-1999g	4,287		\$192,286,577	\$44,853	\$65,946	\$29,464	\$40,561	\$2,398	\$2,051
2000g-2249g	17,343		\$463,626,397	\$26,733	\$53,871	\$12,773	\$31,117	\$1,867	\$1,592
2250g-2499g	35,680		\$444,774,029	\$12,466	\$42,382	\$1,756	\$8,516	\$1,267	\$693
2500g-2749g	70,948		\$402,403,751	\$5,672	\$27,832	\$1,268	\$1,260	\$904	\$583
2750g-2999g	152,824		\$508,407,478	\$3,327	\$19,737	\$1,124	\$942	\$767	\$553
3000g-3249g	241,354		\$640,954,598	\$2,656	\$18,008	\$1,081	\$873	\$726	\$547
3250g-3499g	267,527		\$647,809,644	\$2,421	\$15,928	\$1,077	\$871	\$719	\$546
3500g-3749g	216,594		\$509,279,986	\$2,351	\$12,168	\$1,093	\$893	\$724	\$549
3750g-3999g	130,853		\$320,297,202	\$2,448	\$10,994	\$1,129	\$932	\$743	\$558
>=4000g	99,540		\$331,732,650	\$3,333	\$17,109	\$1,248	\$1,121	\$824	\$584

Abbreviations: Std Dev, standard deviation; IQR, interquartile range.

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**Table 5.**

Newborn Costs, Survivors Only<sup>a</sup>

Gestational Age in Completed Weeks	Live Births		Total	Total Newborn Costs			Newborn Costs/Day	
	N			Mean	StdDev	Median	IQR	Mean
22	26	\$18,552,327	\$713,551	\$278,558	\$706,060	\$308,858	\$4,658	\$4,743
23	208	\$123,854,006	\$595,452	\$248,527	\$534,252	\$263,931	\$4,607	\$4,389
24	520	\$290,187,727	\$558,053	\$301,505	\$480,393	\$324,295	\$4,512	\$4,122
25	745	\$360,888,863	\$484,415	\$266,709	\$431,438	\$274,280	\$4,423	\$4,096
26	881	\$348,743,191	\$395,849	\$228,087	\$336,104	\$238,867	\$4,117	\$3,667
27	1,069	\$336,232,339	\$314,530	\$218,934	\$257,120	\$188,841	\$3,714	\$3,307
28	1,338	\$340,581,455	\$254,545	\$170,495	\$205,866	\$163,097	\$3,518	\$3,052
29	1,599	\$318,276,739	\$199,047	\$139,444	\$161,337	\$120,848	\$3,265	\$2,896
30	2,071	\$311,146,889	\$150,240	\$115,667	\$117,426	\$87,695	\$2,968	\$2,566
31	2,711	\$316,056,474	\$116,583	\$105,465	\$89,821	\$71,993	\$2,864	\$2,424
32	4,295	\$370,284,131	\$86,213	\$78,838	\$65,057	\$55,127	\$2,777	\$2,369
33	6,508	\$381,694,131	\$58,650	\$70,087	\$41,832	\$37,707	\$2,681	\$2,292
34	13,150	\$447,188,586	\$34,007	\$56,180	\$24,021	\$30,094	\$2,268	\$2,031
35	21,296	\$367,096,490	\$17,238	\$44,018	\$3,592	\$18,649	\$1,586	\$1,052
36	43,173	\$350,064,172	\$8,108	\$35,568	\$1,544	\$2,460	\$1,076	\$638
37	99,911	\$448,177,401	\$4,486	\$25,308	\$1,219	\$1,141	\$836	\$567
38	242,368	\$675,921,921	\$2,789	\$16,591	\$1,105	\$885	\$721	\$537
39	429,495	\$1,022,439,555	\$2,381	\$13,297	\$1,102	\$873	\$701	\$538
40	297,065	\$683,906,492	\$2,302	\$11,228	\$1,065	\$883	\$738	\$565
41	81,940	\$228,963,944	\$2,794	\$13,046	\$1,190	\$1,073	\$821	\$602
42	6,175	\$20,938,199	\$3,391	\$14,218	\$1,251	\$1,187	\$866	\$617
43	474	\$1,880,572	\$3,967	\$12,489	\$1,269	\$1,313	\$909	\$609
44	147	\$940,165	\$6,396	\$32,399	\$1,343	\$1,328	\$1,025	\$685
45	48	\$129,351	\$2,695	\$6,584	\$1,348	\$1,292	\$897	\$764



	Live Births		Total	Total Newborn Costs			Newborn Costs/Day	
	N	Total		Mean	StdDev	Median	IQR	Mean
All	1,257,213	\$7,764,145,121	\$6,176	\$37,156	\$1,151	\$1,037	\$819	\$565
<b>Birth Weight Group</b>								
<500g	82	\$47,348,422	\$577,420	\$308,092	\$550,884	\$294,438	\$4,512	\$4,213
500g-599g	323	\$181,025,844	\$560,452	\$298,451	\$509,316	\$325,139	\$4,482	\$4,206
600g-699g	573	\$298,820,780	\$521,502	\$271,177	\$465,939	\$319,435	\$4,470	\$4,144
700g-799g	775	\$355,606,680	\$458,847	\$280,694	\$393,403	\$285,284	\$4,336	\$3,949
800g-899g	826	\$334,818,993	\$405,350	\$262,205	\$344,024	\$258,080	\$4,224	\$3,798
900g-999g	1,020	\$293,451,858	\$287,698	\$192,408	\$236,649	\$191,787	\$3,564	\$3,214
1000g-1099g	1,022	\$238,306,452	\$233,177	\$168,410	\$192,502	\$169,515	\$3,320	\$2,970
1100g-1199g	1,183	\$240,379,106	\$203,195	\$155,932	\$160,734	\$142,917	\$3,241	\$2,822
1200g-1299g	1,216	\$212,255,333	\$174,552	\$131,409	\$139,658	\$125,027	\$3,165	\$2,722
1300g-1399g	1,602	\$220,618,073	\$137,714	\$131,547	\$106,272	\$99,051	\$2,845	\$2,491
1400g-1499g	1,613	\$192,169,476	\$119,138	\$108,217	\$90,112	\$89,101	\$2,909	\$2,485
1500g-1599g	2,119	\$208,864,124	\$98,567	\$95,368	\$73,664	\$74,619	\$2,749	\$2,374
1600g-1699g	2,163	\$179,764,805	\$83,109	\$86,448	\$61,246	\$65,435	\$2,726	\$2,310
1700g-1799g	2,957	\$195,769,996	\$66,206	\$65,116	\$48,539	\$53,602	\$2,576	\$2,230
1800g-1899g	3,846	\$200,638,408	\$52,168	\$66,561	\$35,590	\$45,503	\$2,392	\$2,145
1900g-1999g	4,233	\$187,557,523	\$44,308	\$62,471	\$29,506	\$40,235	\$2,312	\$2,040
2000g-2249g	17,179	\$454,226,314	\$26,441	\$53,004	\$12,807	\$31,000	\$1,819	\$1,586
2250g-2499g	35,511	\$426,760,025	\$12,018	\$38,453	\$1,750	\$8,307	\$1,239	\$691
2500g-2749g	70,806	\$388,950,395	\$5,493	\$25,075	\$1,267	\$1,253	\$894	\$583
2750g-2999g	152,684	\$492,994,792	\$3,229	\$17,341	\$1,124	\$941	\$762	\$552
3000g-3249g	241,220	\$627,702,158	\$2,602	\$15,906	\$1,080	\$872	\$722	\$547
3250g-3499g	267,424	\$639,308,656	\$2,391	\$15,480	\$1,077	\$871	\$717	\$546
3500g-3749g	216,521	\$504,756,719	\$2,331	\$11,942	\$1,092	\$893	\$722	\$549
3750g-3999g	130,821	\$316,781,571	\$2,421	\$10,435	\$1,129	\$931	\$741	\$558
>=4000g	99,494	\$325,268,616	\$3,269	\$15,718	\$1,248	\$1,120	\$821	\$584

Abbreviations: Std Dev, standard deviation; IQR, interquartile range.

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**Table 6.**

Newborn Costs, In-Hospital Deaths<sup>a</sup>

Gestational Age in Completed Weeks	Live Births		Total Newborn Costs						Newborn Costs/Day	
	N	Total	Mean	StdDev	Median	IQR	Mean	Median		
22	325	\$6,099,979	\$18,769	\$137,860	\$525	\$823	\$1,512	\$516		
23	441	\$18,702,384	\$42,409	\$135,625	\$2,459	\$26,507	\$4,479	\$2,425		
24	363	\$37,459,240	\$103,194	\$220,334	\$25,112	\$88,696	\$7,050	\$6,957		
25	217	\$32,382,353	\$149,227	\$298,415	\$36,160	\$148,069	\$7,871	\$7,437		
26	157	\$23,669,176	\$150,759	\$338,551	\$40,597	\$139,758	\$8,926	\$7,735		
27	113	\$13,806,662	\$122,183	\$235,802	\$47,622	\$123,706	\$7,880	\$6,587		
28	97	\$10,552,260	\$108,786	\$323,364	\$18,589	\$72,896	\$7,071	\$6,166		
29	82	\$7,560,442	\$92,201	\$173,911	\$31,012	\$99,620	\$7,640	\$6,647		
30	78	\$14,083,100	\$180,553	\$438,436	\$25,343	\$62,273	\$8,379	\$7,655		
31	79	\$9,141,562	\$115,716	\$243,163	\$25,076	\$105,361	\$7,256	\$6,286		
32	93	\$11,036,234	\$118,669	\$347,722	\$12,361	\$91,220	\$7,417	\$5,936		
33	93	\$7,422,434	\$79,811	\$181,031	\$25,922	\$66,499	\$7,888	\$6,385		
34	116	\$11,931,551	\$102,858	\$265,658	\$21,415	\$71,149	\$7,504	\$6,011		
35	105	\$9,729,537	\$92,662	\$255,011	\$15,670	\$44,849	\$7,492	\$5,716		
36	156	\$10,331,630	\$66,228	\$156,861	\$9,957	\$49,026	\$7,398	\$5,037		
37	164	\$17,240,686	\$105,126	\$258,963	\$16,578	\$71,906	\$6,868	\$5,366		
38	181	\$14,800,152	\$81,769	\$286,416	\$10,843	\$63,434	\$6,515	\$4,585		
39	208	\$23,257,791	\$111,816	\$228,805	\$20,948	\$75,008	\$6,990	\$5,681		
40	120	\$6,616,082	\$55,134	\$110,404	\$8,472	\$49,050	\$5,678	\$2,905		
41	45	\$3,077,509	\$68,389	\$205,295	\$5,436	\$34,184	\$5,175	\$3,399		
42	8	\$35,318	\$4,415	\$4,567	\$3,205	\$3,647	\$3,052	\$2,305		
43	2	\$2,400	\$1,200	\$1,021	\$1,200	\$1,444	\$1,200	\$1,200		
44	1	\$542	\$542	.	\$542	\$0	\$542	\$542		
All	3,244	\$288,939,023	\$89,069	\$238,988	\$11,299	\$68,404	\$6,319	\$5,298		

