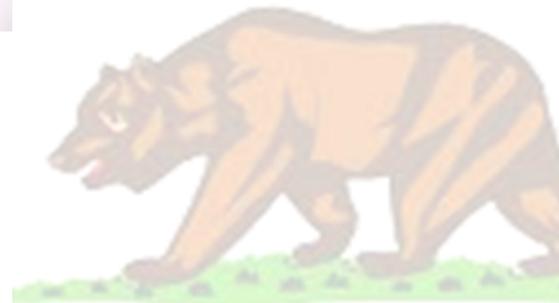


# 2011 Medi-Cal Birth Statistics



CALIFORNIA REPUBLIC



**Errata Sheet:**

Watkins, J. 2014. 2011 Medi-Cal Birth Statistics. California Department of Health Care Services. Sacramento, CA. June 2014.  
*Compiled by Cris DeMorais, Chief*

**Page 2, Continuing to Page 3:** Narrative and statistics pertaining to prenatal care initiation were revised to reflect updated data.

**Page 22:** Narrative and statistics pertaining to prenatal care initiation were revised to reflect updated data.

**Figure 17:** Narrative and statistics pertaining to prenatal care initiation were revised to reflect updated data.

**Appendix H, Table 2:** Statistics pertaining to prenatal care initiation were revised to reflect updated data.

**Appendix H, Table 8:** Statistics pertaining to prenatal care initiation were revised to reflect updated data.

<b>EXECUTIVE SUMMARY</b> .....	<b>1</b>
<b>MEDI-CAL PROGRAM BACKGROUND</b> .....	<b>5</b>
MEDI-CAL'S POPULATION .....	8
MEDI-CAL'S SPECIAL PREGNANCY-RELATED PROGRAMS .....	8
<i>Presumptive Eligibility (PE) Program</i> .....	8
<i>200 Percent Federal Poverty Level (FPL) Pregnant Income Disregard Program</i> .....	9
<i>Transferring from a Limited-Scope Coverage Program to a Full-Scope Coverage Program During Pregnancy</i> .....	9
<i>Postpartum Program</i> .....	10
<i>Access for Infants and Mothers (AIM)</i> .....	10
MEDI-CAL-RELATED PREGNANCY EDUCATION PROGRAMS .....	11
<i>Comprehensive Perinatal Services Program</i> .....	11
<i>Black Infant Health Program</i> .....	11
<i>Prenatal Care Guidance Program</i> .....	11
<b>REPORT INTRODUCTION</b> .....	<b>12</b>
REPORT STRUCTURE .....	12
METHODS.....	12
LIMITATIONS .....	13
HEALTHY PEOPLE 2020 OBJECTIVES .....	14
<b>FINDINGS</b> .....	<b>15</b>
NATIONAL AND CALIFORNIA FERTILITY TRENDS .....	15
MEDI-CAL POPULATION STATISTICS.....	15
<i>Medi-Cal as Percent of Total California Births</i> .....	15
<i>Medi-Cal Births by Eligibility Pathway</i> .....	15
<i>Medi-Cal Births by Medi-Cal Health Delivery System</i> .....	16
<i>Medi-Cal Births by Geographic Region</i> .....	16
MATERNAL DEMOGRAPHIC CHARACTERISTICS.....	17
<i>Age</i> .....	17

<i>Race/Ethnicity</i> .....	18
<i>Nativity</i> .....	19
<i>Education Status</i> .....	20
<i>Parity</i> .....	21
<i>Multiple-Gestation births</i> .....	21
<i>Prenatal Care</i> .....	22
<i>Delivery Method</i> .....	23
<i>Hypertension</i> .....	25
<i>Diabetes</i> .....	27
<i>Smoking</i> .....	29
<i>Substance Use:</i> .....	31
<i>Pre-Pregnancy Weight</i> .....	33
BIRTH OUTCOMES .....	35
<i>Low Birthweight</i> .....	36
<i>Very Low Birthweight</i> .....	40
<i>Preterm Births</i> .....	43
<i>Very Preterm Births</i> .....	47
<b>CONCLUSION</b> .....	<b>50</b>
<b>APPENDIX A – DEFINITIONS</b> .....	<b>51</b>
<b>APPENDIX B – ACRONYMS</b> .....	<b>54</b>
<b>APPENDIX C – REGIONAL ASSIGNMENT OF CALIFORNIA COUNTIES</b> .....	<b>55</b>
<b>APPENDIX D - AID CODE GROUPINGS USED FOR THIS ANALYSIS</b> .....	<b>56</b>
<b>APPENDIX E – HEALTHY PEOPLE 2020 GOALS – MATERNAL AND INFANT HEALTH</b> .....	<b>57</b>
<b>APPENDIX F – RECONCILIATION TO VITAL STATISTICS REPORTS</b> .....	<b>58</b>
<b>APPENDIX G – END NOTES AND REFERENCES</b> .....	<b>59</b>
<b>APPENDIX H – DETAILED TABLES</b> .....	<b>67</b>

## LIST OF DETAILED TABLES

- Table 1** - Comparison of Medi-Cal Births to Other Payer Sources, by Select Maternal Characteristics, California Resident Hospital Births, 2011
- Table 2** - Comparison of Medi-Cal Births to Births from Other Payer Sources, by Select Birth Characteristics, California Resident Hospital Births, 2011
- Table 3a** - Comparison of Delivery Methods among Medi-Cal Births, by Select Maternal Characteristics, California Resident Hospital Births, 2011
- Table 3b** - Comparison of Delivery Methods among Non-Medi-Cal Births, by Select Maternal Characteristics, California Resident Hospital Births, 2011
- Table 4** - Comparison of Medi-Cal Births to Births from Other Payer Sources, by Select Maternal Comorbidities, California Resident Hospital Births, 2011
- Table 5a** - Comparison of Select Birth Outcomes, Medi-Cal vs. Births from Other Payer Sources, California Resident Hospital Births, 2011
- Table 5b** - Comparison of Select Birth Outcomes among Singleton Births, Medi-Cal vs. Births from Other Payer Sources, California Resident Hospital Births, 2011
- Table 6a** - Comparison of Birthweight among Medi-Cal Births, by Select Maternal and Birth Characteristics, California Resident Hospital Births, 2011
- Table 6b** - Comparison of Birthweight among Medi-Cal Births, by Select Comorbidities, California Resident Hospital Births, 2011
- Table 6c** - Comparison of Birthweight among Non-Medi-Cal Births, by Select Maternal and Birth Characteristics, California Resident Hospital Births, 2011
- Table 6d** - Comparison of Birthweight among Non-Medi-Cal Births, by Select Comorbidities, California Resident Hospital Births, 2011
- Table 7a** - Comparison of Gestational Age among Medi-Cal Births, by Select Maternal and Birth Characteristics, California Resident Hospital Births, 2011
- Table 7b** - Comparison of Gestational Age among Medi-Cal Births, by Select Comorbidities, California Resident Hospital Births, 2011
- Table 7c** - Comparison of Gestational Age among Non-Medi-Cal Births, by Select Maternal and Birth Characteristics, California Resident Hospital Births, 2011
- Table 7d** - Comparison of Gestational Age among Non-Medi-Cal Births, by Select Comorbidities, California Resident Hospital Births, 2011
- Table 8a** - Medi-Cal Births by Aid Category and Select Comorbidities, California Resident Hospital Births, 2011
- Table 8b** - Medi-Cal Births by Aid Category and Select Birth Characteristics, California Resident Hospital Births, 2011
- Table 9a** - Medi-Cal Births by Beneficiary County and Maternal Race/Ethnicity, California Resident Hospital Births, 2011
- Table 9b** - Medi-Cal Births by Beneficiary County and Maternal Age, California Resident Hospital Births, 2011
- Table 9c** - Medi-Cal Births by Beneficiary County and Aid Category, California Resident Hospital Births, 2011
- Table 9d** - Medi-Cal Births by Beneficiary Region and Maternal Race/Ethnicity, California Resident Hospital Births, 2011
- Table 9e** - Medi-Cal Births by Beneficiary Region and Maternal Age, California Resident Hospital Births, 2011
- Table 9f** - Medi-Cal Births by Beneficiary Region and Aid Category, California Resident Hospital Births, 2011
- Table 10** - Medi-Cal and Non-Medi-Cal Births by Select Comorbidities and Maternal Race/Ethnicity, California Resident Hospital Births, 2011

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Homepage – [http://www.dhcs.ca.gov/dataandstats/statistics/Pages/RASD\\_Default.aspx](http://www.dhcs.ca.gov/dataandstats/statistics/Pages/RASD_Default.aspx)

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This document is intended to provide unbiased birth statistics pertaining to Medi-Cal program beneficiaries. The analyses, interpretation of data, and conclusions reached herein are solely those of the authors, and do not necessarily reflect the policies or legal positions of the California Health and Human Services Agency (CHHS), the California Department of Health Care Services (DHCS), or the California Department of Public Health – Health Information and Research Section (CDPH/HIRS). The statistics and other informational content in this report do not render any legal, accounting or other professional advice, nor are they intended to explain fully all of the provisions or exclusions of the relevant laws, regulations, and rulings of the Medicaid program. Original sources of authority should be consulted for additional information.

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## EXECUTIVE SUMMARY

In 2011, approximately 12% of all hospitalizations in the U.S. were for maternity care, and an additional 10% were for care of newborns. Live born (newborn infant) deliveries are the most common reason for hospital care in the U.S., and this phenomenon is no different in the Medi-Cal program. Among female beneficiaries under age 65, childbearing is the primary reason for seeking health care in the Medi-Cal program.<sup>1</sup>

During calendar year 2011, 9.3 million Californians were eligible for Medi-Cal for at least one month. Of these beneficiaries, 22.0%, or 2.0 million, were women of reproductive age, between ages 15 and 44.<sup>2</sup>

From 2007 to 2011, the U.S. general fertility rate (GFR) decreased 8.8%, while the California GFR declined 12.5%.<sup>3,4</sup> Literature suggests that the economic recession which began in 2007 is partially responsible for this decline; those states that experienced the greatest levels of economic hardship during the recession had correspondingly large decreases in fertility.<sup>5</sup>

The relationship between external economic factors and birth rates is particularly relevant to Medi-Cal. As a safety-net program, Medi-Cal responds inversely to economic trends, increasing enrollment as the economy declines. Within the Medi-Cal program, the impact of the recession, birthrates, and enrollment into the program is complex. On the one hand, the number of women of reproductive age enrolling into Medi-Cal increased due to the loss of employer sponsored insurance coverage, while at the same time birth rates declined and Medi-Cal enrollment growth among some subpopulations slowed. Several populations most vulnerable to decreasing birth rates are overrepresented in the Medi-Cal population. Hispanic mothers, immigrant mothers, and mothers under 25 years old experienced the

greatest decrease in birth rates during the recession.<sup>6,7,8</sup>

The 2011 Medi-Cal Birth Statistics report presents the descriptive statistics for 2011 California resident births that occurred in a hospital setting, including data on maternal characteristics, delivery methods, and select birth outcomes such as [low birthweight](#) and [preterm delivery](#). This report includes key [comorbidities](#) and health behaviors known to influence birth outcomes, such as [hypertension](#), [diabetes](#), [substance use](#), [pre-pregnancy weight](#), and smoking during pregnancy.

RASD additionally presents birth statistics for women participating in the Medi-Cal Fee-For-Service (FFS) and Medi-Cal managed care delivery systems, as well as births financed by private insurance, births financed by other public funding sources, and births among uninsured mothers.

The descriptive statistics presented in this report show that a large proportion of women enrolled in Medi-Cal were from subgroups most vulnerable to adverse birth outcomes. These subgroups included women receiving services through Medi-Cal's [Blind/Disabled aid category](#), teen mothers, African-American mothers, mothers of increased [parity](#) levels, and mothers of lower educational attainment. Modifiable risk factors that are associated with poor birth outcomes, such as smoking during pregnancy, [substance use](#), and [pre-pregnancy weight](#) outside of normal ranges, were most prevalent among Medi-Cal mothers and more common among those participating in managed care than FFS. [Protective factors](#) such as being foreign-born and receiving early prenatal care were less prevalent among Medi-Cal managed care participants than the FFS population. These factors may explain some of the differences among health delivery systems in rates of [low birthweight](#), [very low birthweight](#), [preterm](#) and [very preterm](#) births that are reported here.

This section provides a brief summary of key findings detailed in this statistical report, organized by report section. It is important to note that because this report does not account for patients' risks, readers should be careful not to make comparisons concerning effectiveness or quality of care across health delivery systems based on the statistics presented.

### Medi-Cal Birth Trends

- Over the period 2007 through 2011, the number of hospital deliveries to Medi-Cal mothers declined by over 18,000 deliveries, or 6.8% over 5 years.

### Health Delivery System Participation

- In 2011, the Medi-Cal program financed 50.4% of all births to [resident Californians](#) occurring in hospital settings (Figure 1). Of the 250,158 births financed by Medi-Cal, 62.2% were to mothers participating in the FFS delivery system and 37.8% were to mothers participating in the managed care delivery system.

### Maternal Demographics

- **Age:** The mean maternal age for Medi-Cal-financed births was 26.4 years (median = 26 years), while the mean maternal age among non-Medi-Cal births was 30.8 years (median = 31 years). Medi-Cal financed 81.2% of all California resident hospital births for mothers age 19 and younger.
- **Race/Ethnicity:** Mothers of Hispanic ethnicity made up a large percentage of Medi-Cal financed births (68.1%). The proportion of African-American mothers participating in Medi-Cal managed care was more than three times higher than non-Medi-Cal funding sources and Medi-Cal's FFS program.

African-American mothers constituted 13.2% of Medi-Cal's managed care participants, but only 3.8% of its FFS participants.

- **Education Status:** Mothers whose births were financed by Medi-Cal had lower educational attainment than non-Medi-Cal mothers. Among Medi-Cal mothers, 36.8% had less than a high school education, 34.2% had a high school diploma, 24.1% had some college, and 4.9% had a college degree. Conversely, only 6.6% of non-Medi-Cal mothers had less than a high school education, 17.3% had a high school diploma, 27.5% had some college, and 48.6% attained a college degree.
- **Nativity:** Among Medi-Cal financed births, 55.0% were to U.S.-born mothers and 45.0% were to foreign-born mothers. Among non-Medi-Cal financed births, 65.2% were to U.S.-born mothers and 34.8% to foreign-born mothers. Foreign born mothers made up 60.6% of mothers who participated in Medi-Cal's FFS program, but only 19.3% of the mothers who participated in Medi-Cal managed care .

### Birth Characteristics

- **Parity:** [Parity](#) levels were higher among Medi-Cal mothers than among non-Medi-Cal mothers. Among Medi-Cal mothers, 34.9% were first-time mothers, 28.7% had one previous birth, and 36.4% had two or more previous births. Among non-Medi-Cal mothers, 42.9% were first-time mothers, 34.6% had one previous birth, and 22.5% had two or more previous births.
- **Multiple-Gestation Births:** [Multiple-gestation](#) births were more common among non-Medi-Cal mothers than Medi-Cal mothers (4.2% vs. 2.3%).
- **Prenatal Care:** The percent of Medi-Cal mothers who initiated

prenatal care during their first trimester of pregnancy was 77.5%. In contrast, 92.0% of mothers with private insurance initiated prenatal care in the first trimester of pregnancy. Among Medi-Cal mothers, 75.5% of those participating in managed care, and 78.6% of those in FFS, initiated early prenatal care. These percentages reflect the fact that Medi-Cal finances roughly 8 out of 10 teen births and provides coverage to women who enroll in the program after being diagnosed with a pregnancy that, in many cases, was unplanned. These mothers may have insurance policies that did not cover specific pregnancy-related services or no insurance at all. Medi-Cal becomes the insurer of last resort, when alternative options do not exist. In many cases, navigating into Medi-Cal, denial of pregnancy, etc., may all contribute to late entry into prenatal care.

- **Delivery Method:** The percentage of Medi-Cal births delivered using the cesarean section method was slightly lower than the statewide average. Among non-Medi-Cal financed births, the overall percent of deliveries via the cesarean section method was 34.4%, and highest among privately insured births at 34.5%. The primary cesarean section rate was lower among Medi-Cal births (16.4%) than non-Medi-Cal births (20.3%).

### Maternal Comorbidities and Health Behaviors

- **Hypertension:** The prevalence of [hypertension](#) was similar among Medi-Cal mothers (7.4%) and privately insured mothers (7.7%). Hypertension was associated with [low birthweight](#) and [preterm](#) births for both Medi-Cal mothers and non-Medi-Cal mothers.
- **Diabetes:** The prevalence of diabetes among Non-Medi-Cal mothers was 9.7%, slightly higher than the prevalence among Medi-Cal mothers (8.7%).

- **Smoking:** Among Medi-Cal managed care mothers, 4.4% smoked during pregnancy, compared to 2.7% among mothers who participated in the FFS delivery system. Mothers with births not financed by Medi-Cal had a smoking prevalence of 0.9%, while the overall frequency of smoking among Medi-Cal mothers was 3.3%. Mothers who smoked were more likely to have a [low birthweight](#) outcome than those who did not smoke.

- **Substance Use:** Substance use was nearly four times higher among Medi-Cal mothers than non-Medi-Cal mothers (1.9% vs. 0.5%), and more common among mothers who participated in Medi-Cal managed care (2.8%). There was a substantial increase in the percentage of low birthweight among mothers who engaged in substance use during their pregnancy.

- **Pre-Pregnancy Weight:** Among Medi-Cal mothers, 53.7% had a [pre-pregnancy weight](#) considered overweight or obese, compared to only 40.2% of non-Medi-Cal mothers. Medi-Cal mothers enrolled in Blind/Disabled [aid codes](#) had pre-pregnancy overweight/obesity rates of 57.8%, whereas 56.3% of Medi-Cal mothers without satisfactory immigration status (SIS), also referred to as “Undocumented,” had a pre-pregnancy weight considered overweight/obese.