Birth Weight Group	Live Births		Total Newborn Costs					Newborn Costs/Day		
	N	Total	Mean	StdDev	Median	IQR	Mean	Median	Mean	
<500g	315	\$18,933,329	\$60,106	\$248,325	\$910	\$3,684	\$3,079	\$865	\$3,079	\$865
500g-599g	508	\$26,841,478	\$52,838	\$170,811	\$2,337	\$32,245	\$4,547	\$2,337	\$4,547	\$2,337
600g-699g	366	\$35,527,872	\$97,071	\$248,591	\$18,800	\$80,244	\$6,416	\$6,024	\$6,416	\$6,024
700g-799g	203	\$23,297,413	\$114,766	\$224,863	\$29,469	\$116,190	\$7,307	\$7,196	\$7,307	\$7,196
800g-899g	140	\$19,178,889	\$136,992	\$267,432	\$39,561	\$143,532	\$8,134	\$7,251	\$8,134	\$7,251
900g-999g	96	\$15,553,324	\$162,014	\$390,135	\$40,229	\$112,423	\$8,622	\$6,947	\$8,622	\$6,947
1000g-1099g	83	\$10,282,079	\$123,880	\$281,179	\$21,552	\$82,864	\$7,598	\$6,453	\$7,598	\$6,453
1100g-1199g	79	\$7,836,033	\$99,190	\$209,114	\$25,159	\$96,410	\$7,257	\$6,229	\$7,257	\$6,229
1200g-1299g	66	\$6,795,861	\$102,968	\$238,589	\$30,513	\$90,572	\$7,294	\$6,225	\$7,294	\$6,225
1300g-1399g	61	\$3,470,016	\$56,886	\$145,483	\$7,367	\$52,702	\$6,035	\$4,383	\$6,035	\$4,383
1400g-1499g	59	\$4,153,014	\$70,390	\$154,699	\$18,419	\$50,554	\$6,413	\$5,858	\$6,413	\$5,858
1500g-1599g	48	\$5,812,821	\$121,100	\$318,855	\$11,230	\$59,517	\$5,743	\$6,017	\$5,743	\$6,017
1600g-1699g	56	\$2,183,203	\$38,986	\$61,789	\$10,966	\$47,563	\$6,035	\$5,108	\$6,035	\$5,108
1700g-1799g	50	\$3,999,098	\$79,982	\$240,774	\$15,813	\$67,226	\$5,881	\$4,072	\$5,881	\$4,072
1800g-1899g	57	\$7,809,052	\$137,001	\$342,824	\$15,709	\$90,369	\$7,649	\$5,578	\$7,649	\$5,578
1900g-1999g	54	\$4,729,054	\$87,575	\$195,404	\$21,267	\$66,882	\$9,151	\$6,826	\$9,151	\$6,826
2000g-2249g	164	\$9,400,083	\$57,318	\$108,353	\$9,556	\$70,327	\$6,890	\$5,143	\$6,890	\$5,143
2250g-2499g	169	\$18,014,004	\$106,592	\$244,921	\$15,489	\$80,344	\$7,114	\$5,716	\$7,114	\$5,716
2500g-2749g	142	\$13,453,356	\$94,742	\$256,948	\$6,976	\$40,801	\$5,977	\$2,720	\$5,977	\$2,720
2750g-2999g	140	\$15,412,686	\$110,091	\$294,037	\$16,435	\$89,035	\$6,925	\$5,635	\$6,925	\$5,635
3000g-3249g	134	\$13,252,440	\$98,899	\$346,795	\$15,179	\$53,781	\$7,181	\$6,050	\$7,181	\$6,050
3250g-3499g	103	\$8,500,987	\$82,534	\$175,313	\$20,547	\$61,945	\$8,213	\$5,370	\$8,213	\$5,370
3500g-3749g	73	\$4,523,267	\$61,963	\$113,687	\$18,284	\$55,845	\$7,851	\$6,794	\$7,851	\$6,794
3750g-3999g	32	\$3,515,631	\$109,863	\$197,001	\$20,894	\$114,987	\$8,642	\$6,944	\$8,642	\$6,944
>=4000g	46	\$6,464,034	\$140,522	\$286,332	\$13,234	\$91,921	\$7,485	\$7,268	\$7,485	\$7,268

Abbreviations: Std Dev, standard deviation; IQR, interquartile range.

<sup>a</sup>2009–2011 California Linked Data, Matched Good Cost/Length of Stay Cases Only, By Gestational Age and Birth Weight (Live Births Only), Costs Adjusted to December, 2017

**Table 7.**

Newborn Costs - Singletons<sup>a</sup>

	Live Births		Total	Total Newborn Costs			Newborn Costs/Day		
	N			Mean	StdDev	Median	IQR	Mean	Median
<b>Gestational age in completed weeks based on OB estimate of GA from BC</b>									
22	288	\$21,098,140	\$73,257	\$244,093	\$559	\$1,263	\$1,652	\$557	
23	520	\$107,982,349	\$207,658	\$300,552	\$16,423	\$431,851	\$4,125	\$3,734	
24	711	\$256,973,677	\$361,426	\$333,003	\$337,807	\$503,489	\$5,383	\$4,462	
25	754	\$303,065,552	\$401,944	\$290,428	\$364,938	\$311,666	\$4,995	\$4,231	
26	824	\$286,921,524	\$348,206	\$263,668	\$299,776	\$235,878	\$4,693	\$3,753	
27	899	\$267,313,419	\$297,345	\$231,968	\$242,853	\$198,286	\$3,946	\$3,369	
28	1,032	\$247,064,744	\$239,404	\$187,981	\$193,313	\$166,346	\$3,685	\$3,049	
29	1,230	\$234,958,512	\$191,023	\$147,076	\$152,031	\$119,313	\$3,475	\$2,891	
30	1,551	\$227,339,105	\$146,576	\$141,290	\$113,521	\$81,492	\$3,116	\$2,564	
31	1,938	\$218,658,859	\$112,827	\$113,041	\$85,531	\$66,790	\$2,964	\$2,399	
32	3,075	\$267,660,678	\$87,044	\$101,104	\$62,347	\$55,277	\$2,898	\$2,355	
33	4,665	\$273,458,653	\$58,619	\$80,983	\$40,204	\$36,795	\$2,785	\$2,293	
34	9,954	\$330,562,367	\$33,209	\$66,478	\$21,405	\$30,095	\$2,273	\$1,986	
35	16,889	\$291,288,701	\$17,247	\$49,361	\$2,851	\$17,237	\$1,597	\$987	
36	36,658	\$301,471,878	\$8,224	\$38,656	\$1,452	\$2,250	\$1,100	\$639	
37	92,247	\$428,274,356	\$4,643	\$28,196	\$1,181	\$1,097	\$847	\$569	
38	236,088	\$667,135,409	\$2,826	\$18,520	\$1,095	\$870	\$725	\$538	
39	428,050	\$1,036,678,986	\$2,422	\$14,362	\$1,101	\$872	\$703	\$539	
40	296,712	\$686,848,581	\$2,315	\$11,456	\$1,065	\$883	\$739	\$565	
41	81,891	\$231,384,121	\$2,826	\$13,966	\$1,189	\$1,073	\$823	\$602	
42	6,168	\$20,862,136	\$3,382	\$14,206	\$1,250	\$1,186	\$868	\$617	
43	470	\$1,871,184	\$3,981	\$12,540	\$1,269	\$1,278	\$911	\$609	
44	146	\$935,170	\$6,405	\$32,512	\$1,320	\$1,338	\$1,023	\$678	
45	48	\$129,351	\$2,695	\$6,584	\$1,348	\$1,292	\$897	\$764	

	Live Births		Total	Total Newborn Costs			Newborn Costs/Day		
	N			Mean	StdDev	Median	IQR	Mean	Median
All	1,222,808		\$6,709,937,448	\$5,487	\$35,502	\$1,133	\$993	\$810	\$563
<b>Birth Weight Group</b>									
<500g	312		\$57,630,320	\$184,713	\$355,960	\$1,569	\$263,803	\$3,332	\$1,462
500g-599g	667		\$155,093,973	\$232,525	\$311,599	\$47,140	\$422,508	\$4,188	\$3,562
600g-699g	738		\$252,511,101	\$342,156	\$327,716	\$316,212	\$481,634	\$4,931	\$4,200
700g-799g	777		\$301,183,423	\$387,623	\$307,310	\$342,164	\$325,229	\$4,796	\$4,054
800g-899g	710		\$250,802,116	\$353,242	\$259,890	\$307,927	\$256,426	\$4,675	\$3,889
900g-999g	881		\$243,848,622	\$276,786	\$228,122	\$223,010	\$197,211	\$3,880	\$3,290
1000g-1099g	825		\$182,011,980	\$220,621	\$176,545	\$181,018	\$165,513	\$3,475	\$2,970
1100g-1199g	889		\$172,437,556	\$193,968	\$162,474	\$153,008	\$142,479	\$3,464	\$2,868
1200g-1299g	913		\$155,442,379	\$170,255	\$150,279	\$131,038	\$125,158	\$3,398	\$2,763
1300g-1399g	1,203		\$157,555,575	\$130,969	\$130,579	\$100,827	\$98,679	\$2,904	\$2,469
1400g-1499g	1,159		\$134,400,530	\$115,962	\$109,714	\$85,510	\$88,674	\$3,046	\$2,464
1500g-1599g	1,462		\$147,795,472	\$101,091	\$116,201	\$71,347	\$75,956	\$2,787	\$2,350
1600g-1699g	1,490		\$119,762,773	\$80,378	\$92,137	\$57,038	\$64,554	\$2,821	\$2,269
1700g-1799g	2,010		\$134,472,535	\$66,902	\$77,846	\$48,208	\$53,591	\$2,650	\$2,212
1800g-1899g	2,602		\$141,198,382	\$54,265	\$82,874	\$34,726	\$48,392	\$2,468	\$2,145
1900g-1999g	2,840		\$131,950,734	\$46,462	\$72,275	\$29,516	\$41,150	\$2,455	\$2,058
2000g-2249g	12,411		\$343,785,391	\$27,700	\$59,777	\$12,232	\$30,803	\$1,904	\$1,598
2250g-2499g	28,905		\$361,013,329	\$12,490	\$45,283	\$1,621	\$7,639	\$1,266	\$692
2500g-2749g	64,027		\$354,650,177	\$5,539	\$28,413	\$1,215	\$1,172	\$896	\$583
2750g-2999g	147,232		\$483,647,448	\$3,285	\$19,702	\$1,106	\$916	\$766	\$553
3000g-3249g	238,278		\$628,425,556	\$2,637	\$17,888	\$1,074	\$864	\$725	\$547
3250g-3499g	266,229		\$643,409,834	\$2,417	\$15,955	\$1,074	\$868	\$719	\$546
3500g-3749g	216,098		\$507,311,228	\$2,348	\$12,167	\$1,091	\$891	\$724	\$550
3750g-3999g	130,695		\$319,264,361	\$2,443	\$10,971	\$1,129	\$931	\$743	\$558
>=4000g	99,455		\$330,332,657	\$3,321	\$17,009	\$1,248	\$1,121	\$823	\$584

Abbreviations: OB, Obstetrician; GA, gestational age; BC, birth certificate; Std Dev, standard deviation; IQR, interquartile range.



2009–2011 CA Linked Data, Matched Good Cost/Length of Stay Cases Only, By Obstetrician Estimate of Gestational Age and Birth Weight (Live Births Only), Costs Adjusted to December, 2017

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**Table 8.**

Newborn Costs - Multiples<sup>a</sup>

	Live Births		Total	Total Newborn Costs			Newborn Costs/Day		
	N			Mean	StdDev	Median	IQR	Mean	Median
<b>Gestational age in completed weeks based on OB estimate of GA from BC</b>									
22	63	\$3,554,166	\$56,415	\$204,945	\$577	\$1,594	\$2,170	\$577	
23	129	\$34,574,041	\$268,016	\$362,815	\$55,472	\$502,503	\$6,112	\$5,144	
24	172	\$70,673,290	\$410,891	\$418,232	\$338,048	\$532,251	\$6,266	\$5,184	
25	208	\$90,205,664	\$433,681	\$363,561	\$406,116	\$398,995	\$5,947	\$4,688	
26	214	\$85,490,844	\$399,490	\$256,404	\$348,097	\$287,313	\$5,426	\$4,329	
27	283	\$82,725,581	\$292,317	\$213,663	\$240,248	\$203,482	\$4,639	\$3,570	
28	403	\$104,068,970	\$258,236	\$188,534	\$208,565	\$185,915	\$3,947	\$3,235	
29	451	\$90,878,670	\$201,505	\$131,584	\$168,389	\$128,521	\$3,489	\$3,058	
30	598	\$97,890,884	\$163,697	\$138,766	\$125,708	\$105,386	\$3,292	\$2,692	
31	852	\$106,539,177	\$125,046	\$107,941	\$98,806	\$79,381	\$3,046	\$2,566	
32	1,313	\$113,659,688	\$86,565	\$70,312	\$68,609	\$56,823	\$2,824	\$2,422	
33	1,936	\$115,657,912	\$59,741	\$47,852	\$45,760	\$40,656	\$2,681	\$2,316	
34	3,312	\$128,557,770	\$38,816	\$42,917	\$30,302	\$29,815	\$2,439	\$2,156	
35	4,512	\$85,537,327	\$18,958	\$40,666	\$8,316	\$23,391	\$1,683	\$1,358	
36	6,671	\$58,923,924	\$8,833	\$25,031	\$2,097	\$3,976	\$1,097	\$637	
37	7,828	\$37,143,731	\$4,745	\$20,351	\$1,755	\$1,527	\$829	\$544	
38	6,461	\$23,586,664	\$3,651	\$15,870	\$1,636	\$1,290	\$746	\$535	
39	1,653	\$9,018,360	\$5,456	\$24,028	\$1,555	\$1,350	\$803	\$539	
40	473	\$3,673,994	\$7,767	\$24,449	\$1,578	\$1,849	\$990	\$602	
41	94	\$657,332	\$6,993	\$14,468	\$1,631	\$2,552	\$1,116	\$693	
42	15	\$111,381	\$7,425	\$15,725	\$2,042	\$2,411	\$946	\$681	
43	6	\$11,788	\$1,965	\$1,637	\$1,517	\$1,691	\$860	\$594	
44	2	\$5,537	\$2,768	\$2	\$2,768	\$3	\$923	\$923	
All	37,649	\$1,343,146,696	\$35,675	\$98,959	\$2,767	\$27,841	\$1,555	\$826	

Birth Weight Group	Live Births		Total	Total Newborn Costs			Newborn Costs/Day	
	N			Mean	StdDev	Median	IQR	Mean
<500g	85	\$8,651,431	\$101,782	\$233,957	\$1,698	\$28,927	\$3,533	\$1,698
500g-599g	164	\$52,773,350	\$321,789	\$419,162	\$119,114	\$510,214	\$5,879	\$4,988
600g-699g	201	\$81,837,552	\$407,152	\$353,786	\$354,812	\$567,651	\$6,317	\$5,121
700g-799g	201	\$77,720,670	\$386,670	\$291,172	\$337,975	\$346,546	\$5,559	\$4,358
800g-899g	256	\$103,195,766	\$403,108	\$324,953	\$342,513	\$321,759	\$5,112	\$4,311
900g-999g	235	\$65,156,559	\$277,262	\$182,281	\$232,340	\$201,269	\$4,442	\$3,423
1000g-1099g	280	\$66,576,551	\$237,773	\$195,043	\$193,443	\$187,140	\$4,131	\$3,216
1100g-1199g	373	\$75,777,583	\$203,157	\$159,708	\$155,877	\$146,259	\$3,558	\$2,885
1200g-1299g	369	\$63,608,815	\$172,382	\$109,397	\$142,517	\$127,483	\$3,324	\$2,765
1300g-1399g	460	\$66,532,515	\$144,636	\$138,472	\$113,538	\$103,703	\$3,113	\$2,596
1400g-1499g	513	\$61,921,960	\$120,706	\$112,277	\$92,589	\$91,062	\$3,003	\$2,570
1500g-1599g	705	\$66,881,473	\$94,867	\$78,334	\$74,481	\$73,835	\$2,875	\$2,485
1600g-1699g	729	\$62,185,236	\$85,302	\$72,447	\$65,952	\$67,578	\$2,785	\$2,409
1700g-1799g	997	\$65,296,559	\$65,493	\$56,750	\$49,079	\$52,240	\$2,594	\$2,298
1800g-1899g	1,301	\$67,249,078	\$51,690	\$68,786	\$36,516	\$40,351	\$2,468	\$2,162
1900g-1999g	1,447	\$60,335,843	\$41,697	\$51,180	\$29,323	\$38,962	\$2,285	\$2,031
2000g-2249g	4,932	\$119,841,006	\$24,299	\$34,716	\$13,776	\$31,800	\$1,775	\$1,582
2250g-2499g	6,775	\$83,760,699	\$12,363	\$26,671	\$2,344	\$11,644	\$1,270	\$699
2500g-2749g	6,921	\$47,753,574	\$6,900	\$21,697	\$1,847	\$2,178	\$973	\$583
2750g-2999g	5,592	\$24,760,030	\$4,428	\$20,598	\$1,707	\$1,473	\$809	\$547
3000g-3249g	3,076	\$12,529,042	\$4,073	\$25,628	\$1,656	\$1,336	\$785	\$539
3250g-3499g	1,298	\$4,399,810	\$3,390	\$8,853	\$1,653	\$1,409	\$793	\$547
3500g-3749g	496	\$1,968,758	\$3,969	\$12,690	\$1,700	\$1,395	\$818	\$535
3750g-3999g	158	\$1,032,841	\$6,537	\$23,004	\$1,487	\$1,068	\$847	\$574
>=4000g	85	\$1,399,994	\$16,471	\$64,580	\$1,765	\$4,469	\$1,271	\$771

Abbreviations: OB, Obstetrician; GA, gestational age; BC, birth certificate; Std Dev, standard deviation; IQR, interquartile range.

<sup>a</sup>2009–2011 CA Linked Data, Matched Good Cost/Length of Stay Cases Only. By Obstetrician Estimate of Gestational Age and Birth Weight (Live Births Only), Costs Adjusted to December, 2017

**Table 9.**

Maternal Costs by Gestational Age and Birth Weight<sup>a,b</sup>

	Materna I Cases		Live Births		Visits				Maternal Prenatal Hospitalization Costs (\$)					Total Maternal Hospitalization Costs (Prenatal+Delivery) (\$)				
	N	N	N	N	Any Prenatal		Total Prenatal		Total	Mean	Std Dev	Median	IQR	Total	Mean	Std Dev	Median	IQR
					N	N	N	N										
By Gestational Age																		
<=24	1,701	1,883	345	397	2,074,150	\$7,031	\$8,253	\$4,463	\$5,788	\$27,262,370	\$15,832	\$15,493	\$10,828	\$13,034				
25-27	2,819	3,182	689	864	\$4,315,907	\$7,241	\$7,935	\$4,224	\$7,012	\$66,530,509	\$23,311	\$22,832	\$16,287	\$18,997				
28-31	6,805	8,055	1,883	2,414	\$14,007,466	\$9,096	\$13,348	\$4,958	\$7,540	\$166,938,852	\$24,163	\$27,157	\$15,840	\$18,173				
32-36	79,871	88,985	14,070	18,518	\$112,533,373	\$9,361	\$15,680	\$4,834	\$6,941	\$1,055,492,860	\$13,154	\$17,660	\$8,837	\$8,238				
37-38	335,449	342,624	21,597	26,444	\$142,585,339	\$6,860	\$11,694	\$3,809	\$5,031	\$2,658,457,157	\$7,920	\$6,688	\$6,534	\$4,846				
39-41	807,617	808,873	29,669	34,122	\$172,204,673	\$5,829	\$8,835	\$3,516	\$4,533	\$6,150,045,721	\$7,611	\$5,180	\$6,456	\$4,737				
42-44	6,837	6,855	375	423	\$1,735,356	\$4,628	\$5,473	\$3,027	\$3,850	\$65,972,605	\$9,638	\$6,595	\$7,868	\$6,629				
45-48	4,520	5,065	1,034	1,261	\$6,390,057	\$7,172	\$8,037	\$4,347	\$6,722	\$93,792,879	\$20,497	\$20,700	\$14,106	\$16,845				
49-51	11,325	13,120	2,917	3,675	\$20,397,523	\$8,391	\$11,720	\$4,760	\$7,101	\$260,731,731	\$22,702	\$24,851	\$15,163	\$17,627				
52-57	91,196	102,105	16,987	22,193	\$132,930,896	\$9,198	\$15,091	\$4,820	\$6,978	\$1,316,224,591	\$14,350	\$18,977	\$9,311	\$9,394				
All Deliveries																		
	1,241,099	1,260,457	68,628	83,182	\$449,456,263	\$6,898	\$11,464	\$3,843	\$5,172	\$10,190,700,074	\$8,204	\$7,708	\$6,626	\$5,023				
By Birth Weight																		
<1000g	4,787	5,549	1,170	1,437	\$6,991,174	\$7,336	\$8,340	\$4,461	\$6,755	\$102,658,251	\$21,401	\$22,121	\$14,813	\$17,139				
<1500g	10,921	13,017	2,902	3,682	\$20,267,240	\$8,793	\$13,842	\$4,863	\$7,442	\$253,999,879	\$23,036	\$25,648	\$15,437	\$17,460				
1000-1499g	6,134	7,468	1,732	2,245	\$13,276,066	\$9,820	\$16,590	\$5,147	\$7,969	\$151,341,628	\$24,296	\$28,001	\$15,758	\$17,801				
<2500g	72,590	84,983	13,839	18,137	\$106,264,247	\$9,548	\$15,747	\$4,922	\$7,214	\$1,097,404,268	\$15,031	\$19,530	\$9,719	\$9,910				
1500-2499g	61,669	71,966	10,937	14,455	\$85,997,007	\$9,746	\$16,203	\$4,944	\$7,156	\$843,404,389	\$13,607	\$17,856	\$9,131	\$8,557				
>=2500g	1,168,509	1,175,474	54,789	65,045	\$343,192,016	\$6,352	\$10,280	\$3,681	\$4,813	\$9,093,295,806	\$7,777	\$6,018	\$6,504	\$4,812				