### Birth Outcomes

- **Low Birthweight (<2500 grams):** The overall low-birthweight percent among Medi-Cal births was 6.6%, and 6.9% among all non-Medi-Cal births, both meeting the Healthy People 2020 Goal of reducing low-birthweight births to 7.8% or less.

- **Very Low Birthweight (<1500 grams):** The very low birthweight percent among Medi-Cal births was 1.1%, and 1.2% among all non-

Medi-Cal births, both meeting the Healthy People 2020 goal of reducing low-birthweight deliveries to 1.4% or less. The percentage of Medi-Cal-financed very low birthweight births was equal to or slightly lower than the very low birthweight births financed by non-Medi-Cal funding sources.

- **Preterm Births (<37 weeks of gestation):** The percent of preterm births among Medi-Cal mothers was 10.3%, while the percent among non-Medi-Cal mothers was 9.4%. Both Medi-Cal and non-Medi-Cal percentages of preterm births met the Healthy People 2020 Goal of reducing the rate of preterm births to 11.4% nationwide. Preterm

births were more common among **singleton** Medi-Cal births (9.2%) than **singleton** non-Medi-Cal births (7.4%).

- **Very Preterm Births (<32 weeks of gestation):** The percent of very preterm births among Medi-Cal mothers was 1.6%, while the percent among non-Medi-Cal mothers was 1.4%. Both Medi-Cal and non-Medi-Cal percentages of preterm births met the Healthy People 2020 Goal of reducing the percent of very preterm births to 1.8%. Very preterm delivery percentages were similar among births financed by Medi-Cal's FFS delivery system (1.5%) and its managed care delivery system (1.6%).

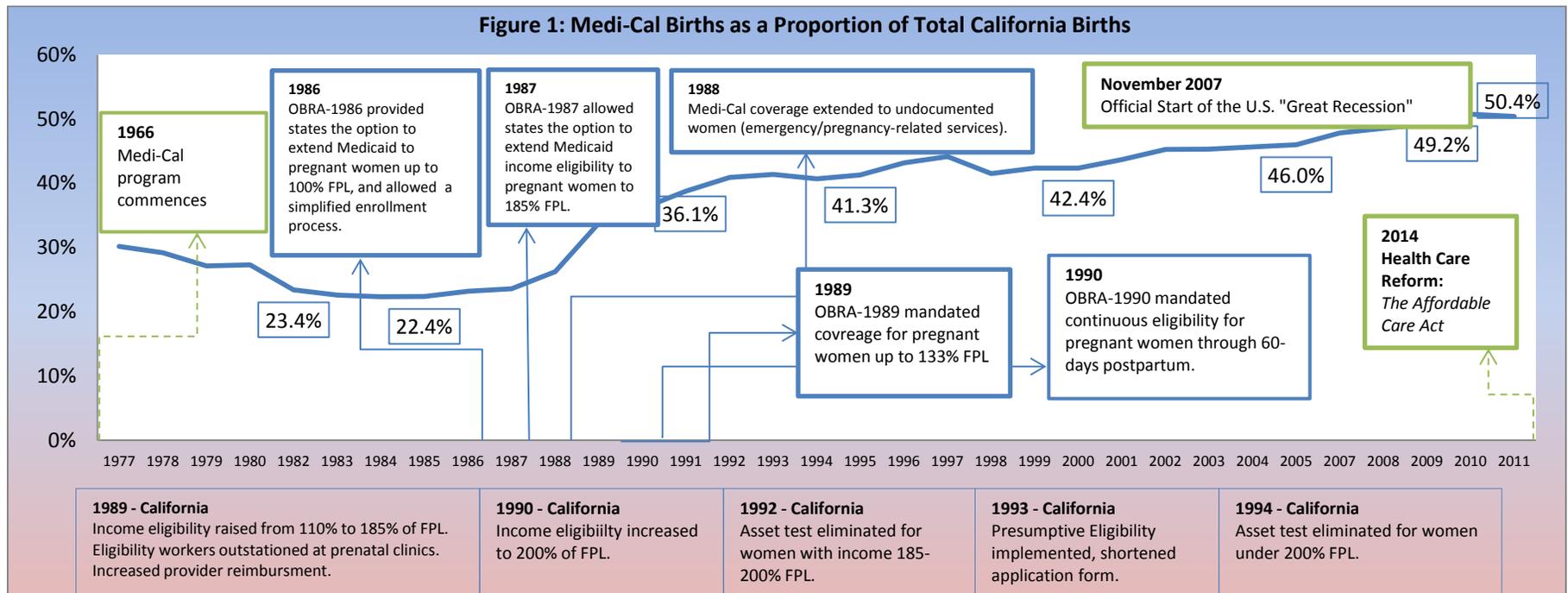
## MEDI-CAL PROGRAM BACKGROUND

Medi-Cal provides comprehensive health care services at no cost or low cost for low-income individuals.<sup>9</sup> The federal government dictates a mandatory set of basic services be provided to beneficiaries including, but not limited to: physician services, family nurse practitioner services, nursing facility services, hospital inpatient and outpatient services, laboratory and radiology services, family planning, and early and periodic screening, diagnosis, and treatment services for children. In addition to these mandatory services, California provides optional benefits such as outpatient drugs, home and community-based services, and medical supplies.

Medicaid is a significant financier of maternal and child health care services nationwide. Nationally, the Medicaid program financed approximately 1.7 million births, or 44.7% of births, in 2011.<sup>10</sup> In the same year, Medi-Cal financed 50.4% of all resident births occurring in California hospitals.

Medi-Cal beneficiaries are generally low-income or have limited means to pay for the cost of their health care services. In order to be eligible for Medi-Cal, individuals must fit into one of several categories:

- Individuals who are blind or disabled according to Social Security rules (SSI-Linked),
- Families with children where deprivation exists (CalWORKs-linked),



- Pregnant women, infants, and children within certain income and resource levels,
- Individuals with specific health care needs, such as dialysis, tuberculosis, breast and cervical cancer, or nursing home services.

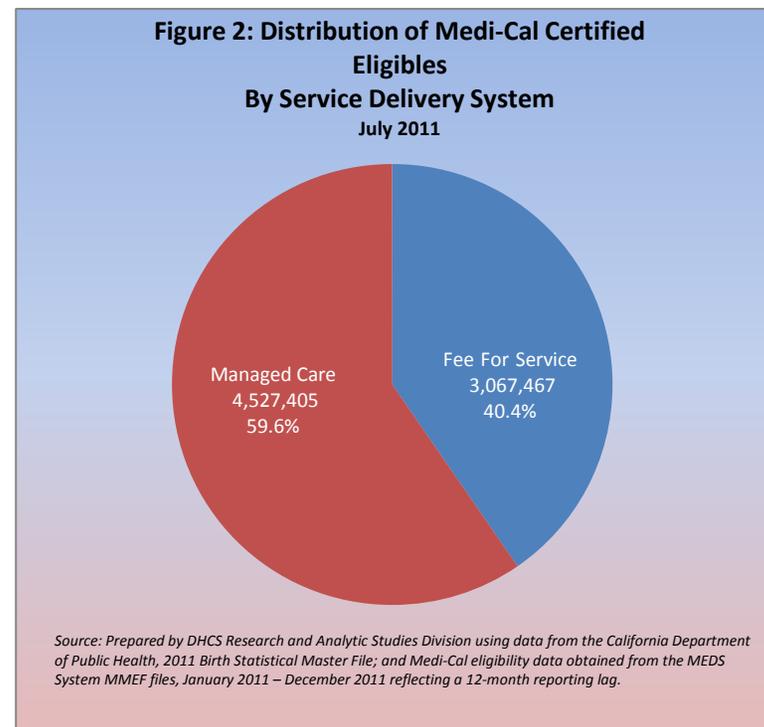
An “eligibility pathway” is the method by which a beneficiary qualifies for Medi-Cal. The state frequently determines a beneficiary’s eligibility pathway by income relative to the federal poverty level (FPL), but resources, health, age, and disability status are also factors in eligibility determinations. For administrative purposes, “aid codes” represent these eligibility pathways. Aid codes are a combination of numbers and letters used administratively to track the criteria by which each person qualified for Medi-Cal. A beneficiary’s aid code represents whether that beneficiary will receive full or limited-scope health coverage, and whether the coverage will be free of cost. Full-scope coverage includes all federally mandated Medicaid services and all “optional” services offered by the state in the State Plan. (For Medi-Cal purposes, the State Plan serves as the state’s contract with the federal government, documenting all of the services available to enrolled beneficiaries.) Some beneficiaries, such as immigrants without SIS,<sup>11</sup> or those enrolled in special programs like the Tuberculosis Program<sup>12</sup> or 200 Percent Federal Poverty Level (FPL) Pregnant Income Disregard Program, qualify for limited- or restricted-scope benefits. In general, beneficiaries with restricted-scope Medi-Cal receive only emergency services, pregnancy-related services, or services necessary to treat their qualifying condition.<sup>13,14</sup>

A beneficiary’s aid code also represents whether the beneficiary will be required to meet a monthly share-of-cost (SOC) obligation to receive coverage. Beneficiaries enrolled in aid codes associated with Medi-Cal’s SOC program are individuals and families whose incomes are too

high to qualify for cash assistance, but insufficient to cover their medical expenses. Beneficiaries with a SOC obligation must contribute to their medical expenses up to a predetermined monthly threshold; it is only after beneficiaries meet their monthly obligation that they qualify for Medi-Cal covered benefits.

### Medi-Cal Service Delivery Systems

Once qualified for Medi-Cal, a beneficiary will receive care through one of Medi-Cal’s two service delivery systems, traditional FFS or managed care (Figure 2). Under the FFS delivery system, beneficiaries seek medical services from a qualified Medi-Cal provider and the provider

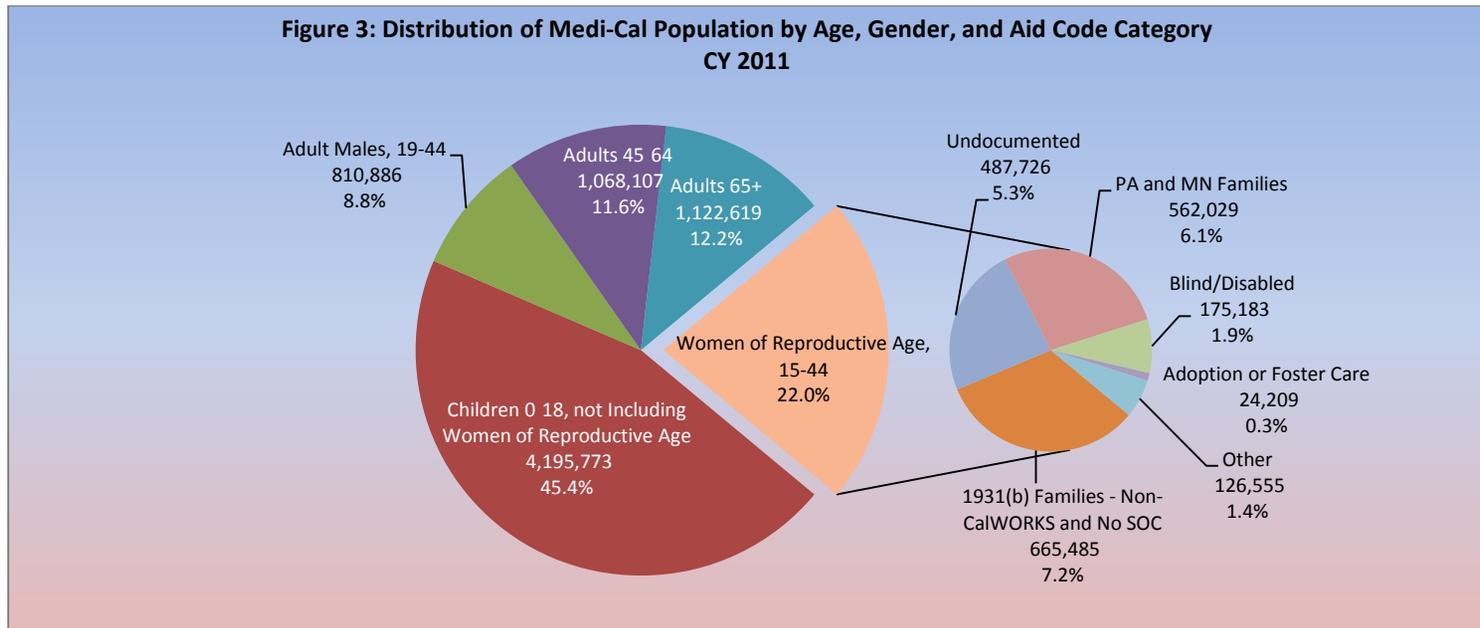


bills Medi-Cal for each service administered. Beneficiaries in FFS must locate providers willing to accept Medi-Cal as a payer source.

The second delivery system is Medi-Cal managed care. In 2011, roughly 60% of all Medi-Cal certified eligibles participated in Medi-Cal's managed care delivery system. Under the managed care delivery system, the Medi-Cal program contracts with health care plans to administer health care services to the enrolled population. Medi-Cal pays the contracting health plans a monthly payment for each enrolled member, and the health plan assumes the financial risk for all necessary health care services. Health plans assign beneficiaries to participating providers and arrange care through their network of providers. Transitions between health payment systems impact approximately 6% of all Medi-Cal identified births. RASD classified

births as FFS or Managed Care based on the mother's status at the time of delivery.

Medi-Cal managed care is currently administered using three models based on county jurisdiction: the Two-Plan model, the Geographic Managed Care model (GMC), and the County Organized Health System (COHS) model. In counties using the Two-Plan model, the Department of Health Care Services (DHCS) contracts with two plans, one commercial health plan and one locally based county initiative, allowing beneficiaries to choose either plan. In GMC counties, DHCS contracts with several commercial health plans and beneficiaries choose the plan that suits their needs. In counties with a COHS model of care, enrollment in a county-level health plan is mandatory for almost all resident beneficiaries.



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

## Medi-Cal's Population

During calendar year 2011, nearly 9 million Californians were eligible for Medi-Cal for at least one month. Women between the ages of 15 and 44 made up 22.0% of the Medi-Cal population. Among women of reproductive age, the most common eligibility pathways included: 1931(b) Families – Non-CalWORKs, Undocumented (lacking SIS), Public Assistance – Families, Medically Needy Families, Public Assistance Disabled, and 200 Percent FPL Pregnant Income Disregard Program (Figure 3).

As previously noted, a beneficiary's eligibility pathway represents whether they are entitled to full-scope Medi-Cal benefits without an SOC, full-scope benefits after meeting a monthly SOC obligation, or limited-scope services such as emergency and pregnancy-related services only. Some women enroll in an aid code that requires a monthly SOC obligation prior to pregnancy, but become eligible during pregnancy for special programs designed to ensure access to early prenatal, postpartum, and other services without a SOC obligation.

## Medi-Cal's Special Pregnancy-Related Programs

In the late 1980s and early 1990s, federal legislation expanded publicly sponsored health insurance to low-income pregnant women.<sup>15</sup> This provided states the opportunity to improve birth outcomes among vulnerable women by improving access to early prenatal care. States invested in outreach activities, enrollment simplification, and enhanced prenatal benefits. The passage of federal simplification legislation provided states with the flexibility to adopt:

- Simplified enrollment processes,
- Continuous eligibility through pregnancy and 60 days postpartum,

- Presumptive eligibility,
- Out-stationed eligibility workers in community health centers and safety-net hospitals,
- Dropping asset tests, and
- Expediting eligibility determinations.

In response to these federal legislative changes, California adopted many of these options and established several special Medi-Cal eligibility pathways for pregnant women. California designed eligibility pathways to encourage early and appropriate prenatal care, and to ensure that pregnant women could easily gain Medi-Cal coverage. Many special pregnancy programs offer only emergency, family planning, and pregnancy-related services. In some cases, it is possible for qualifying women to enroll simultaneously in a second Medi-Cal aid code that entitles them to non-pregnancy-related services after meeting a SOC.

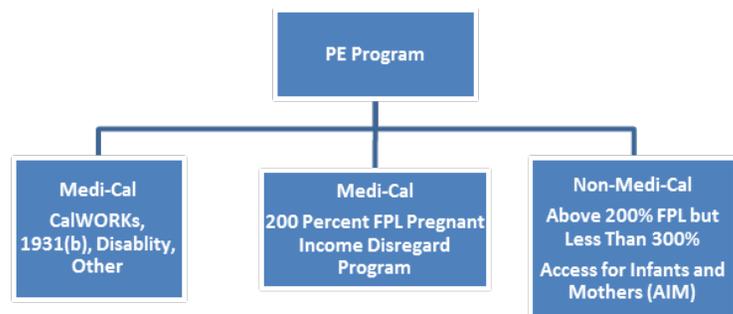
**Presumptive Eligibility (PE) Program:** Medi-Cal's PE program enables providers to bestow immediate, temporary prenatal Medi-Cal coverage to a pregnant woman based on her responses to a few income and residency questions.<sup>16</sup> Medi-Cal provides this coverage under the assumption that the pregnant woman will be eligible for Medi-Cal once she applies. Once the woman becomes eligible for the PE program, she must start the formal Medi-Cal application process by the end of the month following the month the temporary presumptive benefits started.<sup>17</sup> Women who apply for Medi-Cal coverage or CalWORKs during the PE period will receive another 60 days of PE coverage.<sup>18</sup> The PE program covers all ambulatory prenatal care services,<sup>19</sup> but does not cover the costs of delivery, family planning, or induced abortion procedures.<sup>20</sup>

When Medi-Cal deems a pregnant woman with PE coverage eligible, she transfers into the Medi-Cal pathway that best reflects her eligibility status. Former PE eligibles may move into a specialized Medi-Cal pregnancy category of eligibility such as the 200 Percent FPL Pregnant Income Disregard Program, or any other Medi-Cal category of eligibility (Figure 4). If the applicant is not eligible, PE coverage ends at the end of the month of the determination.<sup>21</sup> Those who do not qualify for Medi-Cal may seek enrollment into California’s Access for Infants and Mothers (AIM) program.