<sup>a</sup> Author manuscript; available in PMC 2020 January 01.

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Abbreviations: Std Dev, standard deviation; IQR, interquartile range.

Data Source: 2009–2011 California Linked Vital Statistics – Patient Discharge Data

Costs Producer Price Index Adjusted to December 2017

**Table 10.**

Maternal Costs, Does Not Include Fetal Deaths<sup>a</sup>

Gestational Age in Completed Weeks	Maternal Cases		Live Births		Maternal Cases with I+ Prenatal Hospitalizations		Total Prenatal Hospitalizations		Maternal Prenatal Hospitalization Costs					Total Maternal Hospitalization Costs (Prenatal+Delivery)				
	N	N	N	N	N	N	Total	Mean	StdDev	Median	IQR	Total	Mean	StdDev	Median	IQR		
22	317	351	63	72	\$288,148	\$5,437	\$5,310	\$3,797	\$5,285	\$3,797	\$5,285	\$3,591,040	\$11,328	\$10,599	\$8,063	\$8,357		
23	586	649	116	135	\$745,446	\$7,530	\$8,926	\$4,760	\$5,421	\$4,760	\$5,421	\$8,749,145	\$14,854	\$15,577	\$10,162	\$11,169		
24	798	883	166	190	\$1,035,928	\$7,399	\$8,683	\$4,681	\$6,872	\$4,681	\$6,872	\$14,730,292	\$18,321	\$16,616	\$13,665	\$15,655		
25	855	962	196	239	\$1,181,036	\$6,710	\$7,865	\$3,474	\$6,051	\$3,474	\$6,051	\$18,498,784	\$21,337	\$20,103	\$15,171	\$17,257		
26	928	1,038	241	304	\$1,482,426	\$7,267	\$7,533	\$4,648	\$7,536	\$4,648	\$7,536	\$23,033,181	\$24,451	\$24,383	\$16,927	\$20,090		
27	1,036	1,182	252	321	\$1,652,446	\$7,650	\$8,361	\$4,326	\$7,187	\$4,326	\$7,187	\$24,972,929	\$23,920	\$23,435	\$16,396	\$19,254		
28	1,213	1,435	317	416	\$2,339,290	\$8,696	\$12,572	\$4,844	\$7,638	\$4,844	\$7,638	\$30,681,916	\$24,824	\$26,893	\$16,719	\$19,319		
29	1,440	1,681	380	499	\$2,942,648	\$9,283	\$12,966	\$5,061	\$7,400	\$5,061	\$7,400	\$37,403,942	\$25,602	\$27,153	\$17,294	\$20,264		
30	1,825	2,149	500	630	\$3,947,701	\$9,559	\$13,126	\$5,076	\$8,647	\$5,076	\$8,647	\$45,310,466	\$24,492	\$28,371	\$15,531	\$18,885		
31	2,327	2,790	686	869	\$4,777,826	\$8,831	\$14,113	\$4,827	\$6,942	\$4,827	\$6,942	\$53,542,528	\$22,668	\$26,257	\$14,764	\$16,183		
32	3,692	4,388	1,002	1,294	\$8,913,266	\$10,843	\$21,307	\$5,193	\$8,213	\$5,193	\$8,213	\$84,208,715	\$22,492	\$27,863	\$14,348	\$16,219		
33	5,589	6,601	1,433	1,879	\$11,930,853	\$10,215	\$17,749	\$5,057	\$6,987	\$5,057	\$6,987	\$110,992,860	\$19,694	\$24,620	\$12,969	\$12,998		
34	11,522	13,266	2,591	3,420	\$21,299,296	\$10,061	\$16,400	\$5,035	\$7,217	\$5,035	\$7,217	\$194,494,088	\$16,748	\$22,057	\$10,633	\$11,060		
35	19,111	21,401	3,424	4,612	\$28,238,707	\$9,638	\$15,041	\$4,918	\$7,697	\$4,918	\$7,697	\$243,313,620	\$12,681	\$15,999	\$8,863	\$7,779		

<sup>a</sup> J Pediatr. Author manuscript; available in PMC 2020 January 01.



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	Maternal Cases		Live Births		Maternal Cases with I+ Prenatal Hospitalizations		Total Prenatal Hospitalizations		Maternal Prenatal Hospitalization Costs						Total Maternal Hospitalization Costs (Prenatal+Delivery)					
	N		N		N		N		Total	Mean	StdD ev	Median	IQR	Total	Mean	StdD ev	Median	IQR		
36	39,957		43,329		5,620		7,313		\$42,145,513	\$8,458	\$13,991	\$4,598	\$6,299	\$422,476,365	\$10,547	\$13,358	\$7,773	\$6,452		
37	96,127		100,075		8,826		11,108		\$62,117,413	\$7,483	\$12,412	\$4,059	\$5,563	\$839,902,058	\$8,729	\$8,416	\$6,919	\$5,459		
38	239,322		242,549		12,771		15,336		\$80,467,926	\$6,446	\$11,173	\$3,674	\$4,695	\$1,818,555,099	\$7,595	\$5,820	\$6,398	\$4,621		
39	428,873		429,703		16,558		19,248		\$99,767,357	\$6,055	\$9,104	\$3,648	\$4,715	\$3,209,114,673	\$7,480	\$4,988	\$6,419	\$4,522		
40	296,857		297,185		10,097		11,500		\$56,075,726	\$5,574	\$8,366	\$3,384	\$4,322	\$2,213,906,848	\$7,454	\$4,961	\$6,280	\$4,707		
41	81,887		81,985		3,014		3,374		\$16,361,590	\$5,441	\$8,828	\$3,243	\$4,238	\$727,024,200	\$8,870	\$6,585	\$7,393	\$5,938		
42	6,169		6,183		334		369		\$1,474,200	\$4,414	\$4,496	\$2,881	\$3,758	\$60,514,569	\$9,797	\$6,612	\$8,040	\$6,797		
43	473		476		36		49		\$236,288	\$6,564	\$11,098	\$3,810	\$3,536	\$4,002,822	\$8,463	\$6,889	\$6,918	\$5,185		
44	147		148		4		4		\$20,563	\$5,141	\$1,896	\$5,790	\$2,719	\$1,123,259	\$7,641	\$4,521	\$6,693	\$4,356		
45	48		48		1		1		\$4,305	\$4,305	.	\$4,305	\$0	\$331,955	\$6,916	\$3,258	\$6,650	\$3,235		
All	1,241,099		1,260,457		68,628		83,182		\$449,445,898	\$6,899	\$11,464	\$3,843	\$5,172	\$10,190,475,353	\$8,203	\$7,708	\$6,626	\$5,023		
<b>Birth Weight Group</b>	353		397		69		80		\$483,424	\$7,797	\$10,447	\$4,702	\$5,518	\$5,940,625	\$15,969	\$13,816	\$12,139	\$13,332		
<500g																				
500g-599g	748		831		153		179		\$950,734	\$7,148	\$8,176	\$4,347	\$5,548	\$12,988,224	\$17,249	\$16,815	\$11,503	\$14,247		
600g-699g	829		939		201		245		\$1,162,577	\$6,568	\$6,425	\$4,424	\$6,689	\$17,842,091	\$20,627	\$18,967	\$14,795	\$17,383		
700g-799g	878		978		206		251		\$1,399,934	\$7,692	\$8,957	\$4,745	\$6,755	\$19,534,034	\$21,729	\$20,542	\$16,204	\$17,689		
800g-899g	843		966		214		264		\$1,434,412	\$7,969	\$8,910	\$4,518	\$7,491	\$20,144,277	\$23,755	\$23,048	\$16,814	\$18,467		
900g-	991		1,116		236		300		\$1,555,4	\$7,20	\$8,18	\$4,3	\$7,4	\$25,991,49	\$24,8	\$29,0	\$16,3	\$18,7		

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	Maternal Cases		Live Births		Maternal Cases with I+ Prenatal Hospitalizations		Total Prenatal Hospitalizations		Maternal Prenatal Hospitalization Costs						Total Maternal Hospitalization Costs (Prenatal+Delivery)					
	N		N		N		N		Total	Mean	StdDev	Median	IQR	Total	Mean	StdDev	Median	IQR		
999g									64	1	7	75	00	2	25	14	62	83		
1000g-1099g	955	1,105	239	305	1,966.1	39	305	305	\$1,966.1	\$9,980	\$18.5	\$5.3	\$7.8	\$23,094,801	\$23.7	\$24.6	\$16.0	\$18.7		
1100g-1199g	1,067	1,262	313	397	\$2,551.3	42	397	397	\$2,551.3	\$9,112	\$13.8	\$4.8	\$7.1	\$29,471,762	\$26.0	\$29.9	\$16.5	\$20.2		
1200g-1299g	1,076	1,282	276	362	\$2,216.2	71	362	362	\$2,216.2	\$9,471	\$13.1	\$4.9	\$8.1	\$28,055,775	\$24.7	\$27.6	\$16.1	\$17.2		
1300g-1399g	1,417	1,663	358	450	\$2,905.6	95	450	450	\$2,905.6	\$9,283	\$15.4	\$4.7	\$7.8	\$34,502,903	\$23.2	\$28.4	\$14.7	\$16.8		
1400g-1499g	1,386	1,672	387	522	\$3,636.6	20	522	522	\$3,636.6	\$11.0	\$20.2	\$5.9	\$7.7	\$36,216,387	\$24.0	\$28.3	\$15.8	\$16.8		
1500g-1599g	1,800	2,167	477	628	\$3,918.7	67	628	628	\$3,918.7	\$10.1	\$18.4	\$4.5	\$7.1	\$40,948,621	\$21.9	\$28.5	\$13.9	\$15.0		
1600g-1699g	1,839	2,219	497	655	\$4,133.8	31	655	655	\$4,133.8	\$9.681	\$14.2	\$5.4	\$7.5	\$40,778,454	\$20.5	\$22.6	\$13.3	\$14.4		
1700g-1799g	2,462	3,007	645	841	\$5,657.4	54	841	841	\$5,657.4	\$10.9	\$17.1	\$5.5	\$8.6	\$52,468,353	\$19.9	\$24.2	\$12.9	\$13.7		
1800g-1899g	3,263	3,903	771	1,010	\$6,082.6	25	1,010	1,010	\$6,082.6	\$9.655	\$17.1	\$4.8	\$7.0	\$59,253,113	\$17.4	\$21.3	\$11.5	\$10.6		
1900g-1999g	3,548	4,287	843	1,100	\$7,155.7	02	1,100	1,100	\$7,155.7	\$10.0	\$15.2	\$5.1	\$7.1	\$66,879,770	\$17.4	\$22.6	\$11.4	\$11.5		
2000g-2249g	14,836	17,343	2,946	3,921	\$24,731,804		3,921	3,921	\$24,731,804	\$10.0	\$17.2	\$5.0	\$7.4	\$222,158,503	\$14.3	\$18.6	\$9.667	\$8.941		
2250g-2499g	32,250	35,680	4,296	5,719	\$34,316,823		5,719	5,719	\$34,316,823	\$9.300	\$15.3	\$4.7	\$6.7	\$360,917,576	\$10.9	\$13.6	\$7.970	\$6,719		
2500g-2749g	67,400	70,948	6,161	7,922	\$44,351,955		7,922	7,922	\$44,351,955	\$8.222	\$14.6	\$4.3	\$5.9	\$589,675,657	\$8.896	\$10.0	\$6.904	\$5,415		
2750g-2999g	150,074	152,824	9,245	11,413	\$64,602,238		11,413	11,413	\$64,602,238	\$7.329	\$12.5	\$3.9	\$5.3	\$1,180,447,513	\$7.891	\$6.858	\$6.455	\$4,849		
3000g-3249g	239,748	241,354	11,497	13,651	\$71,918,793		13,651	13,651	\$71,918,793	\$6.351	\$9.709	\$3.7	\$4.8	\$1,805,036,354	\$7.530	\$5.457	\$6.319	\$4,658		
3250g-3499g	266,796	267,527	11,206	13,038	\$65,101,241		13,038	13,038	\$65,101,241	\$5.845	\$8.742	\$3.4	\$4.5	\$2,005,367,102	\$7.513	\$5.577	\$6.348	\$4,630		

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	Maternal Cases		Live Births		Maternal Cases with I+ Prenatal Hospitalizations		Total Prenatal Hospitalizations		Maternal Prenatal Hospitalization Costs						Total Maternal Hospitalization Costs (Prenatal+Delivery)					
	N		N		N		N		Total	Mean	StdDev	Median	IQR	Total	Mean	StdDev	Median	IQR		
3500g-3749g	216,315		216,594		8,212		9,432		\$47,395,405	\$5,792	\$9,430	\$3,508	\$4,369	\$1,651,581,939	\$7,632	\$5,378	\$6,473	\$4,751		
3750g-3999g	130,749		130,853		5,074		5,798		\$27,628,973	\$5,448	\$7,445	\$3,310	\$4,436	\$1,028,146,296	\$7,860	\$5,228	\$6,646	\$4,870		
>=4000g	99,476		99,540		4,106		4,699		\$22,187,674	\$5,413	\$6,900	\$3,433	\$4,372	\$833,033,732	\$8,371	\$5,622	\$7,080	\$5,197		

Abbreviations: Std Dev, standard deviation; IQR, interquartile range.

2009-2011 California Linked Data, Matched Good Cost/Length of Stay Cases Only, By Gestational Age and Birth Weight, Costs Adjusted to December, 2017

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Table 11.

Maternal Costs, Includes Fetal Deaths<sup>a</sup>

Gestational Age in Completed Weeks	Maternal Cases		Live Births + Fetal Deaths		Maternal Cases with 1+ Prenatal Hospitalizations		Total Prenatal Hospitalizations		Maternal Prenatal Hospitalization Costs						Total Maternal Hospitalization Costs (Prenatal+Delivery)					
	N	N	N	N	N	N	Total	Mean	StdDev	Medi an	IQR	Total	Mean	StdDev	Medi an	IQR	Total	Mean	StdDev	Medi an
22	731	807	117	136	650,981	\$6,445	\$6,639	\$4,105	\$5,772	\$8,048,195	\$10,861	\$12,527	\$7,237	\$7,505						
23	931	1,023	158	186	968,237	\$7,067	\$7,860	\$4,841	\$5,281	\$12,692,675	\$13,474	\$14,621	\$9,014	\$10,061						
24	1,033	1,135	192	219	\$1,180,684	\$7,199	\$8,130	\$4,845	\$6,430	\$17,318,804	\$16,573	\$16,008	\$11,477	\$15,051						
25	1,028	1,154	212	258	\$1,265,737	\$6,662	\$8,044	\$3,314	\$5,720	\$20,329,300	\$19,417	\$19,467	\$13,391	\$15,756						
26	1,123	1,244	262	327	\$1,746,925	\$7,799	\$8,896	\$4,888	\$7,598	\$25,781,856	\$22,616	\$25,777	\$14,481	\$18,224						
27	1,215	1,374	268	341	\$1,790,987	\$7,753	\$8,474	\$4,621	\$7,355	\$27,172,465	\$22,073	\$22,619	\$14,508	\$17,806						
28	1,419	1,657	336	447	\$2,521,611	\$8,817	\$12,546	\$4,987	\$7,570	\$32,914,763	\$22,637	\$25,666	\$14,963	\$17,876						
29	1,612	1,862	397	518	\$3,031,536	\$9,104	\$12,722	\$4,882	\$7,294	\$39,243,876	\$23,988	\$26,400	\$15,765	\$19,075						
30	1,983	2,312	513	646	\$4,053,077	\$9,514	\$12,985	\$5,066	\$8,599	\$46,989,960	\$23,343	\$27,587	\$14,720	\$18,185						
31	2,496	2,961	699	885	\$4,855,403	\$8,780	\$13,984	\$4,827	\$6,915	\$55,203,199	\$21,811	\$25,634	\$14,166	\$16,025						
32	3,913	4,617	1,030	1,329	\$9,123,660	\$10,759	\$21,063	\$5,165	\$8,093	\$86,651,981	\$21,821	\$27,397	\$13,832	\$15,670						
33	5,773	6,795	1,454	1,904	\$12,147,818	\$10,217	\$17,669	\$5,046	\$7,002	\$113,402,304	\$19,455	\$24,948	\$12,759	\$12,872						
34	11,736	13,488	2,603	3,438	\$21,388,565	\$10,046	\$16,361	\$5,035	\$7,217	\$197,041,114	\$16,652	\$21,949	\$10,566	\$10,934						

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	Maternal Cases		Live Births + Fetal Deaths		Maternal Cases with I+ Prenatal Hospitalizations		Total Prenatal Hospitalizations		Maternal Prenatal Hospitalization Costs						Total Maternal Hospitalization Costs (Prenatal+Delivery)								
	N	N	N	N	N	N	Total	Mean	StdDev	Medi an	IQR	Total	Mean	StdDev	Medi an	IQR	Total	Mean	StdDev	Medi an	IQR		
35	19,334	21,636	3,450	4,650	\$28,485,094	\$9,640	\$15,009	\$4,944	\$7,668	\$245,904,744	\$12,662	\$15,988	\$8,845	\$7,765									
36	40,256	43,640	5,655	7,358	\$43,498,639	\$8,670	\$18,187	\$4,605	\$6,311	\$426,855,049	\$10,575	\$14,032	\$7,771	\$6,454									
37	96,440	100,398	8,857	11,151	\$62,393,596	\$7,488	\$12,405	\$4,060	\$5,565	\$843,153,305	\$8,734	\$8,424	\$6,920	\$5,459									
38	239,640	242,876	12,784	15,355	\$80,600,999	\$6,451	\$11,175	\$3,674	\$4,697	\$1,821,511,089	\$7,597	\$5,822	\$6,398	\$4,623									
39	429,143	429,973	16,571	19,261	\$99,833,337	\$6,055	\$9,102	\$3,648	\$4,714	\$3,211,491,203	\$7,481	\$4,989	\$6,419	\$4,523									
40	297,028	297,356	10,107	11,520	\$56,180,148	\$5,579	\$8,387	\$3,384	\$4,323	\$2,215,603,156	\$7,455	\$4,965	\$6,281	\$4,707									
41	81,936	82,034	3,016	3,376	\$16,366,010	\$5,439	\$8,825	\$3,239	\$4,238	\$727,551,558	\$8,872	\$6,587	\$7,393	\$5,940									
42	6,183	6,197	335	370	\$1,475,634	\$4,405	\$4,492	\$2,868	\$3,770	\$60,621,573	\$9,792	\$6,609	\$8,036	\$6,800									
43	473	476	36	49	\$236,288	\$6,564	\$11,098	\$3,810	\$3,536	\$4,002,822	\$8,463	\$6,889	\$6,918	\$5,185									
44	147	148	4	4	\$20,563	\$5,141	\$1,896	\$5,790	\$2,719	\$1,123,259	\$7,641	\$4,521	\$6,693	\$4,356									
45	49	49	1	1	\$4,305	\$4,305	.	\$4,305	\$0	\$340,036	\$6,940	\$3,228	\$6,685	\$3,219									
All	1,245,622	1,265,212	69,057	83,729	\$453,819,834	\$6,923	\$11,902	\$3,849	\$5,182	\$10,240,948,288	\$8,213	\$7,785	\$6,628	\$5,028									
<b>Birth Weight Group</b>																							
<500g	1,102	1,227	163	191	\$1,159,701	\$7,630	\$8,629	\$5,066	\$6,618	\$14,201,897	\$12,159	\$13,226	\$8,109	\$9,510									
500g-599g	1,057	1,173	205	245	\$1,348,877	\$7,578	\$8,737	\$4,806	\$5,884	\$16,628,802	\$15,585	\$16,146	\$10,524	\$12,667									
600g-699g	1,065	1,189	231	279	\$1,400,442	\$6,831	\$7,599	\$4,594	\$6,499	\$21,046,489	\$18,995	\$21,146	\$12,877	\$16,246									
700g-799g	1,078	1,188	228	279	\$1,574,371	\$7,718	\$8,803	\$4,820	\$6,832	\$22,500,601	\$20,344	\$24,074	\$13,801	\$16,456									