Women receiving coverage under the PE program may also be eligible for Medi-Cal through the Medically Indigent (MI) or Medically Needy (MN) programs, which may require a SOC. These women may receive Medi-Cal covered services unrelated to pregnancy through this eligibility linkage.

**200 Percent Federal Poverty Level (FPL) Pregnant Income Disregard Program:**<sup>22</sup> The 200 Percent FPL program provides eligible women with an income below 200% FPL with pregnancy-related health coverage with no SOC, co-payments, or deductibles.<sup>23,24</sup> Both citizens and non-citizens (residents who cannot prove SIS) may participate in this program.

**Figure 4: Potential Coverage Options after PE Coverage Ends**



“Pregnancy-related services” are defined as those required to ensure the health of the pregnant woman and the fetus.<sup>25</sup> In practice, this includes office visits, prenatal care, services for complications of pregnancy, lab tests, prescription medicine, anesthesia, labor and delivery, postpartum care, and family planning services.

Medi-Cal counts the pregnant woman as a family of two when determining her eligibility. A woman enrolled in Medi-Cal via the MN or MI programs prior to becoming pregnant may also enroll into the 200 Percent FPL Pregnant Income Disregard Program. These women will receive pregnancy-related services under the 200 Percent FPL program at no cost, and the MN or MI programs will cover non-pregnancy-related health services that may have a SOC obligation.

Pregnant women enrolled in the 200 Percent FPL Pregnant Income Disregard Program may also enroll in a non-Medi-Cal insuring organization such as Kaiser Permanente, etc. Approximately 15% of the pregnant women enrolled in the 200 Percent FPL Pregnant Income Disregard Program have some type of other health care coverage. Prior to July 2012, many individual health insurance policies did not cover maternity care.<sup>26,27,28,29</sup>

**Transferring from a Limited-Scope Coverage Program to a Full-Scope Coverage Program During Pregnancy:** It is possible for women to transfer from a limited-scope to a full-scope Medi-Cal program (such as 1931(b) Non-CalWORKs) in the third trimester of their pregnancy.<sup>30</sup> By transferring from a restricted-scope program to a full-scope program, an eligible woman can receive all services contained within the State Plan, including non-pregnancy related services.

Medi-Cal’s 1931(b) Non-CalWORKs program provides children through age 18, their parents, and caretaker relatives with free Medi-Cal with

no SOC, based on the deprivation of the child. If a family meets the income and property-limit requirements, and can prove that the child is deprived (Medi-Cal determines deprivation based on the absence of one parent in the family, or the underemployment or unemployment of the principal wage earner), they may receive full-scope 1931(b) coverage with no time limit.<sup>31</sup> Medi-Cal evaluates a pregnant woman for 1931(b) coverage based on the deprivation of the unborn child during the third trimester of the pregnancy. The father of the child is not eligible to receive coverage under 1931(b) until the birth of the child.<sup>32</sup>

In a number of counties, when a woman enrolls in a full-scope aid code program such as 1931(b), she is mandatorily required to participate in a Medi-Cal managed care plan. If a pregnant woman has established a relationship with a specific FFS provider who is not a participant of the Medi-Cal managed care plan's provider network, Medi-Cal provides for a medical exemption option.<sup>33</sup> The exemption allows the pregnant woman to maintain continuity of care; she can remain in Medi-Cal's FFS system and continue to receive health care services from her established Medi-Cal FFS provider. A woman may establish eligibility in a number of different aid codes throughout her pregnancy by initiating enrollment into Medi-Cal via the PE program, transitioning to Medi-Cal's 200 Percent FPL Pregnant Income Disregard Program, and finally enrolling into Medi-Cal under the 1931(b) program.

It is important to point out that this transition results in complexity when attempting to compare one health care system to another with respect to outcomes such as early initiation of prenatal care. For example, a woman may transition from Medi-Cal's traditional FFS

system in her third trimester into a Medi-Cal managed care plan. In this scenario, the woman's birth event, using the aid code at time of birth, will assign this pregnancy event to Medi-Cal managed care. However, in the case of early prenatal initiation, the woman's first six months of pregnancy occurred while enrolled in Medi-Cal's FFS system.<sup>34</sup> The FFS system's effectiveness, in this case, will inappropriately accrue to Medi-Cal managed care if not accounted for properly. Switches in health care delivery systems impact approximately 6% of all Medi-Cal identified births.

**Postpartum Program:** Because financial barriers may inhibit a woman's access to postpartum services, a special postpartum program is available. The postpartum program offers coverage with no SOC for up to 60 days after the pregnancy ends. Women who participated in an MN or MI program when they were pregnant may enroll in this program to receive postpartum care without a SOC obligation.<sup>35</sup>

**Access for Infants and Mothers (AIM):** Although the AIM program is not a Medi-Cal program, it provides medically necessary services to pregnant women with incomes between 200% and 300% of FPL through participating health plans. The Managed Risk Medical Insurance Board administers the AIM program. Women with family incomes too high to qualify for no-cost Medi-Cal qualify for participation in the AIM program if they have no maternity insurance, or have health insurance with a high maternity-only deductible (over \$500).<sup>36</sup> AIM provides full-coverage private health insurance at low cost to pregnant women during pregnancy, as well as 60 days postnatal care.

### **Medi-Cal-Related Pregnancy Education Programs**

In addition to the special pregnancy programs listed above, Medi-Cal coordinates with other state and county departments to provide educational and non-traditional prenatal services to qualified Medi-Cal mothers.

**Comprehensive Perinatal Services Program:** Through the Comprehensive Perinatal Services Program (CPSP), qualified Medi-Cal providers can receive reimbursement for pregnancy-care-coordination services outside of the “traditional” maternity services. After becoming a recognized CPSP provider, participating providers can receive reimbursement for nutrition services, psychosocial services, health education services, and prenatal vitamin and mineral supplements provided to Medi-Cal beneficiaries. Participation in this program is voluntary for Medi-Cal mothers and is available from CPSP-qualified hospital outpatient departments, community clinics, county clinics, physician groups, and certified nurse midwives. Medi-Cal managed care plans are required to provide CPSP-equivalent services to managed care enrollees.<sup>37</sup> Although Medi-Cal providers deliver the services offered by the CPSP program to enrolled Medi-Cal beneficiaries, California’s Maternal, Child & Adolescent Health Program administers the program.

**Black Infant Health Program:** The Black Infant Health (BIH) program, funded by a combination of Title V and Title XIX, aims to reduce health disparities within the African-American community. Even when studies control for the influence of maternal health conditions and negative health behaviors such as smoking and substance use, African-American mothers are more likely to experience negative birth outcomes.<sup>38</sup> To account for this disparity, the BIH program addresses social issues (poverty, lack of social support, low-income status) through weekly case management focused on pregnancy-related, newborn parent-related and personal empowerment topics.<sup>39</sup> The BIH program is administered by California’s Maternal, Child & Adolescent Health Program, and is currently available to mothers in 15 local health jurisdictions within California.<sup>40</sup>

**Prenatal Care Guidance Program:** The Prenatal Care Guidance program (PCG) is an effort within local California health departments to educate Medi-Cal-eligible women about the importance of prenatal care and assist them in obtaining and completing that care. Existing Maternal and Child Health (MCH) programs integrate PCG program at the county level, allowing welfare departments to inform eligible women about the publicly funded prenatal and well-baby care available without duplicative cost and effort. Local health departments administer PCG programs to cater to regional differences and needs.

## REPORT INTRODUCTION

The Medi-Cal Birth Statistics Report presents detailed data for 2011 California resident births occurring in a hospital setting. The report covers data on maternal and birth characteristics and select outcomes for births financed by Medi-Cal's FFS and managed care programs, as well as births financed by private insurance and other non-Medi-Cal sources. These data are important in several ways: 1) they provide a profile of the Medi-Cal beneficiaries who seek care for delivery services; 2) they identify factors that may contribute to variations in birth outcomes; and 3) they provide useful comparisons between Medi-Cal birth outcomes and those financed by other sources in the state. It is important to note, however, that because this report does not take into account patients' risks, readers should be careful not to make inferences regarding differences in the effectiveness or quality of care between the health care delivery systems evaluated.

### Report Structure

The report organizes findings into five sections: Medi-Cal Characteristics, Maternal Demographic Characteristics, Birth Characteristics, Maternal Comorbidities and Health Behaviors, and Birth Outcomes. Each section provides data for the four studied populations (Medi-Cal FFS, Medi-Cal managed care, private insurance, and mothers with other funding sources) as well as broader comparisons between the Medi-Cal and non-Medi-Cal populations.

Embedded figures highlight key findings in each section; Appendix H, (Detailed Tables), provides additional data for each studied characteristic. Missing, unknown, unreported, and invalid counts were eliminated from all statistics calculated.

## Methods

The primary source of data for this report comes from the birth certificates registered in California and recorded on the 2011 Birth Statistical Master File maintained by the California Department of Public Health (CDPH), Center for Health Statistics and Informatics. To identify comorbidities among women with hospital births, RASD used additional data from the Office of Statewide Health Planning and Development (OSHPD) hospital discharge file. Medi-Cal inpatient hospital claims containing dates-of-services from January 1, 2011 through December 31, 2011 and containing a delivery diagnosis code were used to confirm birth certificate records for women giving birth in 2011 financed by the Medi-Cal FFS system. Women with a delivery financed by Medi-Cal's managed care system were confirmed in the Birth Statistical Master File using Medi-Cal eligibility records from the Medi-Cal Eligibility Data System (MEDS).

Over 96% of birth certificate records indicating a hospital delivery were confirmed with data from the OSHPD hospital discharge file, totaling 496,029 hospital-based births to California residents (see Appendix F for the reconciliation to CDPH Vital Statistics statewide total births, including out-of-hospital and non-resident births).

RASD grouped the 496,029 records into four broad categories based on the Medi-Cal confirmations made in the process described above and by using the payer source reported in the Birth Statistical Master File. These groupings are Medi-Cal FFS, Medi-Cal managed care, Private Insurance, and Other Payment Source. Medi-Cal FFS and Medi-Cal managed care births account for 31.4% and 19.0% respectively. The combined total of Medi-Cal FFS and Medi-Cal managed care births are referred to as "Medi-Cal Births" or "All Medi-Cal Births" in this report. Private Insurance births account for 41.2%. RASD categorized the

remaining records as “Other Payment Source.” It includes birth records containing a reported payer source of “Other Federal, State or Local Government Programs,” “Self Pay,” “Indian Health,” “Champus/Tricare,” “Other,” and “Unknown” as well as 19,131 birth records with a payer source of “Medi-Cal” that could not be confirmed using the Medi-Cal eligibility data or data from FFS claims. RASD refers to the total of Private Insurance and Other Payment Source as “Non-Medi-Cal Births” or “All Non-Medi-Cal Births” in this report. The “Uninsured” group in our dataset represents an insignificant number of births compared to Medi-Cal and Private Insurance totals. Therefore, “Uninsured” was not analyzed as an independent category in this report.

Data presented on maternal characteristics (mother’s age, race/ethnicity, nativity, and education), birth characteristics (singleton/multiple birth, delivery method, prenatal care), and birth outcomes (birthweight, gestational age) are the data as reported on the birth certificate. Observations from the birth certificate containing a maternal age of less than 10 or greater than 60 were considered outside the range of plausibility, and were recoded to “unknown” age.

Beginning in 2007, data pertaining to pre-pregnancy weight and smoking were collected on California birth certificates, and are included in this report. Data pertaining to maternal comorbidities such as hypertension, diabetes, and substance use were extracted from the OSHPD hospital discharge file. Comorbid conditions reported during hospital delivery were identified using the Clinical Classification Software (CCS) available from the Agency for Healthcare Research and Quality (AHRQ).<sup>41</sup> Medi-Cal aid groupings were derived using data from the Medi-Cal eligibility file for the month during which the birth occurred, and are reported for both FFS and managed care

beneficiaries. Detailed data tables are presented in the back of this report (Appendix H) allowing the readers the ability for further analysis. Data tables which reflect county-specific tabulations have been suppressed for counties with populations less than 20,000 (based on county population estimates by the Department of Finance) to protect the confidentiality of Medi-Cal beneficiaries.<sup>42</sup>

### Limitations

The statistics presented in this report represent crude metrics that have not been adjusted for confounding factors. As noted, risk adjustment has not been performed. Readers should note that pregnant women enrolled in Medi-Cal are generally poor, usually unemployed, and lack private insurance. Their pregnancies may be marked not only by substance use, but by lack of self-care, poor nutrition, smoking, homelessness, and stress that may affect their pregnancy and their children. Because these factors have not been controlled for, readers should not attempt to compare health delivery systems or financiers of births to one another based solely on the statistics presented in this report.

The comorbidity data in this report represents ICD-9 diagnostic codes reported in the OSHPD patient discharge data, and are dependent on the mother having a diagnosis at the time of delivery. Many factors influence the likelihood of receiving a comorbidity diagnosis prior to or at the time of delivery, including insurance status, language barriers, and continuity of care.<sup>43</sup> These factors may result in the underreporting of chronic conditions, especially in vulnerable populations. RASD drew data on maternal smoking from self-reported data provided in the California Birth Statistical Master File. Because mothers are likely to underreport smoking, this factor may be underrepresented.<sup>44</sup>

As noted above, data presented on maternal characteristics (mother’s

age, race/ethnicity, nativity, and education), birth characteristics (singleton/multiple birth, delivery method, prenatal care), and birth outcomes (birthweight, gestational age) are the data as reported on the birth certificate. To the extent that these data are incorrectly captured and coded, specific statistics presented in this report will be influenced.

RASD also identified hospital birth records with a payer source of “Medi-Cal” within the OSHPD patient discharge dataset that could not be confirmed using Medi-Cal eligibility data or data from FFS claims. As noted previously, these individuals were grouped to the “Uninsured” category. Categorizing these births as Medi-Cal eligible would influence the specific outcome statistics presented in this report. Based on a review of the data and re-characterizing these births as Medi-Cal eligible, RASD estimated the impact to the four birth outcome measures presented. RASD found that if these births were classified as Medi-Cal financed births, the low birthweight percent would rise from 6.6% to 6.8%, the very low birthweight percent would rise from 1.1% to 1.2%, the preterm birth percent would rise from 10.3% to 10.5%, and the very preterm birth percent would remain unchanged at 1.6%. While several of these percentages would increase under this classification, none of the revised percentages would exceed the Healthy People 2020 standards.

When comparing Medi-Cal populations, readers should be aware of subpopulation size. Although some Medi-Cal subpopulations may disclose a high percentage of adverse birth outcomes, they only constitute a small fraction of Medi-Cal’s total births. For example, Medi-Cal enrollees in the Blind/Disabled aid category accounted for only 1.6% of total Medi-Cal births, but had a low birthweight percent of 13.0%. Similarly, 11.6% of mothers age 17 and younger had a preterm

birth outcome, but this age group represented only 3.7% of Medi-Cal births. Readers should interpret the greater occurrence of negative health outcomes in these small groups in light of their population size.

A necessary step in comparing outcomes among health systems is risk adjustment. Risk adjustment is a method used to remove or reduce the effects of confounding factors in studies in which cases are not randomly assigned to different treatments, or in this case, systems of care. Multivariable adjustment is outside the scope of this type of statistical report. This report is intended to provide descriptive statistics, not to draw conclusions about the health care delivery system. However, where applicable, potential confounding factors were evaluated and analysis is presented for specific demographic groups.

#### **Healthy People 2020 Objectives**

Where applicable, this report compares California and Medi-Cal statistics to the Healthy People 2020 objectives produced by the U.S. Department of Health and Human Services. For three decades, Healthy People has provided science-based national health objectives with the goal of improving the health of all Americans. To this end, Healthy People established benchmarks and processes for monitoring the progress of the U.S. health community in achieving these objectives.