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	Maternal Cases		Live Births + Fetal Deaths		Maternal Cases with I+ Prenatal Hospitalizations		Total Prenatal Hospitalizations		Maternal Prenatal Hospitalization Costs						Total Maternal Hospitalization Costs (Prenatal+Delivery)						
	N	N	N	N	N	N	Total	Mean	StdDev	Medi an	IQR	Total	Mean	StdDev	Medi an	IQR	Total	Mean	StdDev	Medi an	IQR
800g-899g	985	1,116	226	285	226	285	\$1,567,582	\$8,207	\$9,469	\$4,575	\$7,511	\$21,925,794	\$22,080	\$22,513	\$15,084	\$17,490	\$21,925,794	\$22,080	\$22,513	\$15,084	\$17,490
900g-999g	1,155	1,293	243	308	243	308	\$1,576,595	\$7,102	\$8,102	\$4,332	\$7,171	\$27,606,298	\$22,684	\$27,561	\$14,441	\$17,106	\$27,606,298	\$22,684	\$27,561	\$14,441	\$17,106
1000g-1099g	1,061	1,220	247	315	247	315	\$2,020,494	\$9,856	\$18,260	\$5,364	\$7,703	\$24,436,488	\$22,543	\$24,136	\$15,003	\$17,779	\$24,436,488	\$22,543	\$24,136	\$15,003	\$17,779
1100g-1199g	1,186	1,390	319	403	319	403	\$2,571,111	\$9,021	\$13,788	\$4,844	\$6,974	\$30,835,669	\$24,531	\$29,302	\$15,169	\$19,354	\$30,835,669	\$24,531	\$29,302	\$15,169	\$19,354
1200g-1299g	1,156	1,366	281	367	281	367	\$2,245,164	\$9,433	\$13,084	\$4,919	\$8,153	\$28,881,378	\$23,751	\$27,080	\$15,427	\$16,659	\$28,881,378	\$23,751	\$27,080	\$15,427	\$16,659
1300g-1399g	1,542	1,793	366	458	366	458	\$2,944,628	\$9,231	\$15,321	\$4,730	\$7,847	\$35,751,731	\$22,206	\$27,711	\$13,940	\$16,544	\$35,751,731	\$22,206	\$27,711	\$13,940	\$16,544
1400g-1499g	1,503	1,794	399	535	399	535	\$3,707,514	\$10,904	\$19,974	\$5,929	\$7,615	\$37,414,104	\$22,996	\$27,683	\$14,947	\$16,339	\$37,414,104	\$22,996	\$27,683	\$14,947	\$16,339
1500g-1599g	1,900	2,270	486	639	486	639	\$3,984,699	\$10,113	\$18,228	\$4,535	\$7,130	\$41,906,821	\$21,305	\$27,954	\$13,498	\$14,688	\$41,906,821	\$21,305	\$27,954	\$13,498	\$14,688
1600g-1699g	1,917	2,300	505	665	505	665	\$4,308,374	\$9,904	\$14,641	\$5,380	\$7,717	\$41,670,020	\$20,179	\$22,427	\$12,973	\$14,065	\$41,670,020	\$20,179	\$22,427	\$12,973	\$14,065
1700g-1799g	2,556	3,102	654	852	654	852	\$5,754,371	\$10,898	\$17,121	\$5,548	\$8,710	\$53,567,818	\$19,672	\$23,986	\$12,715	\$13,545	\$53,567,818	\$19,672	\$23,986	\$12,715	\$13,545
1800g-1899g	3,372	4,014	780	1,025	780	1,025	\$6,150,100	\$9,625	\$17,068	\$4,915	\$7,074	\$60,467,513	\$17,242	\$21,167	\$11,354	\$10,560	\$60,467,513	\$17,242	\$21,167	\$11,354	\$10,560
1900g-1999g	3,640	4,383	848	1,106	848	1,106	\$7,185,261	\$10,063	\$15,244	\$5,120	\$7,122	\$67,781,186	\$17,300	\$22,510	\$11,271	\$11,438	\$67,781,186	\$17,300	\$22,510	\$11,271	\$11,438
2000g-2249g	15,099	17,612	2,971	3,965	2,971	3,965	\$25,056,771	\$10,071	\$17,220	\$5,097	\$7,459	\$225,019,915	\$14,300	\$18,593	\$9,618	\$8,921	\$225,019,915	\$14,300	\$18,593	\$9,618	\$8,921
2250g-2499g	32,494	35,938	4,309	5,734	4,309	5,734	\$34,363,653	\$9,287	\$15,285	\$4,728	\$6,750	\$363,305,832	\$10,987	\$13,614	\$7,964	\$6,713	\$363,305,832	\$10,987	\$13,614	\$7,964	\$6,713
2500g-2749g	67,631	71,182	6,179	7,944	6,179	7,944	\$44,685,552	\$8,257	\$14,932	\$4,331	\$5,919	\$591,983,111	\$8,899	\$10,112	\$6,906	\$5,420	\$591,983,111	\$8,899	\$10,112	\$6,906	\$5,420
2750g-2999g	150,331	153,082	9,259	11,435	9,259	11,435	\$65,527,554	\$7,422	\$15,128	\$3,997	\$5,391	\$1,183,746,193	\$7,899	\$7,192	\$6,457	\$4,851	\$1,183,746,193	\$7,899	\$7,192	\$6,457	\$4,851

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	Maternal Cases		Live Births + Fetal Deaths		Maternal Cases with 1+ Prenatal Hospitalizations		Total Prenatal Hospitalizations		Maternal Prenatal Hospitalization Costs						Total Maternal Hospitalization Costs (Prenatal+Delivery)					
	N		N		N		N		Total	Mean	StdDev	Medi an	IQR	Total	Mean	StdDev	Medi an	IQR		
3000g-3249g	239,984		241,591		11,511		13,666		\$71,978,320	\$6,349	\$9,704	\$3,761	\$4,892	\$1,807,183,062	\$7,532	\$5,458	\$6,320	\$4,659		
3250g-3499g	266,946		267,677		11,226		13,066		\$65,333,476	\$5,855	\$8,754	\$3,493	\$4,530	\$2,007,008,205	\$7,515	\$5,581	\$6,349	\$4,631		
3500g-3749g	216,421		216,700		8,223		9,445		\$47,452,246	\$5,791	\$9,426	\$3,507	\$4,371	\$1,652,773,720	\$7,634	\$5,381	\$6,474	\$4,752		
3750g-3999g	130,820		130,925		5,081		5,809		\$27,651,791	\$5,446	\$7,442	\$3,310	\$4,436	\$1,028,869,522	\$7,861	\$5,229	\$6,647	\$4,871		
>=4000g	99,621		99,687		4,117		4,713		\$22,271,189	\$5,419	\$6,901	\$3,438	\$4,386	\$834,436,118	\$8,373	\$5,624	\$7,082	\$5,199		

Abbreviations: Std Dev, standard deviation; IQR, interquartile range.

<sup>a</sup> 2009–2011 California Linked Data, Matched Good Cost/Length of Stay Cases Only, By Gestational Age and Birth Weight, Costs Adjusted to December, 2017

**Table 12.**

Maternal Costs by C-Section Status, Does Not Include Fetal Deaths<sup>a</sup>

Gestational Age Group and Delivery Method		Maternal Cases		Live Births		Total Maternal Hospitalization Costs (Prenatal+Delivery)					
Gestational Age Group		N		N		Total	Mean	StdDev	Median	IQR	
<=24 Weeks	Vaginal	904		972		\$10,977,285	\$11,997	\$11,950	\$8,074	\$9,783	
	C-section	797		911		\$16,285,085	\$20,180	\$17,747	\$14,899	\$16,257	
25-27 Weeks	Vaginal	858		878		\$14,871,903	\$17,273	\$19,194	\$10,423	\$15,819	
	C-section	1,961		2,304		\$51,658,606	\$25,920	\$23,770	\$18,809	\$19,676	
28-31 Weeks	Vaginal	2,041		2,147		\$37,136,368	\$18,010	\$21,101	\$11,159	\$15,477	
	C-section	4,764		5,908		\$129,802,484	\$26,780	\$28,966	\$17,720	\$18,960	
32-36 Weeks	Vaginal	42,402		43,803		\$422,864,617	\$9,946	\$12,846	\$6,816	\$6,171	
	C-section	37,469		45,182		\$632,628,243	\$16,770	\$21,277	\$11,198	\$9,612	
37-38 Weeks	Vaginal	214,419		215,779		\$1,416,586,608	\$6,602	\$5,354	\$5,373	\$3,911	
	C-section	121,030		126,845		\$1,241,870,550	\$10,254	\$8,041	\$8,462	\$5,213	
39-41 Weeks	Vaginal	558,933		559,420		\$3,631,650,864	\$6,494	\$4,332	\$5,491	\$3,865	
	C-section	248,684		249,453		\$2,518,394,857	\$10,123	\$5,988	\$8,619	\$5,401	
>41 Weeks	Vaginal	4,518		4,522		\$35,629,442	\$7,879	\$5,228	\$6,546	\$5,046	
	C-section	2,319		2,333		\$30,343,163	\$13,062	\$7,565	\$11,170	\$7,983	
< 28 Weeks	Vaginal	1,762		1,850		\$25,849,188	\$14,555	\$16,093	\$9,017	\$12,014	
	C-section	2,758		3,215		\$67,943,691	\$24,266	\$22,351	\$17,723	\$18,273	
<32 Weeks	Vaginal	3,803		3,997		\$62,985,556	\$16,411	\$19,025	\$10,062	\$13,543	
	C-section	7,522		9,123		\$197,746,175	\$25,859	\$26,760	\$17,720	\$18,691	
<37 Weeks	Vaginal	46,205		47,800		\$485,850,173	\$10,482	\$13,583	\$6,968	\$6,597	
	C-section	44,991		54,305		\$830,374,417	\$18,302	\$22,554	\$11,972	\$11,160	
All	Vaginal	824,075		827,521		\$5,569,717,087	\$6,754	\$5,616	\$5,524	\$3,998	
	C-section	417,024		432,936		\$4,620,982,987	\$11,066	\$10,106	\$8,817	\$5,833	
<b>Gestational Age in Completed Weeks</b>											
22	Vaginal		265		296	\$2,819,854	\$10,405	\$8,841	\$7,563	\$7,830	



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Gestational Age Group and Delivery Method	Maternal Cases		Live Births		Total Maternal Hospitalization Costs (Prenatal+Delivery)					
	N	N	N	N	Total	Mean	StdDev	Median	IQR	
23	C-section	52	55		\$878,589	\$16,270	\$15,779	\$9,648	\$6,907	
	Vaginal	351	381		\$4,326,517	\$12,187	\$12,911	\$8,043	\$9,640	
24	C-section	235	268		\$4,473,113	\$18,954	\$18,224	\$12,993	\$14,635	
	Vaginal	288	295		\$3,830,914	\$13,256	\$13,077	\$8,576	\$12,384	
25	C-section	510	588		\$10,933,383	\$21,148	\$17,661	\$17,316	\$16,366	
	Vaginal	272	280		\$4,085,699	\$14,911	\$14,737	\$10,014	\$14,108	
26	C-section	583	682		\$14,438,700	\$24,308	\$21,501	\$17,860	\$18,897	
	Vaginal	282	286		\$5,098,301	\$18,015	\$18,755	\$11,408	\$15,640	
27	C-section	646	752		\$17,934,881	\$27,215	\$25,962	\$19,585	\$21,523	
	Vaginal	304	312		\$5,687,903	\$18,710	\$22,693	\$9,917	\$17,701	
28	C-section	732	870		\$19,285,026	\$26,061	\$23,415	\$18,607	\$19,395	
	Vaginal	318	333		\$5,785,377	\$18,079	\$22,622	\$11,126	\$15,701	
29	C-section	895	1,102		\$24,896,539	\$27,180	\$27,862	\$17,973	\$19,622	
	Vaginal	424	444		\$8,813,981	\$20,450	\$25,506	\$11,501	\$16,738	
30	C-section	1,016	1,237		\$28,589,961	\$27,757	\$27,540	\$19,267	\$20,762	
	Vaginal	565	593		\$9,897,202	\$17,394	\$20,038	\$10,760	\$15,009	
31	C-section	1,260	1,556		\$35,413,264	\$27,645	\$30,858	\$17,963	\$19,605	
	Vaginal	734	777		\$12,639,808	\$17,035	\$18,115	\$11,101	\$13,995	
32	C-section	1,593	2,013		\$40,902,720	\$25,249	\$28,880	\$16,548	\$16,657	
	Vaginal	1,257	1,327		\$21,103,677	\$16,670	\$19,013	\$10,161	\$14,447	
33	C-section	2,435	3,061		\$63,105,037	\$25,466	\$31,022	\$16,230	\$16,936	
	Vaginal	2,197	2,331		\$34,512,965	\$15,539	\$18,907	\$10,023	\$11,080	
34	C-section	3,392	4,270		\$76,479,895	\$22,395	\$27,377	\$14,919	\$13,838	
	Vaginal	5,564	5,818		\$75,220,228	\$13,454	\$19,251	\$8,246	\$8,918	
35	C-section	5,958	7,448		\$119,273,860	\$19,806	\$23,975	\$12,754	\$12,039	
	Vaginal	10,148	10,514		\$98,767,283	\$9,715	\$11,336	\$6,978	\$6,089	
36	C-section	8,963	10,887		\$144,546,336	\$16,023	\$19,458	\$10,960	\$8,980	
	Vaginal	23,236	23,813		\$193,260,464	\$8,305	\$9,563	\$6,214	\$5,072	

Gestational Age Group and Delivery Method	Maternal Cases		Live Births		Total Maternal Hospitalization Costs (Prenatal+Delivery)					
	N	N	Total	Mean	StdDev	Median	IQR			
37	C-section	16,721	19,516	\$229,223,114	\$13,654	\$16,804	\$9,948	\$7,286		
	Vaginal	61,651	62,340	\$443,839,000	\$7,194	\$6,739	\$5,650	\$4,331		
38	C-section	34,476	37,735	\$396,063,058	\$11,473	\$10,222	\$9,118	\$6,074		
	Vaginal	152,768	153,439	\$972,747,608	\$6,364	\$4,659	\$5,278	\$3,757		
39	C-section	86,554	89,110	\$845,807,491	\$9,769	\$6,924	\$8,235	\$4,875		
	Vaginal	272,410	272,673	\$1,715,455,407	\$6,295	\$4,172	\$5,326	\$3,697		
40	C-section	156,463	157,030	\$1,493,659,266	\$9,544	\$5,583	\$8,190	\$4,838		
	Vaginal	227,380	227,546	\$1,471,321,446	\$6,467	\$4,018	\$5,503	\$3,842		
41	C-section	69,477	69,639	\$742,585,403	\$10,682	\$6,222	\$9,151	\$5,804		
	Vaginal	59,143	59,201	\$444,874,011	\$7,516	\$5,820	\$6,338	\$4,794		
42	C-section	22,744	22,784	\$282,150,188	\$12,392	\$7,132	\$10,652	\$7,330		
	Vaginal	4,082	4,086	\$32,831,543	\$8,035	\$5,364	\$6,694	\$5,264		
43	C-section	2,087	2,097	\$27,683,026	\$13,239	\$7,419	\$11,384	\$8,136		
	Vaginal	302	302	\$1,951,385	\$6,462	\$3,442	\$5,730	\$3,610		
44	C-section	171	174	\$2,051,436	\$11,997	\$9,546	\$9,438	\$6,661		
	Vaginal	97	97	\$617,879	\$6,370	\$3,432	\$5,764	\$2,716		
45	C-section	50	51	\$505,381	\$10,108	\$5,331	\$8,552	\$5,186		
	Vaginal	37	37	\$228,634	\$6,179	\$2,810	\$5,657	\$3,136		
	C-section	11	11	\$103,320	\$9,393	\$3,565	\$8,708	\$4,217		

Abbreviations: Std Dev, standard deviation; IQR, interquartile range.

<sup>a</sup>2009–2011 California Linked Data, Matched Good Cost/Length of Stay Cases Only, By Gestational Age, Costs Adjusted to December, 2017

**Table 13.**

Mean Maternal and Newborn Hospital and Professional Costs <sup>a,b</sup>

	Maternal Count		Total Maternal Hospital Costs		Total Maternal MD Costs		Live Births		Total Newborn Hospital Costs		Total Newborn MD Costs	
	N	Mean	Mean	Mean	N	Mean	Mean	Mean	N	Mean	Mean	
Obstetrician Estimate of Gestational Age Group												
<=24 Weeks	2,695	\$9,814	\$15,332	\$4,145	1,883	\$216,834	\$51,332					
25-27 Weeks	3,366	\$16,341	\$9,344	\$6,111	3,182	\$286,881	\$67,155					
28-31 Weeks	7,510	\$5,459	\$5,165	\$6,498	8,055	\$136,201	\$30,165					
32-36 Weeks	81,012	\$6,584	\$12,877	\$3,796	88,985	\$18,635	\$3,704					
37-38 Weeks	336,080	\$10,134	\$14,794	\$2,464	342,624	\$2,887	\$566					
39-41 Weeks	808,107	\$5,631	\$10,134	\$2,448	808,873	\$2,107	\$397					
>41 Weeks	6,852	\$5,590	\$5,631	\$3,049	6,855	\$2,995	\$589					
<28 Weeks	6,061	\$13,242	\$14,951	\$5,236	5,065	\$260,840	\$61,273					
<32 Weeks	13,571	\$16,630	\$10,569	\$5,934	13,120	\$184,318	\$42,174					
<37 Weeks	94,583	\$9,632	\$5,309	\$4,106	102,105	\$39,924	\$8,647					
All	1,245,622	\$5,590	\$5,631	\$2,582	1,260,457	\$5,387	\$1,113					
Birth Weight Group	1,239,034	\$5,590	\$5,590	\$2,567	1,254,908	\$4,293	\$854					
Extremely LBW, <1000g	6,588	\$13,242	\$14,951	\$5,362	5,549	\$252,851	\$59,667					
Very LBW <1500g	13,271	\$16,630	\$10,569	\$5,949	13,017	\$180,644	\$41,387					
BW 1000-1499g	6,683	\$10,569	\$9,632	\$6,526	7,468	\$126,992	\$27,805					
All LBW, <2500g	75,920	\$9,632	\$9,632	\$4,280	84,983	\$46,230	\$10,058					
BW 1500-2499g	62,649	\$5,309	\$5,309	\$3,923	71,966	\$21,917	\$4,392					
BW >=2500g	1,169,702	\$5,309	\$5,309	\$2,471	1,175,474	\$2,435	\$466					

Abbreviations: LBW, low birth weight; BW, birth weight.