Healthy People 2020 identified the following mission intentions:

- Identify nationwide health improvement priorities,
- Increase public awareness and understanding of the determinants of health, disease, and disability and the opportunities for progress,
- Provide measurable objectives and goals that are applicable at the national, state, and local levels, and
- Engage multiple sectors to take actions to strengthen policies and improve practices that are driven by the best available evidence and knowledge.<sup>45</sup>

## FINDINGS

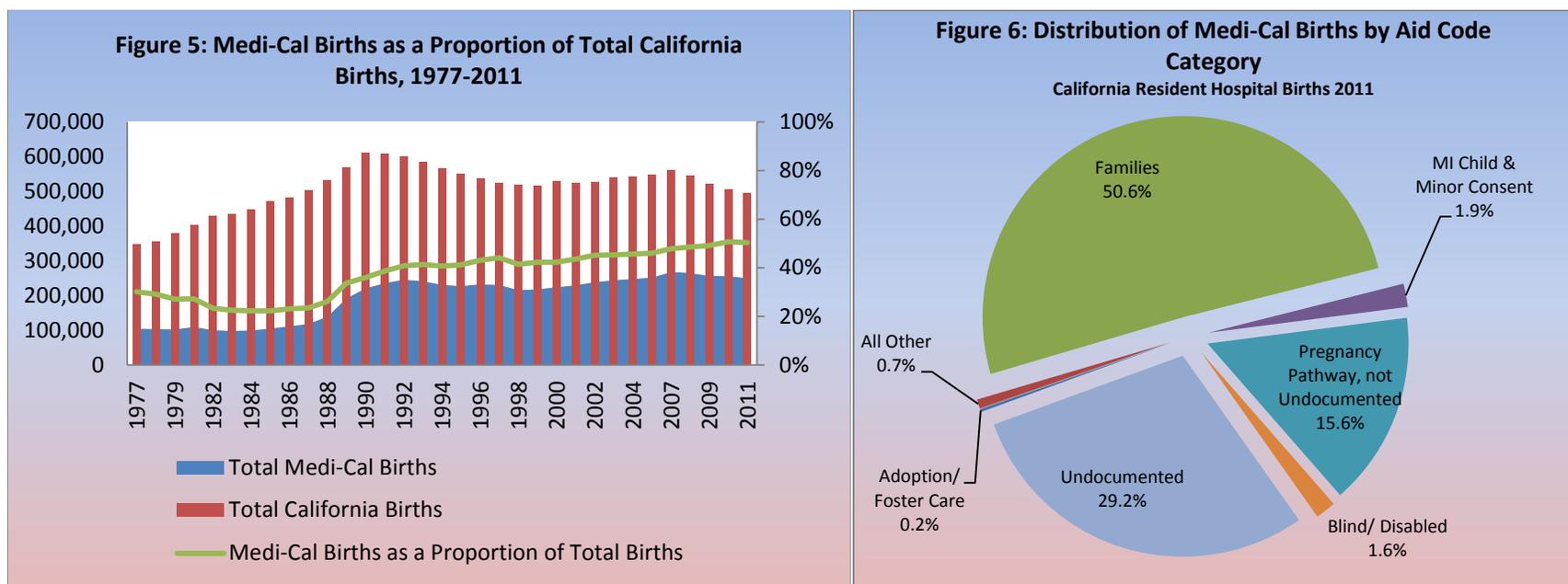
### National and California Fertility Trends

The U.S. general fertility rate (GFR) in 2011 was 63.2 births per 1,000 women of childbearing age (age 15-44), a 1.4% decline from 2010 (64.1 births per 1,000 women of childbearing age).<sup>46</sup> In California, fertility rates decreased from 64.8 in 2010 to 63.4 in 2011.<sup>47,48</sup> Although slightly higher than the national rate, the California GFR for 2011 represented a 2.2% decline from 2010.

### Medi-Cal Population Statistics

**Medi-Cal as Percent of Total California Births:** In 2011, Medi-Cal financed 50.4% of hospital births to California residents (Figure 5). Medi-Cal births represented 250,158 of the total 496,029 California resident hospital births (see Appendix F for the reconciliation to CDPH Vital Statistics statewide total births, including out-of-hospital and non-resident births).

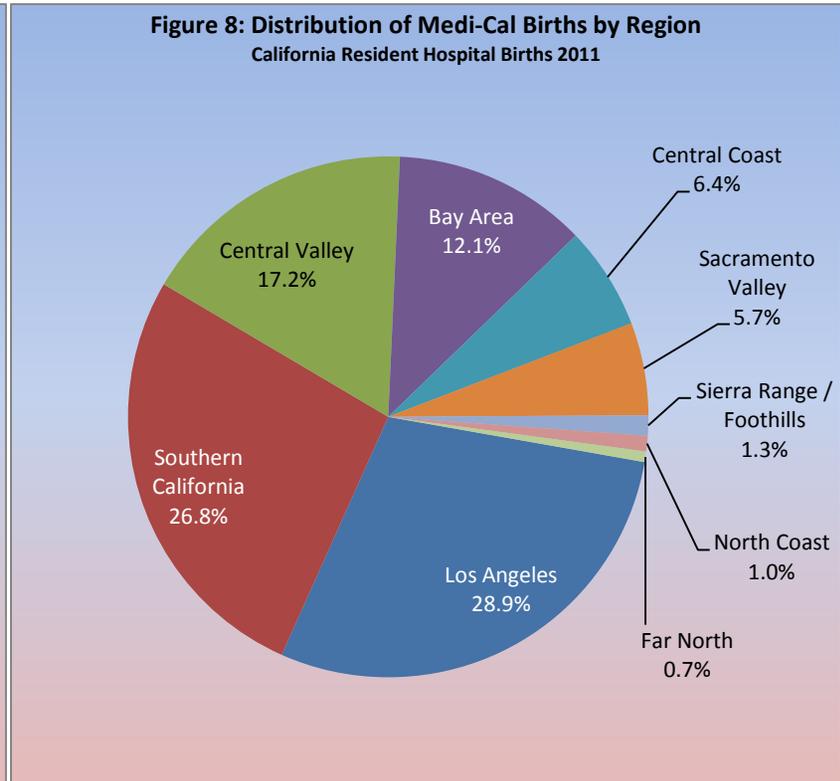
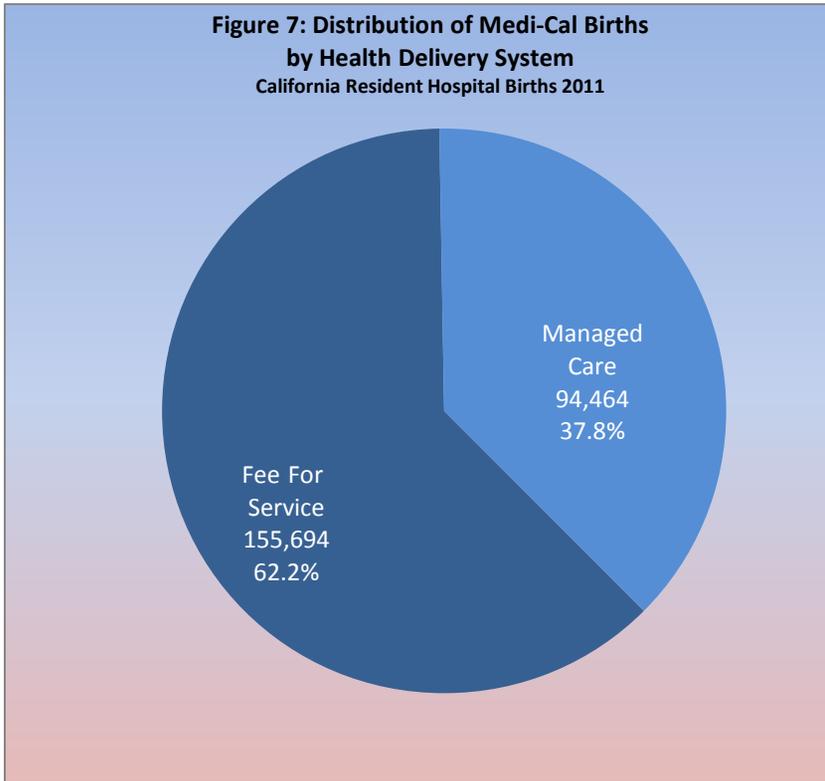
**Medi-Cal Births by Eligibility Pathway:** A large segment of Medi-Cal-financed births was to mothers without SIS (29.2%) and/or mothers enrolled in Families aid codes (50.6%) (Figure 6).



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

**Medi-Cal Births by Medi-Cal Health Delivery System:** Of the 250,158 Medi-Cal-financed births, 62.2% were to mothers participating in the FFS program and 37.8% were to mothers participating in the managed care delivery system (Figure 7).

**Medi-Cal Births by Geographic Region:** More than half of Medi-Cal births were to mothers residing in Los Angeles or other parts of Southern California, with the next-largest region being the Central Valley (Figure 8) (see Appendix C – Regional Assignments of California Counties).



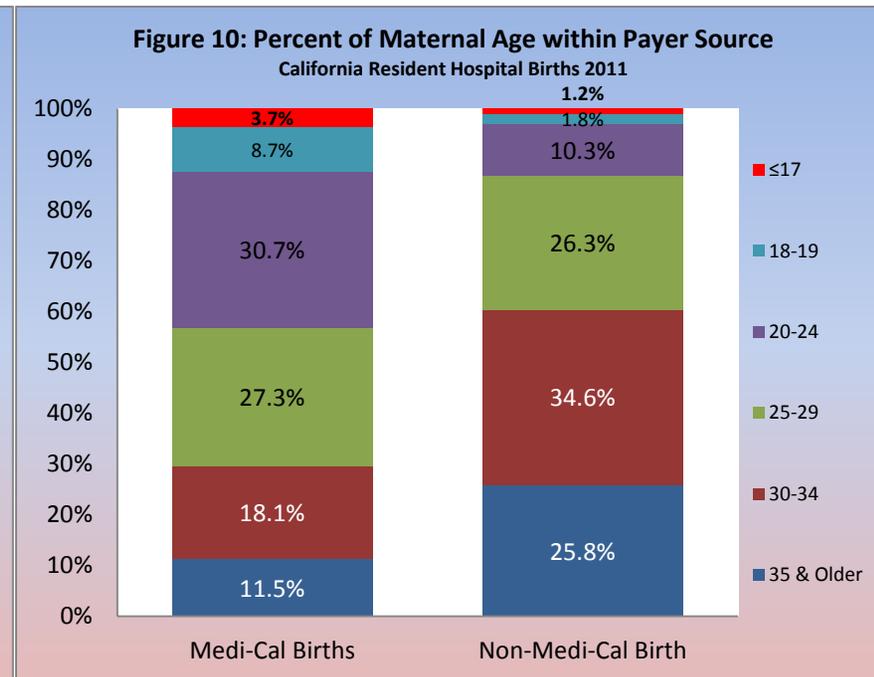
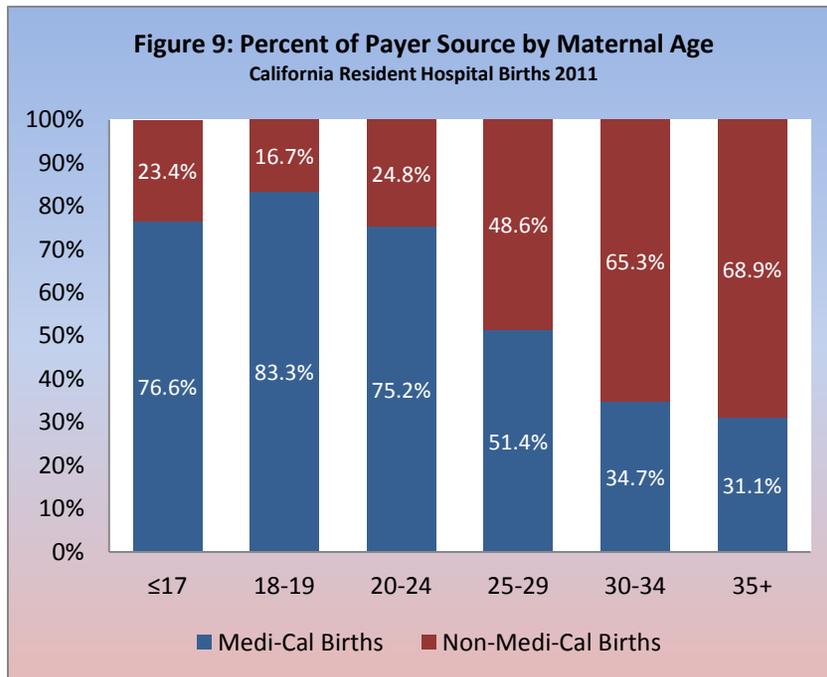
Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

## Maternal Demographic Characteristics

**Age:** Births to teen mothers are of particular concern because they are more likely to be premature and of low-birthweight. Premature and low-birthweight newborns are at increased risk for death and a host of disabling health conditions.<sup>49,50,51</sup>

Mothers whose births were financed by Medi-Cal were, on average, younger than mothers whose births were financed by other non-Medi-Cal sources. Among Medi-Cal financed births, the mean maternal age was 26.4 years (median = 26 years), while the mean maternal age among non-Medi-Cal births was 30.8 years (median = 31 years).

Medi-Cal financed a significant percentage of California’s births for younger women, Medi-Cal financed 76.6% of the births to women age 17 and younger, 83.3% of the births to women between 18 and 19 years of age, and 75.2% of the births to women between 20 and 24 years of age (Figure 9). Medi-Cal mothers 24 years of age or younger accounted for 43.1% of total Medi-Cal births, while among non-Medi-Cal mothers only 13.3% were 24 years of age or younger. Among non-Medi-Cal mothers, 60.4% were to mothers 30 years of age or older (Figure 10).



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

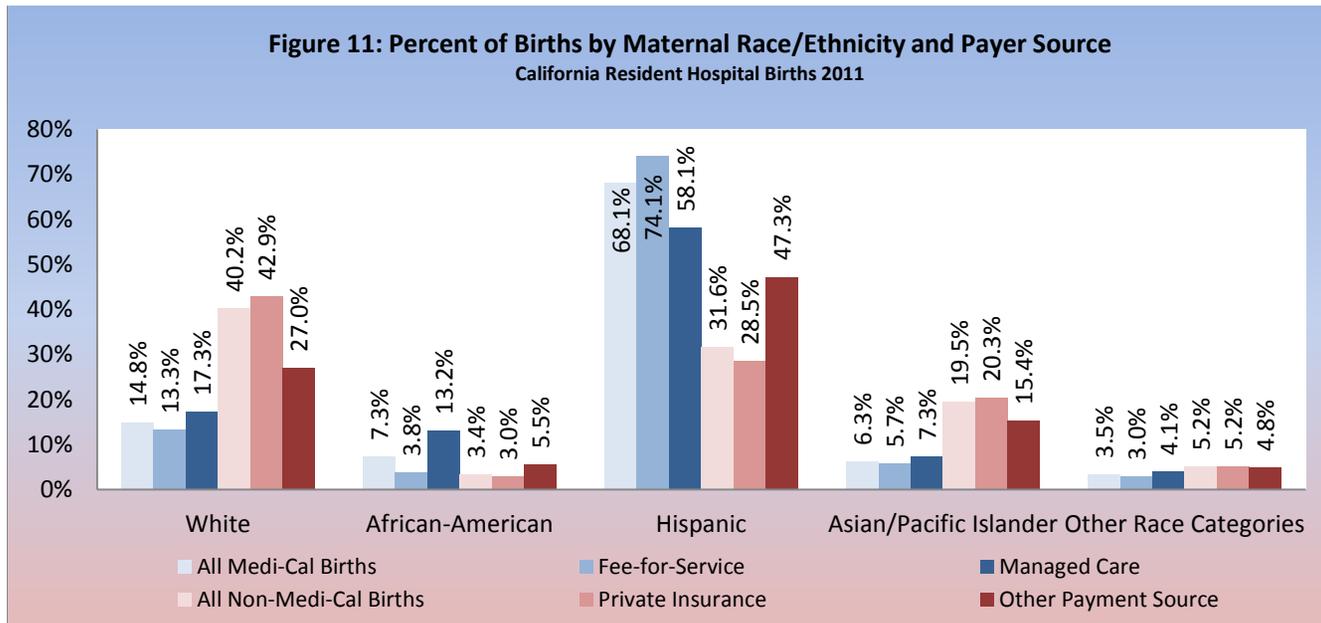
\*Note: Values in figures may not add up to 100.0% due to rounding.

**Race/Ethnicity:** Hispanic mothers comprised the largest percentage of Medi-Cal financed births. Overall, 68.1% of births financed by Medi-Cal were to Hispanic mothers, while only 31.6% of non-Medi-Cal financed births were to mothers of Hispanic ethnicity (Figure 11). Additionally, 14.8% of Medi-Cal financed births were to white mothers compared to 40.2% of non-Medi-Cal mothers (Figure 11).

The remaining Medi-Cal births were attributed to the following groups: 7.3% to African-American mothers; 6.3% to Asian or Pacific Islander mothers; and 3.5% to mothers of other race/ethnic backgrounds (Figure 11). Non-Medi-Cal births displayed significantly different proportions: Asian or Pacific Islander mothers comprised 19.5%;

African-American mothers constituted 3.4%; and mothers of other race/ethnic backgrounds made up 5.2% of the total births (Figure 11).

Differences in race/ethnic composition were noted between mothers who participated in the Medi-Cal FFS system and those who participated in the Medi-Cal managed care delivery system. While 7.3% of all Medi-Cal births were to African-American mothers, the percent of African-American births financed by the Medi-Cal managed care program was nearly twice that, or 13.2% (Figure 11). These differences are important to recognize because, compared to most other race/ethnic groups, deliveries to African-American mothers are more likely to be low birthweight and preterm.<sup>52,53,54,55</sup>

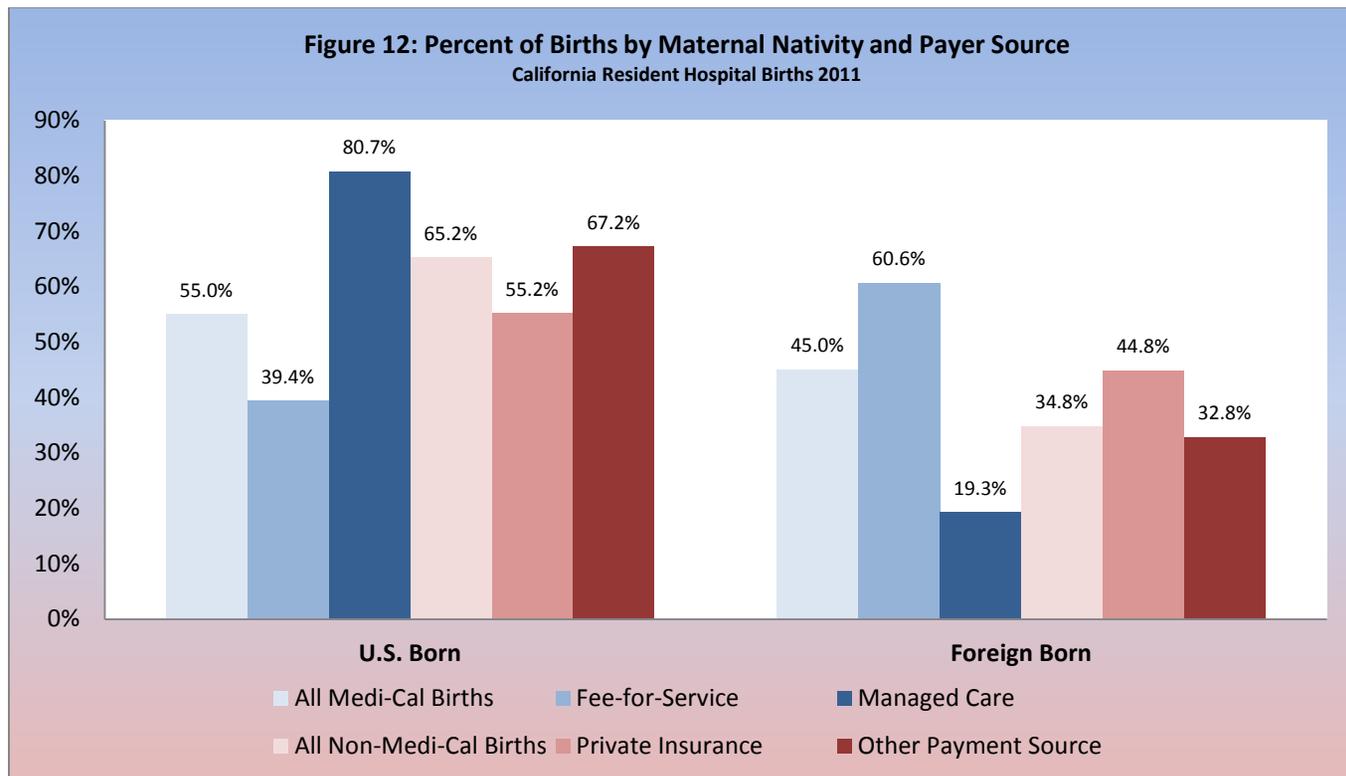


Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

\*Note: Values in figures may not add up to 100.0% due to rounding.

**Nativity:** Differences between U.S.-born and foreign-born mothers with regard to low birthweight and premature births have long been reported in the literature. Foreign-born mothers of virtually every racial and ethnic group in the U.S. experience better birth outcomes compared to their U.S.-born counterparts, despite their low socioeconomic status, low educational attainment, and lack of or late initiation of prenatal care.<sup>56,57</sup>

Among Medi-Cal financed births, 55.0% were to U.S.-born mothers and 45.0% were to foreign-born mothers. A larger segment of non-Medi-Cal financed births was to U.S.-born mothers (65.2%), and a smaller segment (34.8%) was to foreign-born mothers (Figure 12). Among Medi-Cal mothers who participated in managed care, 19.3% were foreign-born, whereas 60.6% of mothers who participated in Medi-Cal’s FFS delivery system were foreign-born (Figure 12).



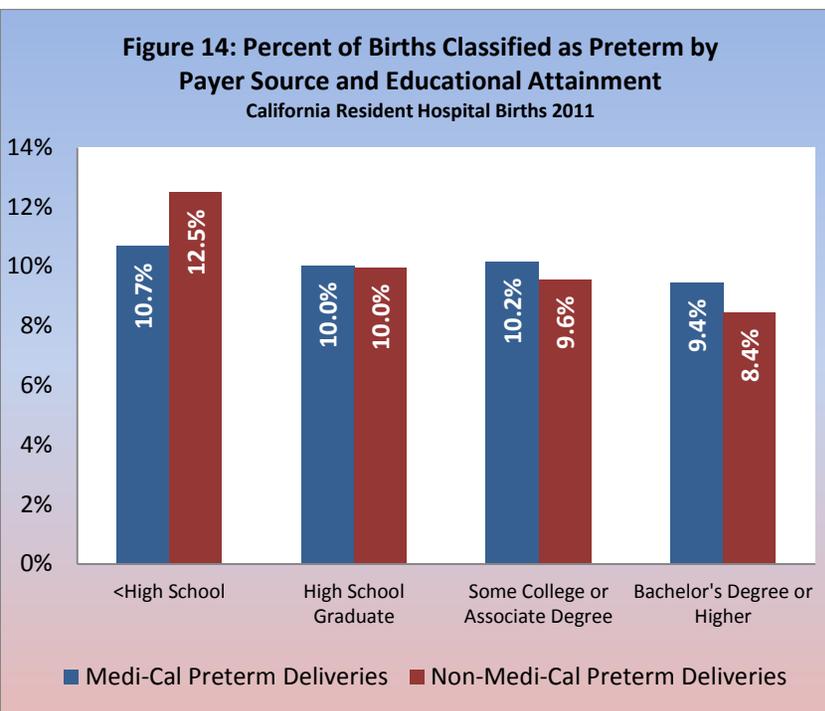
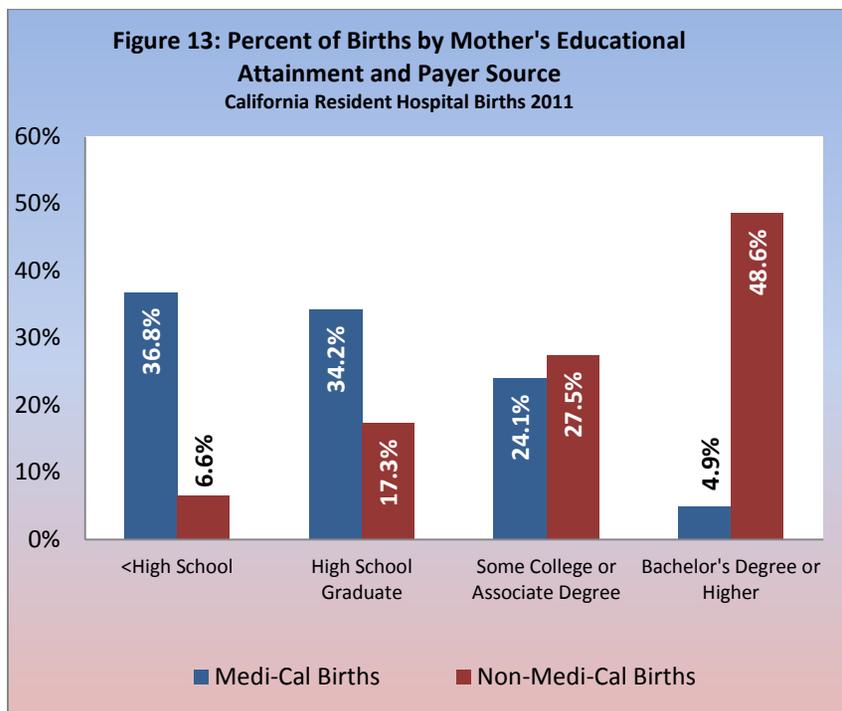
Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

\*Note: Values in figures may not add up to 100.0% due to rounding.

**Education Status:** Lower maternal educational attainment is associated with higher parity levels, closer birth spacing, having an unwanted pregnancy, and an increased prevalence of smoking during pregnancy. Lower educational attainment is also associated with adverse birth outcomes such as preterm and low-birthweight births, and an increased risk of stillbirth as well as neonatal and post-neonatal deaths.<sup>58,59</sup>

Medi-Cal mothers had lower educational attainment than non-Medi-

Cal mothers did. Overall, 36.8% of mothers enrolled in Medi-Cal had less than a high school education, 34.2% had a high school diploma, 24.1% had some college, and 4.9% had a college degree (Figure 13). Conversely, only 6.6% of non-Medi-Cal mothers had less than a high school education, 17.3% had a high school diploma, 27.5% had some college, and 48.6% attained a college degree. Between both Medi-Cal and non-Medi-Cal births, mothers with the highest educational attainment had the lowest percentages of low birthweight and preterm births (Figure 14).



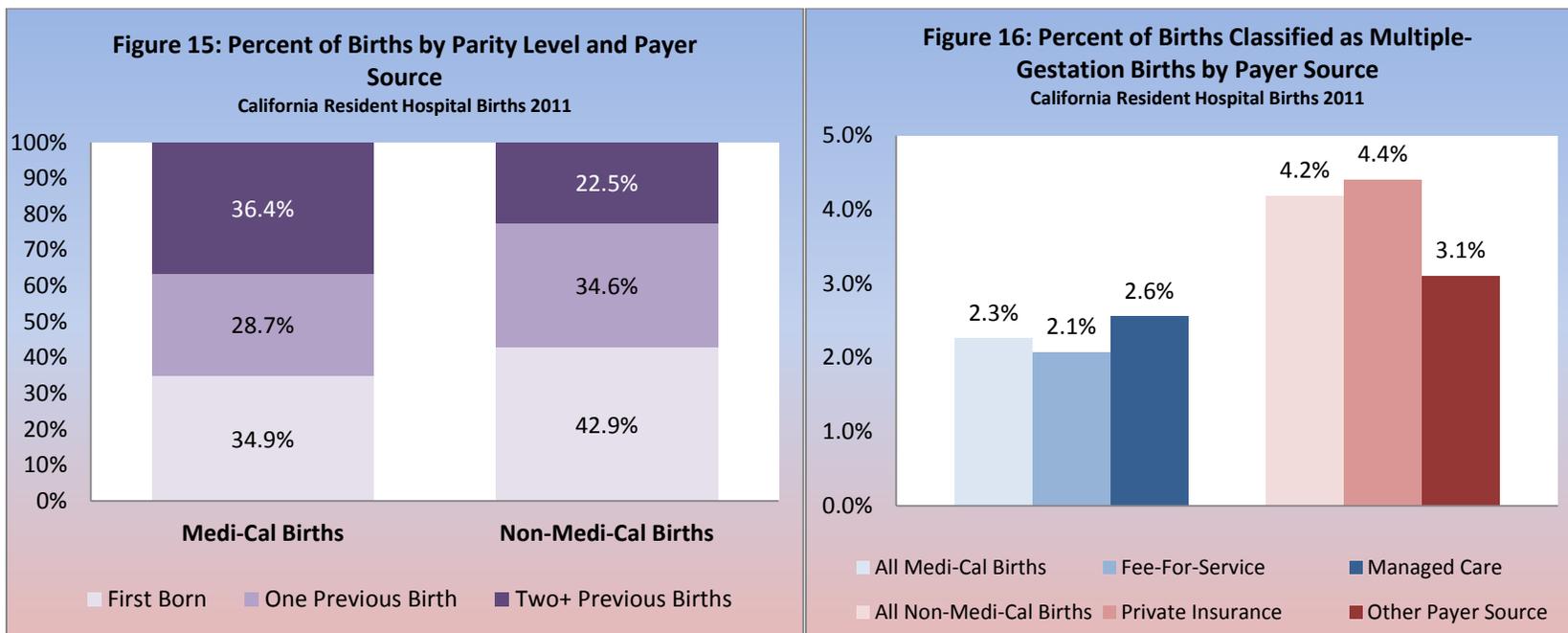
Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

\*Note: Values in figures may not add up to 100.0% due to rounding.

**Parity:** Parity refers to the number of live births a woman has during her reproductive years. High parity can increase the risk for adverse birth outcomes such as low birthweight, premature birth, stillbirth, and neonatal death.<sup>60,61</sup>

Among Medi-Cal mothers in 2011, 34.9% were first-time mothers, 28.7% had one previous birth, and 36.4% had two or more previous births (Figure 15). Medi-Cal managed care mothers had the highest parity, with 37.5% having two or more previous births (Appendix H). Among non-Medi-Cal births, and particularly among the privately insured, mothers had lower parity. Of the non-Medi-Cal mothers, 42.9% were first-time mothers, 34.6% had one previous birth, and 22.5% had two or more previous births (Figure 15).

**Multiple-Gestation Births:** Babies born in multiple-gestation births (twins or higher) are more likely to be of low birthweight or born prematurely.<sup>62</sup> Multiple-gestation births are more common among older mothers or mothers using artificial reproductive technology.<sup>63,64</sup> These babies are also more likely to be delivered via cesarean section. Among mothers that participated in Medi-Cal’s FFS delivery system, 2.1% experienced multiple-gestation births, while among mothers that participated in Medi-Cal’s managed care, 2.6% experienced multiple-gestation births. Twin-or-higher births were more common among all non-Medi-Cal births at 4.2%, particularly among births financed by private insurance sources (4.4%) (Figure 16).



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

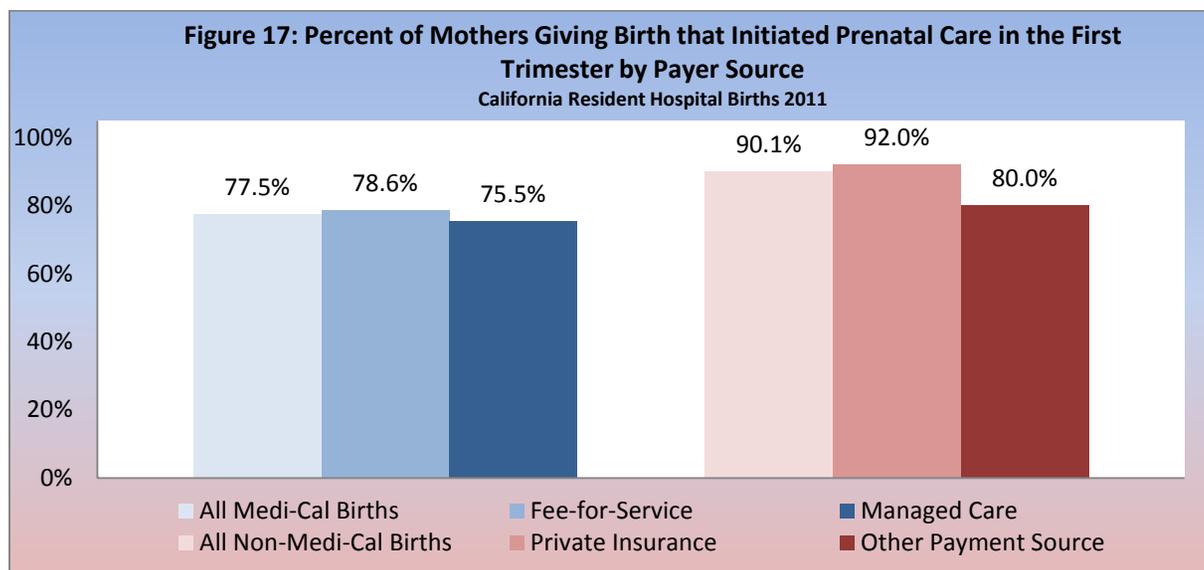
\*Note: Values in figures may not add up to 100.0% due to rounding.

**Prenatal Care:** Effective and early prenatal care helps to avoid negative birth outcomes such as low birthweight, preterm births, or infant mortality.

Important developments occur within the fetus in the first 12 weeks of pregnancy; therefore, timely prenatal care is essential. Women who initiate prenatal care later in their pregnancies are at increased risk for having a preterm or low-birthweight newborn, and having a baby requiring care in an intensive care unit.<sup>65</sup> The Healthy People 2020 goal states that 77.9% or more of all pregnant women in the U.S. should initiate prenatal care in their first trimester.<sup>66</sup>

Among all Medi-Cal mothers, 77.5% initiated prenatal care during their

first trimester of pregnancy, 17.9% initiated prenatal care in their second trimester, and 4.0% began care in their third trimester of pregnancy (Figure 17 and Appendix H). In contrast, 92.0% of privately insured mothers initiated prenatal care in their first trimester, while only 8.0% initiated care during their second or third trimester of pregnancy (Figure 17 and Appendix H). Mothers enrolled in Medi-Cal managed care initiated early prenatal care 75.5% of the time, and 78.6% of FFS mothers also initiated prenatal care early (Figure 17). Among Medi-Cal mothers, the Undocumented and Pregnancy Pathway aid categories had the highest percentages of prenatal care during the first trimester of pregnancy 81.8% and 80.2%, respectively) (Appendix H).



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

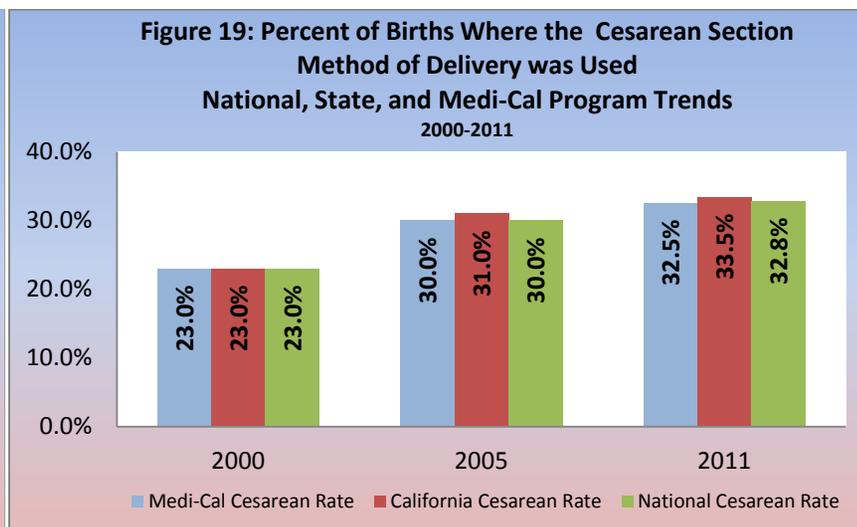
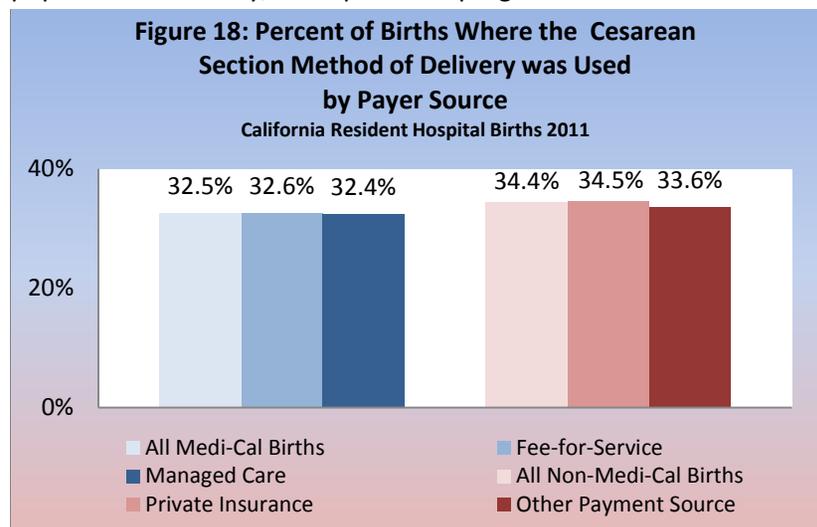
**Delivery Method:** From 1996 to 2009, the national cesarean rate increased annually, culminating in a 60% increase in cesarean sections. The cesarean section method of delivery has since stabilized, showing no change in cesarean rates for singleton births from 2009 to 2011.<sup>67</sup> Compared with vaginal birth, cesarean section is costly and poses additional health risks for both mother and child.<sup>68</sup> Clear clinical indications exist for undergoing a cesarean delivery, but non-medical factors such as maternal choice and physician practice patterns also influence these rates. Cesarean delivery is more common among older mothers.