<sup>a</sup>Data Source: 2009-2011 California Linked Vital Statistics - Patient Discharge Data

<sup>b</sup>Costs Producer Price Index Adjusted to December 2017

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**Table 14.**

Mean Maternal and Newborn Hospital and Professional Costs<sup>a</sup>

	Maternal Count		Total Maternal Hospital Costs		Total Maternal MD Costs		Live Births		Total Newborn Hospital Costs		Total Newborn MD Costs	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
Gestational age in completed weeks based on OB estimate of GA from BC												
22	731	\$7,467	351	\$3,395	351	\$58,748						\$13,784
23	931	\$9,361	649	\$4,113	649	\$181,247						\$43,280
24	1,033	\$11,882	883	\$4,691	883	\$305,830						\$72,176
25	1,028	\$13,908	962	\$5,509	962	\$332,811						\$79,837
26	1,123	\$16,168	1,038	\$6,448	1,038	\$292,539						\$68,720
27	1,215	\$15,761	1,182	\$6,313	1,182	\$244,532						\$55,459
28	1,419	\$16,129	1,435	\$6,508	1,435	\$203,292						\$45,820
29	1,612	\$17,142	1,681	\$6,846	1,681	\$158,925						\$35,993
30	1,983	\$16,776	2,149	\$6,567	2,149	\$125,150						\$27,390
31	2,496	\$15,600	2,790	\$6,211	2,790	\$96,513						\$20,739
32	3,913	\$15,684	4,388	\$6,137	4,388	\$72,253						\$15,229
33	5,773	\$13,955	6,601	\$5,500	6,601	\$49,540						\$9,880
34	11,736	\$11,849	13,266	\$4,803	13,266	\$29,139						\$5,768
35	19,334	\$9,033	21,401	\$3,630	21,401	\$14,911						\$2,883
36	40,256	\$7,470	43,329	\$3,105	43,329	\$7,120						\$1,370
37	96,440	\$6,084	100,075	\$2,649	100,075	\$3,955						\$783
38	239,640	\$5,207	242,549	\$2,390	242,549	\$2,447						\$476
39	429,143	\$5,095	429,703	\$2,386	429,703	\$2,116						\$396
40	297,028	\$5,031	297,185	\$2,424	297,185	\$2,004						\$380
41	81,936	\$6,011	81,985	\$2,861	81,985	\$2,436						\$469
42	6,183	\$6,675	6,183	\$3,117	6,183	\$2,883						\$572
43	473	\$5,969	476	\$2,494	476	\$3,854						\$658
44	147	\$5,309	148	\$2,332	148	\$5,153						\$1,203

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	Maternal Count		Total Maternal Hospital Costs		Total Maternal MD Costs		Live Births		Total Newborn Hospital Costs		Total Newborn MD Costs	
	N		Mean		Mean		N		Mean		Mean	
45	49		\$4,899		\$2,041		48		\$2,359		\$,336	
<b>Birth Weight Group</b>												
<500g	1,102		\$8,464		\$3,695		397		\$134,405		\$,34,863	
500g-599g	1,057		\$11,028		\$4,556		831		\$206,411		\$,50,078	
600g-699g	1,065		\$13,554		\$5,441		939		\$294,631		\$,69,027	
700g-799g	1,078		\$14,561		\$5,783		978		\$317,414		\$,74,946	
800g-899g	985		\$15,910		\$6,170		966		\$297,750		\$,70,940	
900g-999g	1,155		\$16,126		\$6,557		1,116		\$227,682		\$,51,326	
1000g-1099g	1,061		\$16,271		\$6,272		1,105		\$184,311		\$,41,441	
1100g-1199g	1,186		\$17,603		\$6,928		1,262		\$163,181		\$,35,909	
1200g-1299g	1,156		\$17,080		\$6,671		1,282		\$140,672		\$,31,032	
1300g-1399g	1,542		\$15,881		\$6,325		1,663		\$111,823		\$,24,278	
1400g-1499g	1,503		\$16,520		\$6,476		1,672		\$96,929		\$,20,774	
1500g-1599g	1,900		\$15,288		\$6,017		2,167		\$82,277		\$,17,409	
1600g-1699g	1,917		\$14,525		\$5,654		2,219		\$68,256		\$,14,372	
1700g-1799g	2,556		\$14,156		\$5,516		3,007		\$55,625		\$,11,377	
1800g-1899g	3,372		\$12,303		\$4,939		3,903		\$44,636		\$,9,211	
1900g-1999g	3,640		\$12,376		\$4,924		4,287		\$37,870		\$,7,520	
2000g-2249g	15,099		\$10,185		\$4,114		17,343		\$22,546		\$,4,439	
2250g-2499g	32,494		\$7,746		\$3,241		35,680		\$10,728		\$,2,077	
2500g-2749g	67,631		\$6,186		\$2,713		70,948		\$4,858		\$,946	
2750g-2999g	150,331		\$5,428		\$2,471		152,824		\$2,896		\$,550	
3000g-3249g	239,984		\$5,135		\$2,396		241,354		\$2,296		\$,435	
3250g-3499g	266,946		\$5,105		\$2,410		267,527		\$2,081		\$,397	
3500g-3749g	216,421		\$5,181		\$2,453		216,594		\$2,022		\$,383	
3750g-3999g	130,820		\$5,339		\$2,522		130,853		\$2,096		\$,404	
>=4000g	99,621		\$5,742		\$2,631		99,540		\$2,825		\$,558	

Abbreviations: OB, Obstetrician; GA, gestational age; BC, birth certificate.

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**Table 15.**

Total Pregnancy Costs (Maternal + Newborn)<sup>a</sup>

Gestational Age in Completed Weeks	Live Births		Total Costs (Maternal + Newborn)				
	N	Total	Mean	StdDev	Median	IQR	
22	351	\$28,270,704	\$80,543	\$238,350	\$10,128	\$12,898	
23	649	\$151,210,671	\$232,990	\$316,976	\$43,511	\$441,914	
24	883	\$342,453,921	\$387,830	\$354,636	\$353,556	\$504,124	
25	962	\$411,824,474	\$428,092	\$310,320	\$387,711	\$330,098	
26	1,038	\$395,339,464	\$380,867	\$266,779	\$330,467	\$253,300	
27	1,182	\$375,136,762	\$317,375	\$231,074	\$266,695	\$206,008	
28	1,435	\$381,863,108	\$266,107	\$192,807	\$216,351	\$176,597	
29	1,681	\$363,328,476	\$216,138	\$148,320	\$177,472	\$130,816	
30	2,149	\$370,625,057	\$172,464	\$146,545	\$136,881	\$99,641	
31	2,790	\$378,787,426	\$135,766	\$116,382	\$106,492	\$82,230	
32	4,388	\$465,565,715	\$106,100	\$98,854	\$81,481	\$64,939	
33	6,601	\$500,238,703	\$75,782	\$77,840	\$56,434	\$46,964	
34	13,266	\$653,782,062	\$49,283	\$66,335	\$36,287	\$37,556	
35	21,401	\$620,431,558	\$28,991	\$51,019	\$16,193	\$24,732	
36	43,329	\$783,044,396	\$18,072	\$39,874	\$9,936	\$11,307	
37	100,075	\$1,305,534,317	\$13,046	\$29,523	\$8,285	\$7,084	
38	242,549	\$2,509,261,741	\$10,345	\$19,775	\$7,654	\$5,638	
39	429,703	\$4,254,893,585	\$9,902	\$15,653	\$7,715	\$5,526	
40	297,185	\$2,904,457,464	\$9,773	\$12,957	\$7,559	\$5,813	
41	81,985	\$959,076,569	\$11,698	\$15,966	\$8,907	\$7,374	
42	6,183	\$81,492,457	\$13,180	\$16,332	\$9,640	\$8,515	
43	476	\$5,885,793	\$12,365	\$14,953	\$8,556	\$7,024	
44	148	\$2,063,966	\$13,946	\$32,959	\$8,345	\$5,909	
45	48	\$461,306	\$9,611	\$8,627	\$7,937	\$3,977	

	Live Births		Total Costs (Maternal + Newborn)				
	N	Total	Mean	StdDev	Median	IQR	
All	1,260,457	\$18,245,029,694	\$14,475	\$41,306	\$8,050	\$6,581	
<b>Birth Weight Group</b>							
<500g	397	\$71,776,226	\$180,797	\$337,756	\$17,909	\$145,007	
500g-599g	831	\$220,747,000	\$265,640	\$341,601	\$81,115	\$451,815	
600g-699g	939	\$351,327,906	\$374,151	\$337,276	\$347,349	\$492,734	
700g-799g	978	\$397,890,972	\$406,841	\$307,160	\$364,003	\$336,124	
800g-899g	966	\$373,912,800	\$387,073	\$281,942	\$335,030	\$277,589	
900g-999g	1,116	\$333,066,156	\$298,446	\$222,638	\$248,839	\$204,913	
1000g-1099g	1,105	\$271,926,548	\$246,087	\$186,113	\$205,357	\$179,340	
1100g-1199g	1,262	\$275,913,566	\$218,632	\$167,668	\$174,707	\$149,311	
1200g-1299g	1,282	\$246,188,847	\$192,035	\$145,441	\$154,249	\$135,230	
1300g-1399g	1,663	\$257,218,328	\$154,671	\$137,757	\$124,255	\$110,778	
1400g-1499g	1,672	\$230,108,926	\$137,625	\$116,592	\$107,186	\$97,424	
1500g-1599g	2,167	\$254,345,914	\$117,372	\$110,864	\$90,431	\$82,518	
1600g-1699g	2,219	\$220,236,716	\$99,250	\$90,608	\$76,403	\$72,662	
1700g-1799g	3,007	\$251,002,784	\$83,473	\$78,488	\$63,911	\$59,784	
1800g-1899g	3,903	\$266,708,444	\$68,334	\$82,948	\$48,666	\$54,046	
1900g-1999g	4,287	\$254,401,864	\$59,343	\$70,628	\$42,210	\$47,824	
2000g-2249g	17,343	\$679,768,621	\$39,196	\$58,506	\$23,711	\$36,530	
2250g-2499g	35,680	\$803,355,521	\$22,516	\$45,739	\$10,902	\$16,189	
2500g-2749g	70,948	\$1,011,619,403	\$14,259	\$30,325	\$8,471	\$7,684	
2750g-2999g	152,824	\$1,696,699,996	\$11,102	\$21,411	\$7,755	\$6,077	
3000g-3249g	241,354	\$2,448,615,286	\$10,145	\$19,301	\$7,571	\$5,688	
3250g-3499g	267,527	\$2,653,852,767	\$9,920	\$17,313	\$7,618	\$5,661	
3500g-3749g	216,594	\$2,160,972,107	\$9,977	\$13,754	\$7,767	\$5,808	
3750g-3999g	130,853	\$1,348,446,455	\$10,305	\$12,747	\$7,992	\$5,988	
>=4000g	99,540	\$1,164,926,540	\$11,703	\$18,553	\$8,681	\$6,804	

Abbreviations: Std Dev, standard deviation; IQR, interquartile range.



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**Table 16.**

Different Measures of Inflation

	Inflation Index			Change 2010 to 2017	Change 1999 to 2017
	December, 1999	December, 2010	December, 2017		
Overall Consumer Price Index for All Urban Consumers (CPI-U)	168.3	219.2	246.5	27.3	78.2
Medical Component of CPI, or MCPI	254.2	391.9	509.0	117.1	254.8
Producer Price Index (PPI)	128.0	189.9	196.4	6.5	68.4
Hospital Services PPI	69.1	103	118.5	15.5	49.4
PPI for General and Surgical Hospitals - Medicare Patients		160.6	168.4	7.8	
PPI for General and Surgical Hospitals - Medicaid Patients		137.0	140.1	3.1	
PPI for General and Surgical Hospitals - All Other Patients		202.1	253.1	51.0	