Nationally, mothers age 40 and older are twice as likely to deliver via cesarean section as mothers age 20 and younger.<sup>69</sup> Because non-Medi-Cal mothers tend to be older than Medi-Cal mothers, age may contribute to the greater percentage of cesarean deliveries in that population. Similarly, multiple-birth pregnancies are 2.5 times more

likely to result in a cesarean section delivery than a singleton birth.<sup>70</sup> The prevalence of multiple births among non-Medi-Cal mothers (4.2%) compared to Medi-Cal mothers (2.3%) suggests that non-Medi-Cal mothers would have a higher occurrence of cesarean delivery.

In 2011, cesarean section deliveries comprised 32.8% of all births in the U.S. Among all resident California births occurring in a hospital, cesarean section deliveries made up 33.5% of births, slightly above the national average (Figure 19). California's cesarean rates have increased by 45.7% in the last several years, from 23.0% in 2000 to 33.5% in 2011 (Figure 19).

The cesarean section rate was slightly lower than the state average among Medi-Cal births (32.5%). Among non-Medi-Cal financed births, the percentage of cesarean deliveries was highest among privately insured births at 34.5% (Figure 18).

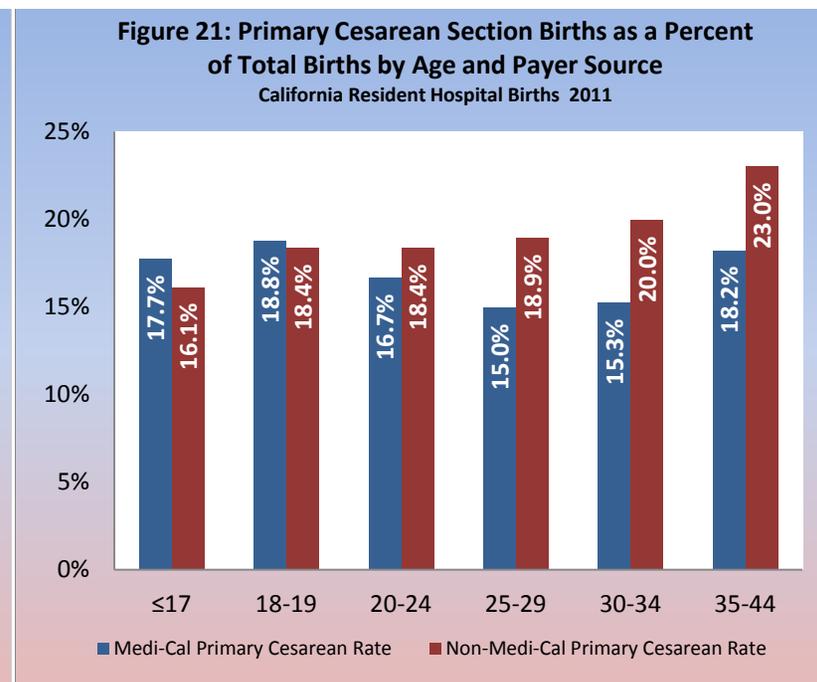
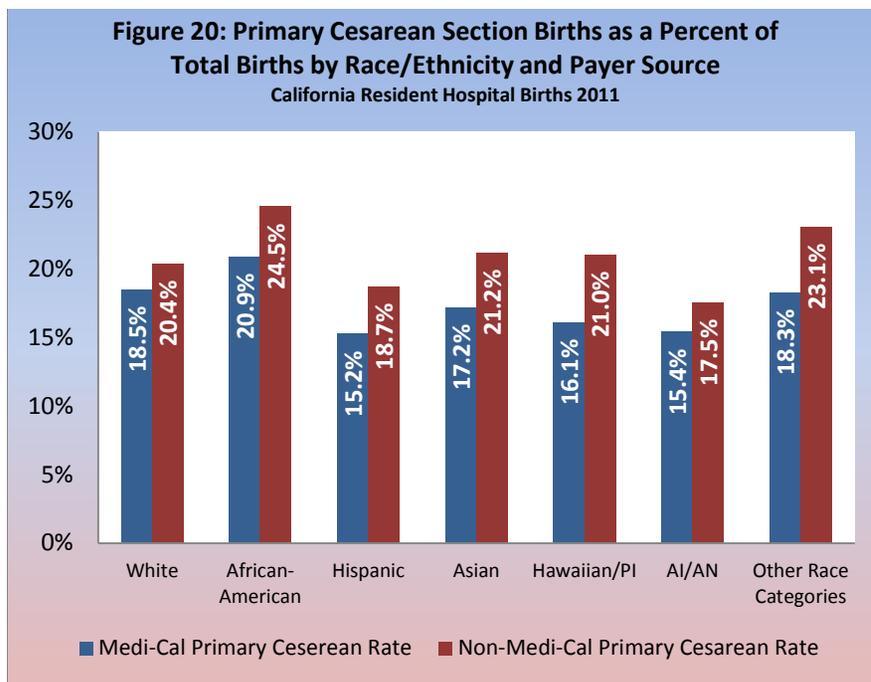


Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

It is unlikely that a woman will have a vaginal birth after delivering via cesarean section; therefore, the primary cesarean measure is important for understanding the possibility of future cesarean sections for that mother. In 2003, the likelihood that a mother with a previous cesarean section would have a cesarean during subsequent deliveries was roughly 90%.<sup>71</sup> The percentage of primary cesarean section births was lower among Medi-Cal (16.4%) than non-Medi-Cal births (20.3%) (Appendix H). Among Medi-Cal mothers, the primary cesarean section percentage was highest among mothers ages 18 to 19 (18.8%), women ages 35 to 44 (18.2%), African-American women (20.9%), women who

self-identified with two or more race categories (18.3%), and white women (18.5%) (Figure 20 and Figure 21). Medi-Cal mothers with a college degree also delivered via primary cesarean section at percentages higher than the program average (21.6% and 16.4%, respectively) (Appendix H).

In contrast, the percentage of non-Medi-Cal mothers who delivered via cesarean section increased with age. Non-Medi-Cal mothers ages 35 to 44 (23.0%) and African-American women (24.5%) experienced the highest rates of primary cesarean section delivery (Figure 20).

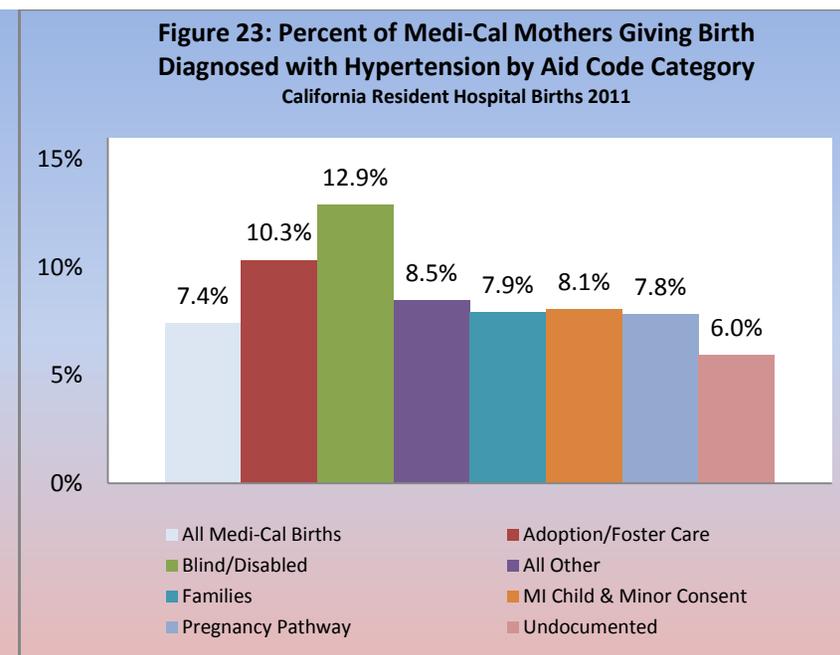
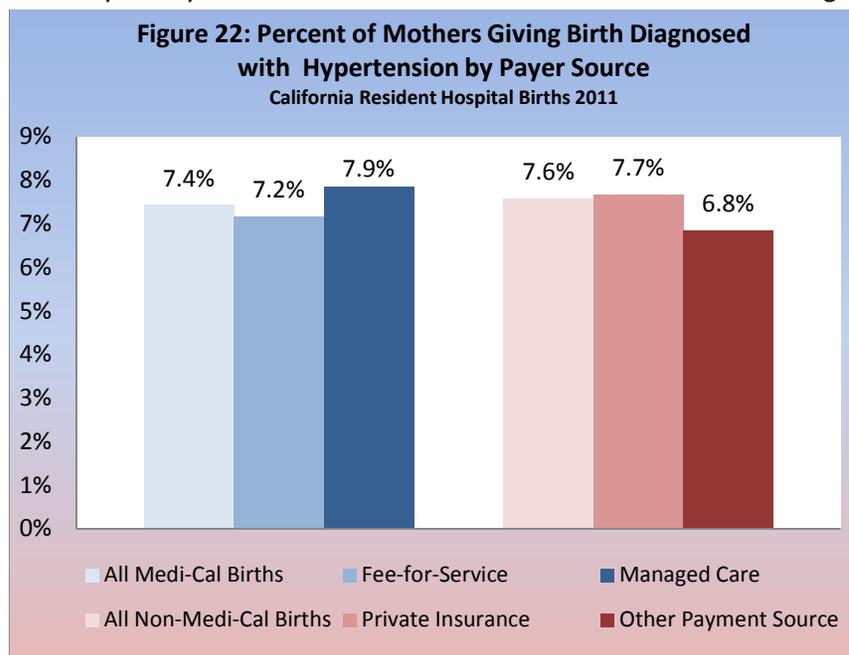


Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

**Hypertension:** Hypertension is a condition characterized by high blood pressure. Gestational hypertension is a variation of hypertension that develops due to pregnancy and diminishes after childbirth. Whether chronic or gestational, hypertension during pregnancy is dangerous to both the mother and the fetus. Hypertension contributed to 11.1% of pregnancy-related maternal deaths in 2006 and 2007.<sup>72</sup> The adverse birth outcomes linked to hypertension include low birthweight, preterm birth, and placental abruption. Women who are obese prior to pregnancy, under 20 years old or over 40 years old, or have diabetes are at a greater risk for developing hypertension during pregnancy.<sup>73</sup> It is important to note that the data represented in this report is dependent on the mother having a hypertension diagnosis at the time of delivery. Many factors influence the likelihood of a mother receiving

such a diagnosis, including insurance status, language barriers, and continuity of care.<sup>74</sup>

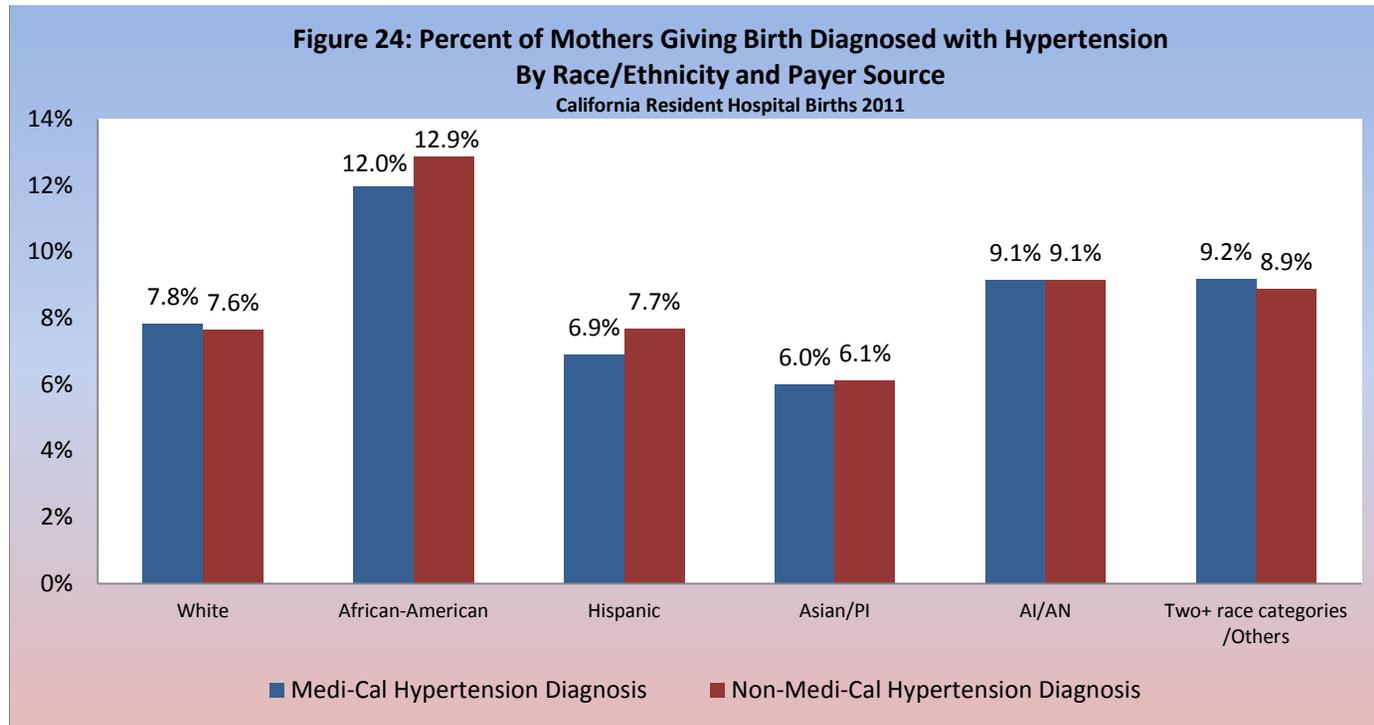
In 2011, 7.4% of Medi-Cal mothers had a hypertension diagnosis (either gestational or chronic hypertension), compared to 7.6% of non-Medi-Cal mothers (Figure 22). Hypertension was most prevalent among mothers participating in Medi-Cal managed care (7.9%) and least prevalent among women whose births were financed by Medi-Cal FFS (7.2%) or other funding sources (6.8%) (Figure 22). Hypertension was most prevalent among mothers enrolled in the Blind/Disabled aid codes (12.9%) and those enrolled in Adoption/Foster Care aid codes (10.3%) (Figure 23).



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

In 2011, hypertension diagnoses in the study population fluctuated between a low of 6.8% (other funding source) and a high of 7.9% (Medi-Cal managed care). Although it is impossible to pinpoint a single reason for this variation, the literature suggests race as a possible indicator of hypertension prevalence within a population. Nationally, African-American adults (42.5%) are far more likely to have a hypertension diagnosis than white (29.1%) or Hispanic (26.1%) adults.<sup>75</sup>

Similar to the national population, the Medi-Cal (12.0%) and non-Medi-Cal (12.9%) population showed that African-American mothers had the highest prevalence of hypertension. Asian/Pacific Islander mothers had the lowest prevalence of hypertension diagnoses among Medi-Cal (6.0%) and non-Medi-Cal (6.1%) groups (Figure 24).



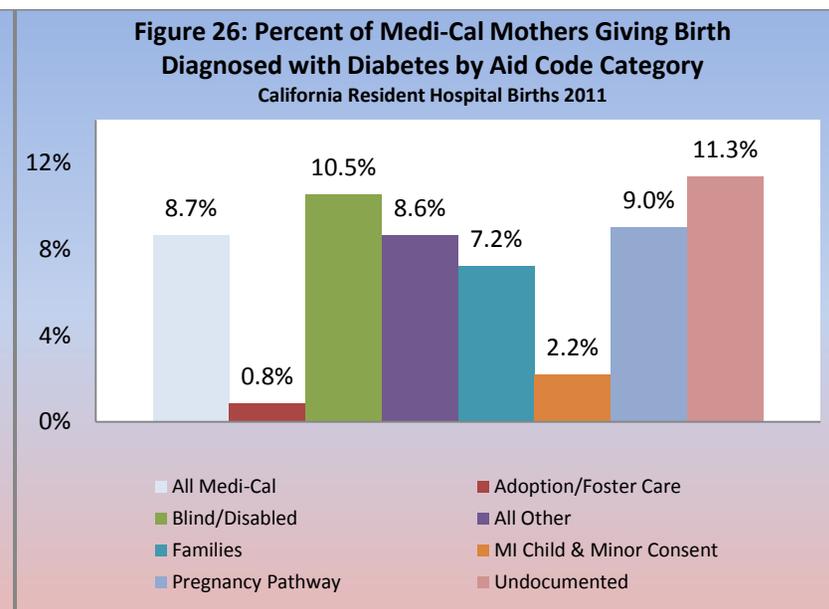
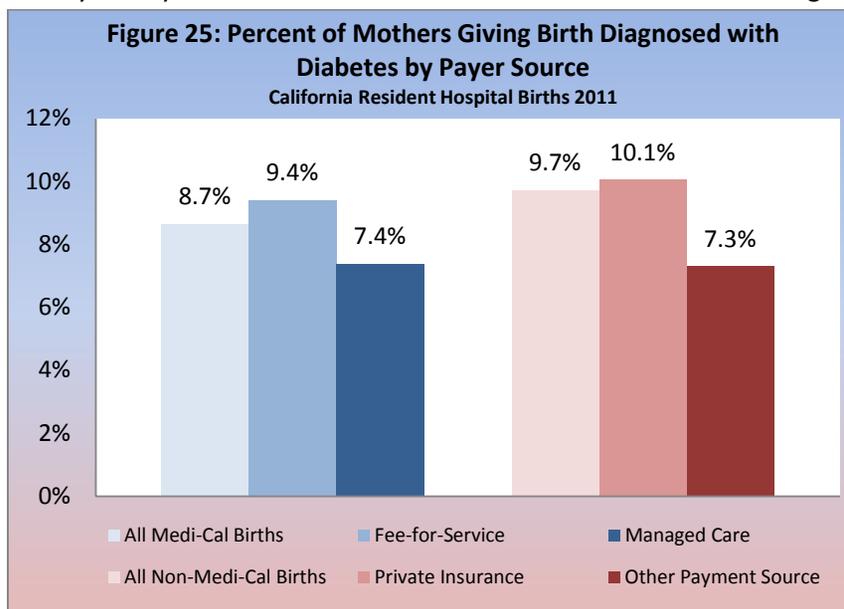
Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

**Diabetes:** Maternal diabetes is associated with several adverse birth outcomes, including large-for-gestational-age birth, preterm birth, miscarriage, stillbirth, or congenital birth defects.<sup>76</sup> Because of their larger size, newborns born to mothers with diabetes are more likely to be born via cesarean section or be injured during vaginal delivery.<sup>77</sup> Maternal diabetes can have long-term negative effects on the mother and newborn. Children born to mothers with diabetes are more likely to be overweight later in life and develop diabetes themselves, while 35% to 60% of women with gestational diabetes (a temporary disorder brought on by pregnancy) develop Type 2 diabetes within 10 years of delivery.<sup>78</sup>

It is important to note that the data represented in this report is dependent on the mother having a diabetes diagnosis at the time of delivery. Many factors influence the likelihood of a mother receiving a

diagnosis, including insurance status, language barriers, and continuity of care.<sup>79</sup> These factors may result in studies underreporting diabetes, especially in vulnerable populations.

The incidence of gestational or pre-pregnancy diabetes was 8.7% among mothers enrolled in the Medi-Cal program and 9.7% among all non-Medi-Cal mothers (Figure 25). Mothers who were privately insured and those who participated in the Medi-Cal FFS delivery system had higher percentages of any diabetes diagnosis (10.1% and 9.4%, respectively) than mothers with other coverage (7.3% and 7.4%) and mothers participating in Medi-Cal managed care (7.4%) (Figure 25). Diabetes was most prevalent among mothers without SIS (11.3%), in Blind/Disabled aid codes (10.5%), and in Pregnancy Pathway aid codes (9.0%) (Figure 26).



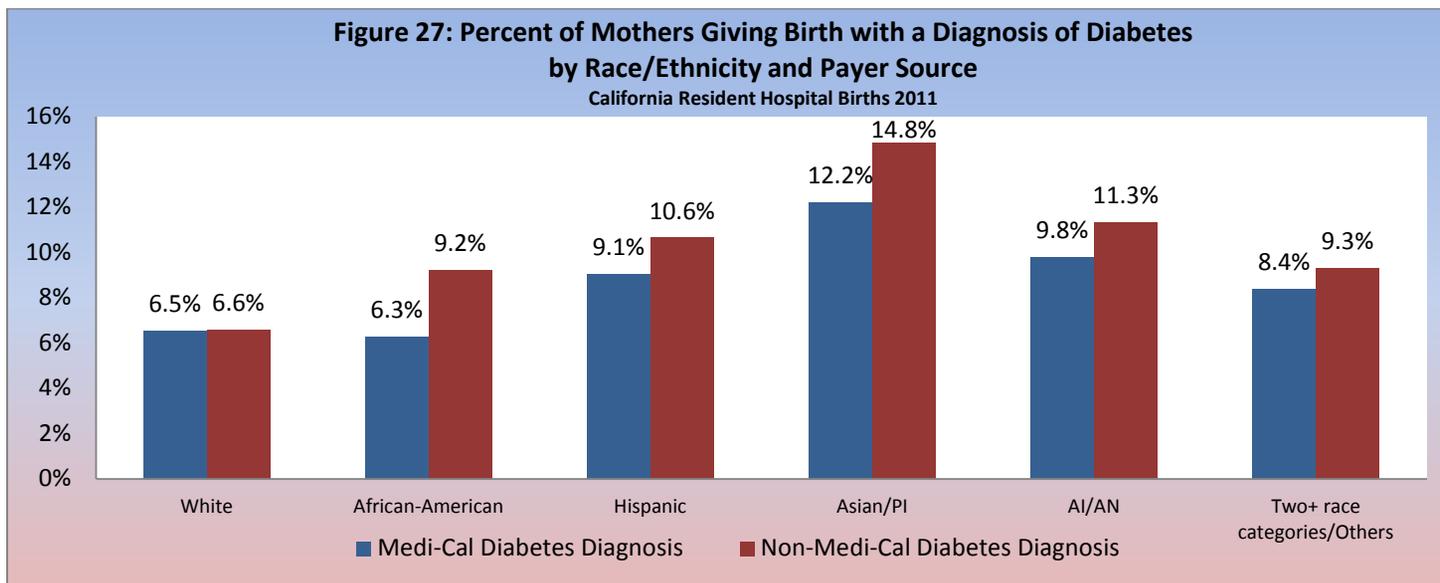
Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

Race is the greatest risk indicator for both gestational and non-gestational diabetes.<sup>80</sup> The CDC considers non-white mothers to be at high risk for developing gestational diabetes.<sup>81</sup> While there is no consensus in the medical community, literature suggests cultural, socioeconomic, and genetic factors as reasons for this disparity, as well as obesity prevalence and issues of access to care.<sup>82</sup>

As noted previously, RASD identified the incidence of diabetes among women giving birth using OSHPD’s patient discharge records and AHRQ’s clinical classification algorithm. For purposes of this analysis, both gestational diabetes and pre-existing diabetes were captured when diagnosed. Roughly 90% of the women giving birth diagnosed with diabetes were classified into AHRQ’s Category 186 “Diabetes or

abnormal glucose tolerance complicating pregnancy; childbirth; or the puerperium.”

In California, diabetes diagnoses were most common among non-Medi-Cal Asian/Pacific Islander mothers (14.8%) and Asian/Pacific Islander mothers enrolled in Medi-Cal (12.2%). This elevated percentage of Asian/Pacific Islander diagnoses may reflect the greater presence of Asian subpopulations at high risk for diabetes (i.e., Filipino, Asian Indian, and Vietnamese mothers) in California when compared to the national distribution.<sup>83</sup> American Indian/Alaskan Natives were also among the highest percentages, as 9.8% of Medi-Cal mothers and 11.3% of non-Medi-Cal mothers had a diabetes diagnosis. White mothers (6.6%) had the lowest percentage of diabetes diagnoses among non-Medi-Cal mothers.



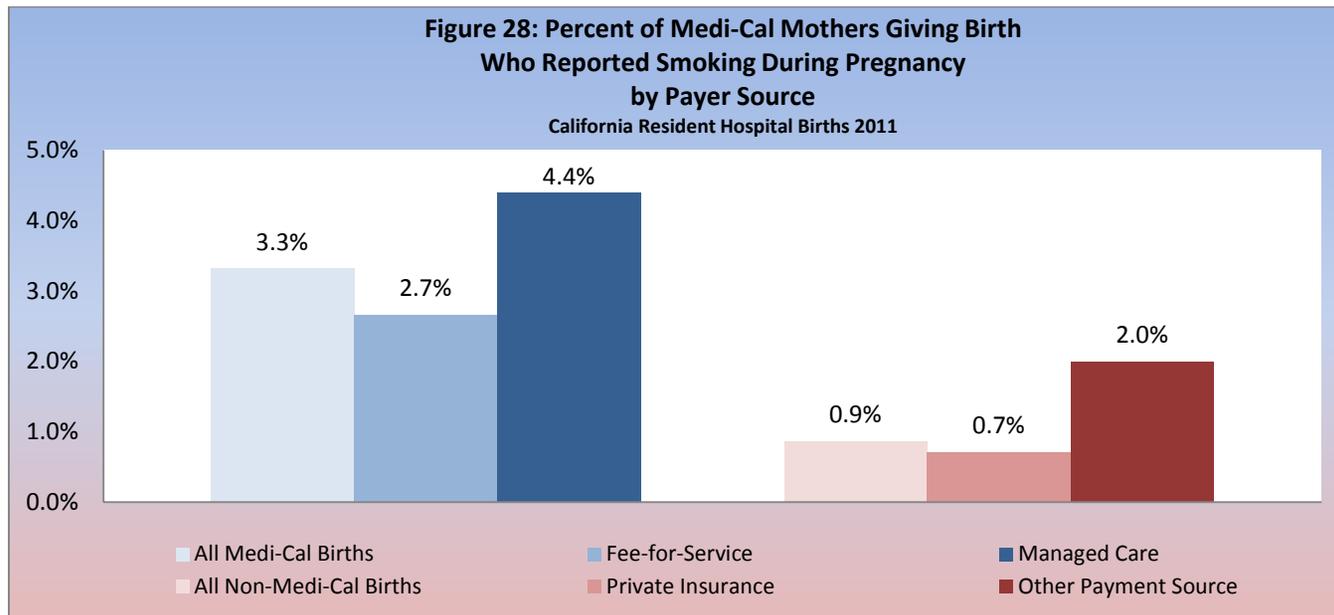
Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

**Smoking:** The California birth certificate began collecting data on maternal smoking behaviors in 2007. The greater number of maternal smokers in the Medi-Cal population reflects the national trends for maternal smoking, especially in Medi-Cal managed care. However, the risk of maternal smoking encompasses socioeconomic status, age, and access to prenatal care. Further, research suggests that mothers underreport their smoking behavior on the birth certificate. Therefore, prevalence of smoking among California mothers is likely underrepresented in the data.<sup>84</sup>

According to the CDC, 15.6% of U.S. mothers smoked during their last three months of pregnancy in 2010.<sup>85,86</sup> Smoking during pregnancy is associated with the potential for spontaneous abortion, low

birthweight, stillbirth, growth retardation, preterm delivery, lung or brain tissue damage, and a higher occurrence of sudden infant death syndrome (SIDS).<sup>87</sup> Women who smoke during pregnancy are more likely to be young mothers, white or African-American, low-income earners, and enrolled in a Medicaid program or have no insurance.<sup>88</sup>

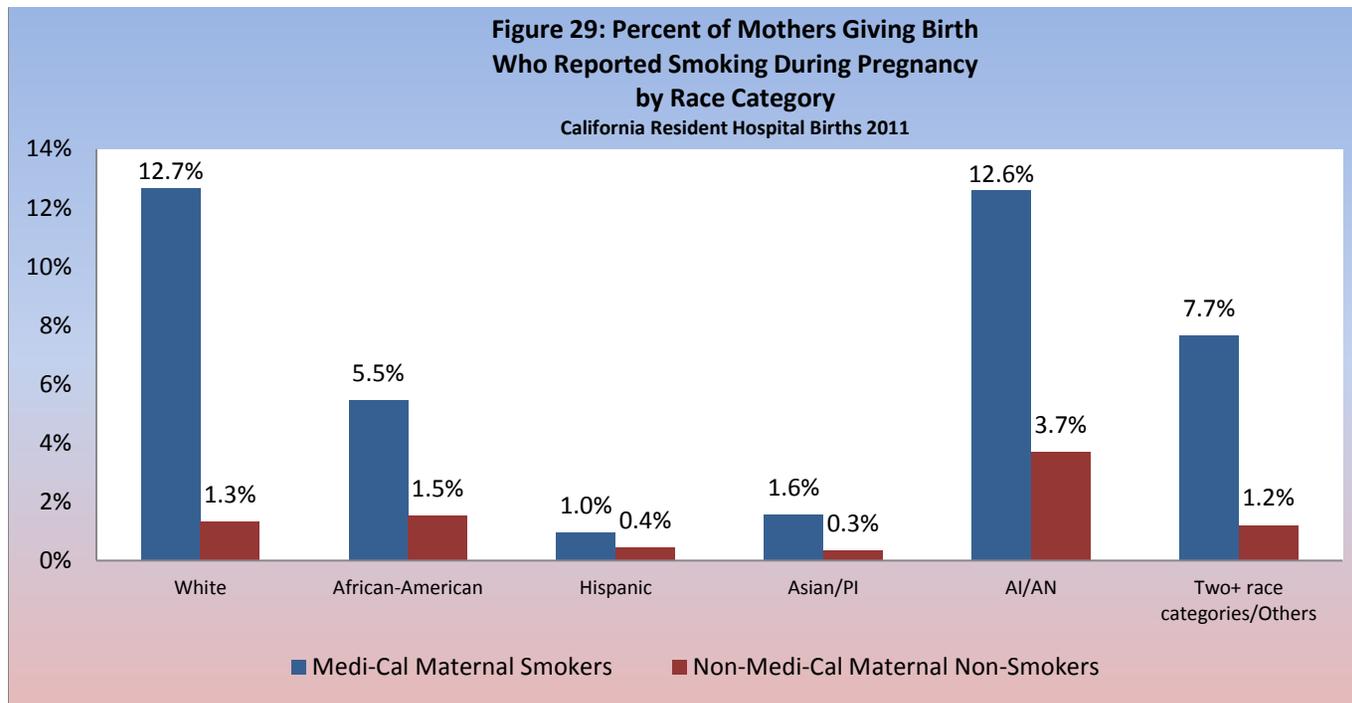
A higher percentage of Medi-Cal mothers reported smoking (3.3%) than non-Medi-Cal mothers (0.9%). Among Medi-Cal managed care mothers, 4.4% smoked during pregnancy, compared to 2.7% among mothers who participated in Medi-Cal’s FFS delivery system (Figure 28). Mothers with private insurance had the lowest percentage of smoking during pregnancy (0.7%). The Healthy People 2020 Goal states that 98.6% of pregnant mothers will not smoke during pregnancy.



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

The CDC reports a wide disparity in smoking during pregnancy by ethnicity. Nationally, 30.4% of Alaskan Native and 21.1% of American Indian mothers smoked during pregnancy.<sup>89</sup> The percentage of smoking during pregnancy was comparatively moderate for white (15.9%) and African-American (10.3%) mothers and lowest for Hispanic (3.9%) and Asian/Pacific Islander (2.2%) mothers.<sup>90</sup> The literature identifies similar trends among mothers in California, with Hispanic and Asian/Pacific Islander mothers displaying the lowest percentages of maternal smoking.<sup>91</sup>

California’s maternal smoking prevalence is lower than the national level; however, Medi-Cal mothers smoked at considerably higher percentages than their non-Medi-Cal counterparts. White and American Indian/Alaskan Native mothers had the highest percentages among Medi-Cal mothers (12.7% and 12.6% respectively); whereas American Indian/Alaskan Native mothers and African-American mothers were more likely to report smoking among non-Medi-Cal mothers. Hispanic and Asian mothers were the least likely to report smoking between both categories. (Figure 29).



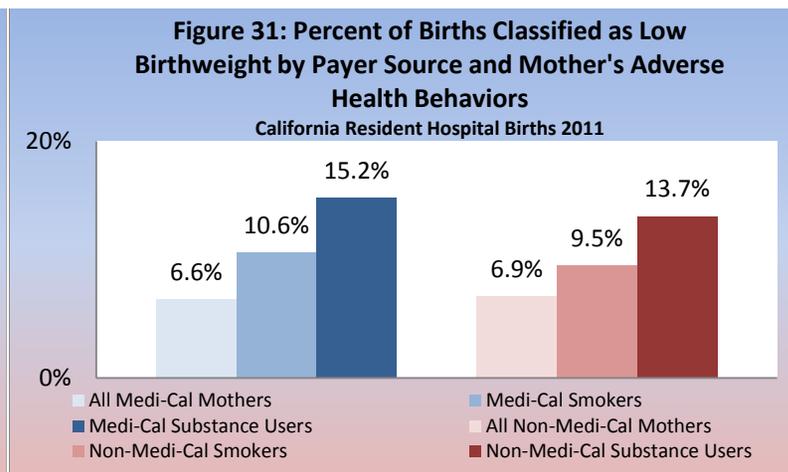
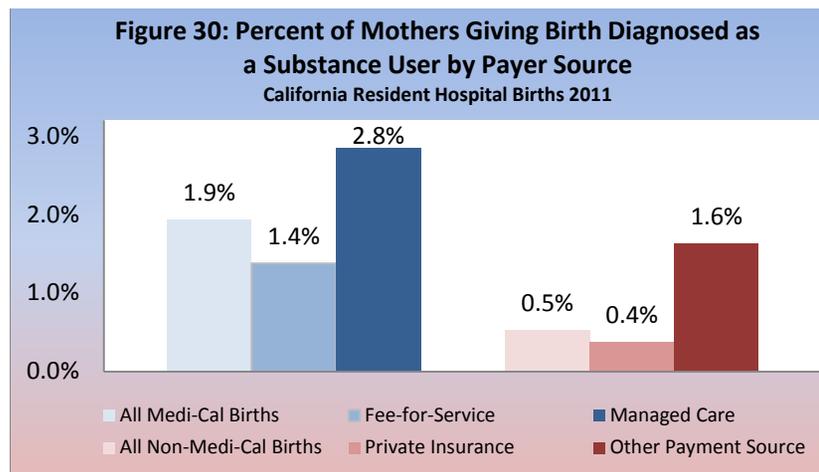
Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

**Substance Use:** An estimated 4% of pregnant women in the U.S. are substance users.<sup>92</sup> The birth outcomes and developmental problems commonly associated with substance use during pregnancy include spontaneous miscarriage, low birthweight, preterm birth, stillbirth, fetal withdrawal symptoms, small head size, abnormal facial features, learning disabilities, speech/language delays, and vision/hearing problems.<sup>93,94</sup>

Medi-Cal has a greater proportion of women at risk for maternal substance use, including younger mothers and American Indian/Alaskan Native mothers, when compared to the non-Medi-Cal population. The risk of maternal substance use encompasses socioeconomic status, age, and access to prenatal care. Research findings vary substantially regarding substance use and adverse birth outcomes. While some drugs have been shown to be more harmful to the mother and baby than others, this report does not draw a distinction between the substances, and includes any drug for which the mother admitted use.

Substance use during pregnancy was nearly four times higher among Medi-Cal mothers than non-Medi-Cal mothers (1.9% and 0.5%, respectively), and twice as common among mothers who participated in Medi-Cal managed care than in Medi-Cal's FFS delivery system (2.8% and 1.4%, respectively) (Figure 30). Mothers with private insurance had the lowest prevalence of negative health behaviors; just 0.7% smoked and 0.4% used substances during pregnancy.

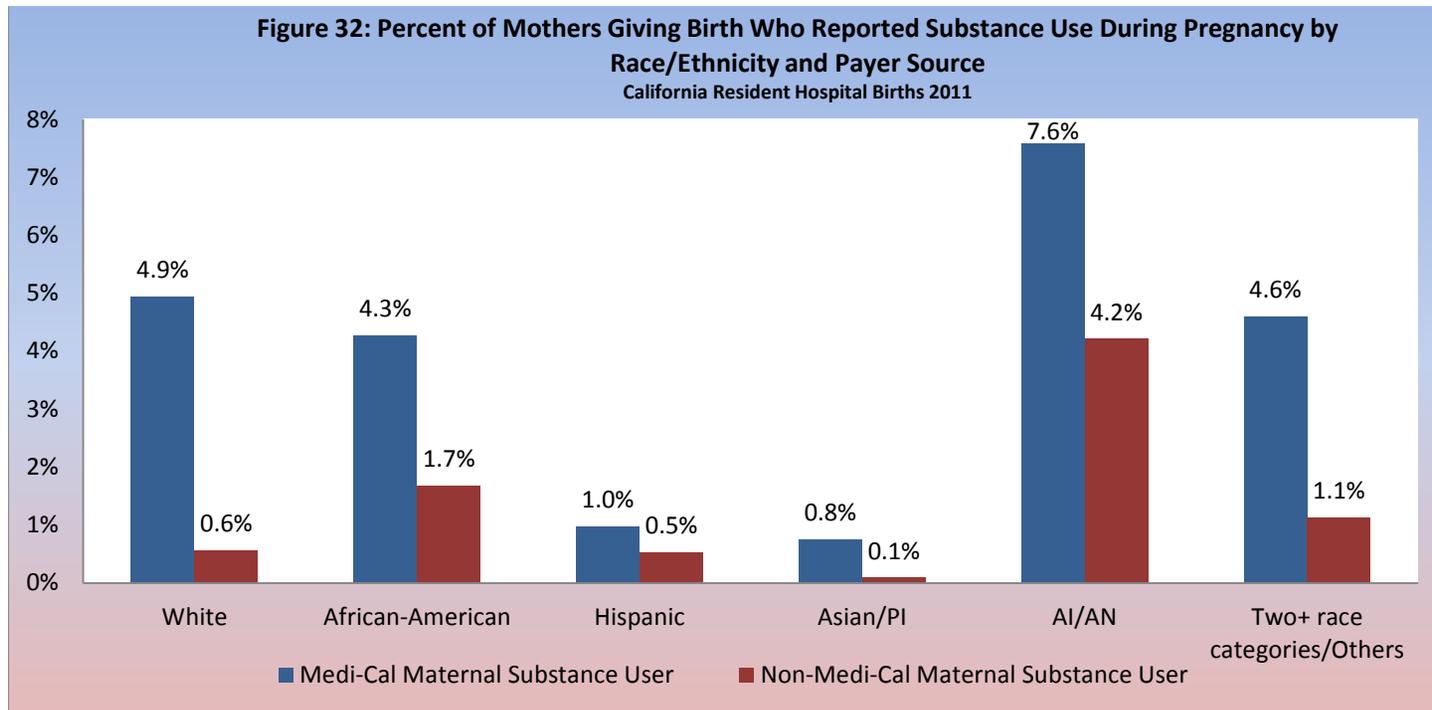
Adverse health behaviors such as smoking and substance use during pregnancy were significantly associated with an increased incidence of low birthweight. Regardless of payer source, the incidence of low birthweight increased for each of the adverse health behaviors. Substance use was associated with the greatest percentage of low birthweight between the two studied adverse behaviors. The incidence of low birthweight increased 61% in Medi-Cal mothers who smoked. Medi-Cal mothers who used substances during their pregnancy increased percentages of low birthweight by 130% (Figure 31).



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

The CDC reports a wide disparity in maternal substance use among age groups and race cohorts. A study of pregnant women from 2002 to 2010 found that 7.7% of African-American respondents had used illicit drugs in the last month, compared to 4.4% of white respondents.<sup>95</sup> Nationally, Hispanic mothers have the lowest percentage of both alcohol and illicit drug use.<sup>96</sup> Within these racial cohorts, younger mothers were most likely to use illicit drugs while pregnant. Mothers ages 15-17 were twice as likely as mothers were ages 18-25 and more than five times more likely than mothers ages 26-44 to use illicit drugs.<sup>97</sup>

Analogous to smoking, substance use is a self-reported behavior and therefore underreported. Medi-Cal had higher reported percentages of substance use, particularly among American Indian/Alaskan Native mothers (7.6%) and white mothers (4.9%). Non-Medi-Cal mothers reported high percentages of substance users in American Indian/Alaskan Native (4.2%) and African-American (1.7%) mothers. Similar to national trends, Hispanic and Asian/Pacific Islander mothers had the lowest percentages reported in both categories.



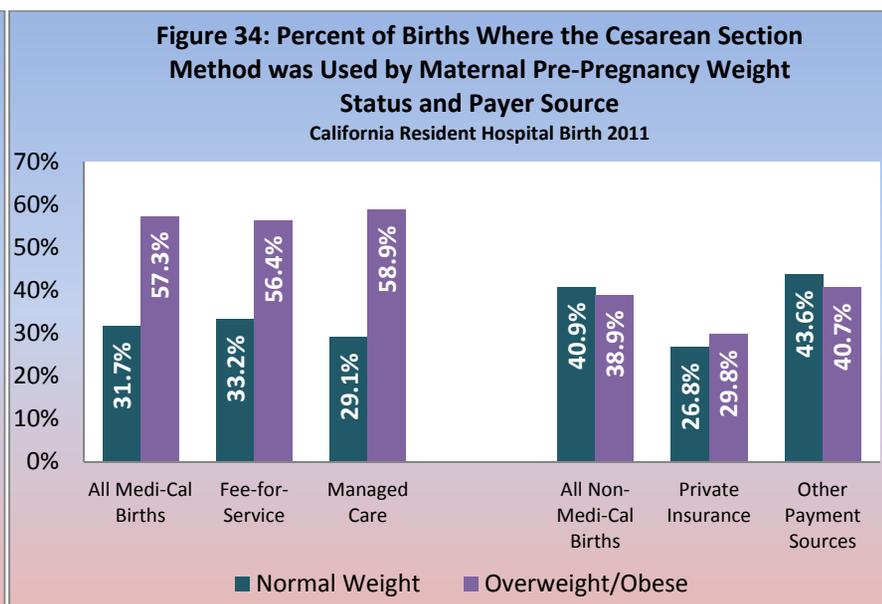
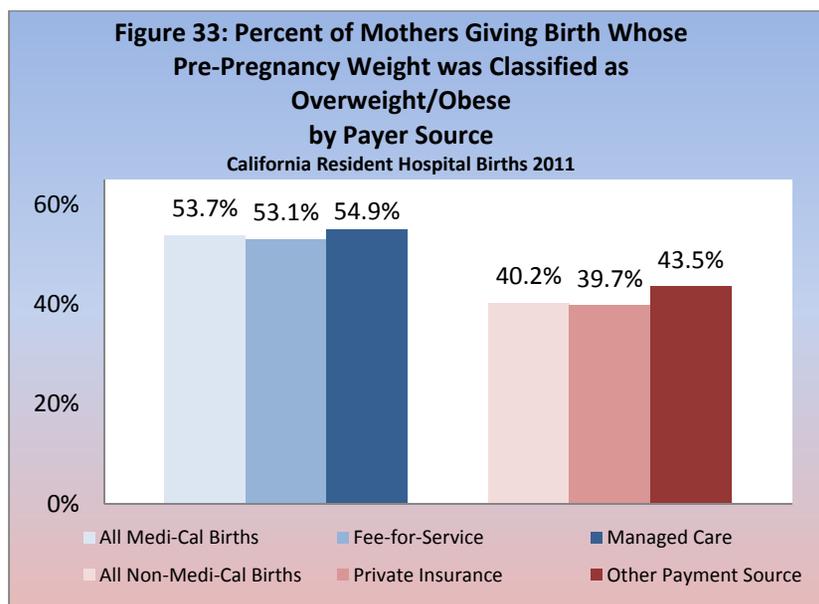
Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

**Pre-Pregnancy Weight:** Maternal pre-pregnancy weight ranging outside of normal is associated with many adverse birth outcomes such as large-for-gestational-age, macrosomia, neural tube defects, stillbirth, neonatal death, and congenital heart defects (the leading cause of infant death when attributed to birth defects).<sup>98</sup> Newborns who are born large-for-gestational-age or affected by macrosomia also have an increased risk of future obesity and diabetes.<sup>99,100</sup> Women within a normal weight range are less likely to deliver preterm, develop gestational hypertension or diabetes, or require a cesarean section in comparison to women who are overweight or obese.<sup>101</sup>

The California birth certificate captured each mother’s height and weight for the first time in 2007, with weight recorded prior to pregnancy as well as at the time of delivery. Pre-pregnancy height and

weight were used to calculate a mother’s Body Mass Index (BMI), though a large proportion of records contained missing or invalid height and/or weight information (N=55,479, or 11.2% of all observations).

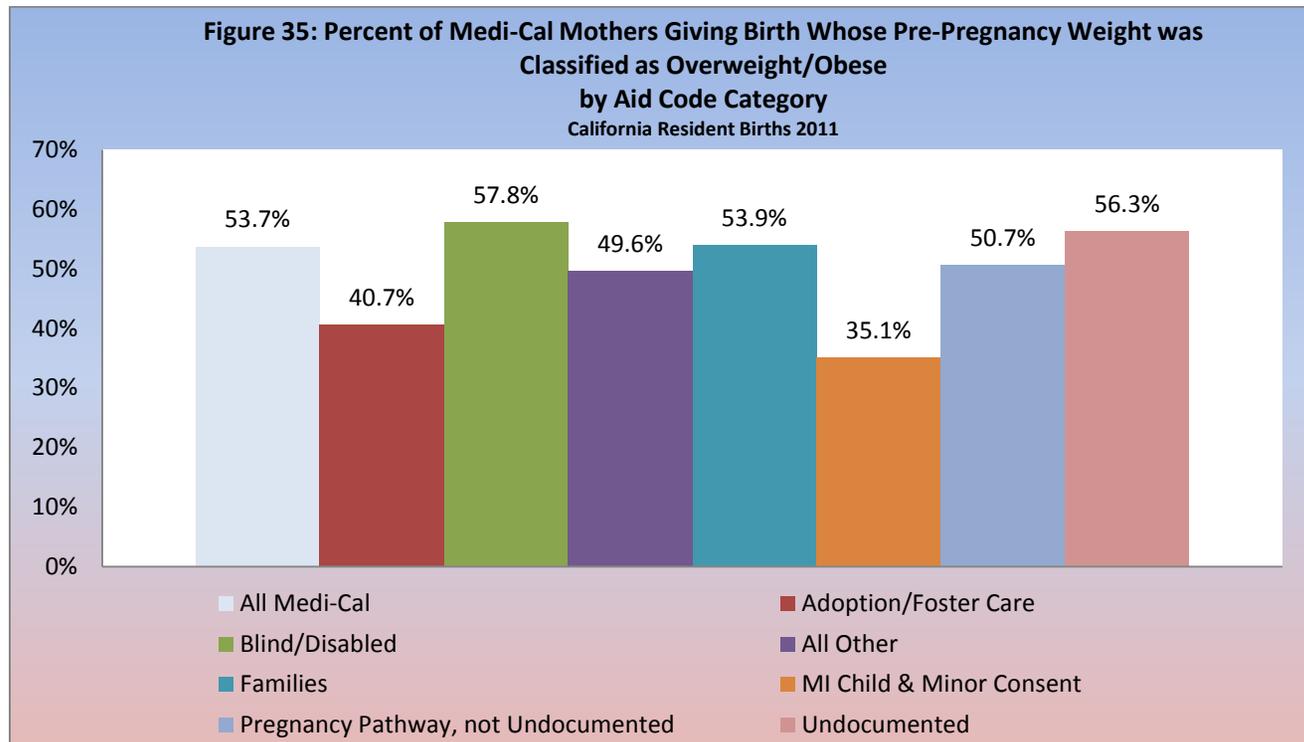
The association between pre-pregnancy weight and the incidence of cesarean section delivery was not consistent among payer sources. Among Medi-Cal births, the incidence of cesarean section delivery was higher among women with pre-pregnancy weights considered overweight or obese than those with pre-pregnancy weights considered normal (Figure 34). Non Medi-Cal mothers with pre-pregnancy weights considered normal were more likely to have a cesarean section delivery (40.9%) than non-Medi-Cal mothers with pre-pregnancy weights considered overweight/obese (38.9%).



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

The National Heart, Lung, and Blood Institute (NHLBI) define BMI as a measurement for gauging weight and obesity. Calculated from height and weight, BMI is an estimate of body fat that helps measure risk of certain diseases and overall health. For this analysis, BMI was grouped according to criterion from NHLBI into the following categories: Underweight (BMI<18.5); Normal Weight (BMI 18.5-24.9); and Overweight/Obese (BMI 25+).

Among Medi-Cal mothers, 53.7% entered their pregnancy as overweight/obese, compared to 40.2% of mothers whose births were financed by non-Medi-Cal sources (Figure 33). Among certain Medi-Cal subpopulations, the prevalence of overweight/obese mothers prior to pregnancy was higher yet. Mothers enrolled in Blind/Disabled aid codes had a pre-pregnancy overweight/obesity prevalence as high as 57.8%, and 56.3% of women enrolled in Undocumented aid codes had a pre-pregnancy weight considered overweight or obese (Figure 35).



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

## Birth Outcomes

The birth outcomes presented in this report include:

- [Low Birthweight](#)
- [Very Low Birthweight](#)
- [Preterm Births](#)
- [Very Preterm Births](#)

The statistics presented in this section can be used to create fundamental knowledge about the health of Medi-Cal mothers and their babies, influences on birth outcomes, and interactions among those influences. These statistics can also be used to identify and understand groups at risk for poor birth outcomes, and to develop information for guiding health policy development, assessment, and evaluation.

California’s birth statistics disclosed that overall, the state has met the Healthy People 2020 Goals with respect to the four outcomes evaluated (Figure 36). However, there were some subpopulations in which this was not the case. Consistent with national figures, RASD identified variations among racial cohorts, age groups, and payer sources.

In the sections that follow, RASD describes each birth outcome measure, discusses the importance of the outcome, and presents birth outcome statistics by various dimensions. The statistics are compared to the Healthy People 2020 Goals where applicable.

**Figure 36 – Comparison of Select Medi-Cal Birth Outcomes with All U.S. Births, Healthy People 2020 Goals, All California Resident Hospital Births, and Non-Medi-Cal Births**

Outcome Measure	All U.S. Births	All California Hospital Resident Births	Medi-Cal Hospital Resident Births	Non-Medi-Cal Hospital Resident Births	Healthy People 2020 Goal
Low Birthweight	8.1%	6.8%	6.6%	6.9%	7.8%
Very Low Birthweight	1.4%	1.1%	1.1%	1.2%	1.4%
Preterm Delivery	11.7%	9.9%	10.3%	9.4%	11.4%
Very Preterm Delivery	1.9%	1.5%	1.6%	1.4%	1.8%
<b>Populations shaded in green represent those that met the Healthy People 2020 goal in 2011. Populations in red didn't meet the Healthy People 2020 Goal in 2011.</b>					

*Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; Centers for Disease Control and Prevention, National Vital Statistics Reports for 2011; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag. The outcomes presented above were derived for California resident hospital births. Births to mothers that occurred outside of a hospital or to non-resident mothers have been excluded.*

**Low Birthweight:** Low birthweight (<2,500 grams) is a major contributor to infant mortality. In the U.S., the three leading causes of infant death are congenital defects, low birthweight, and sudden infant death syndrome (SIDS), all of which account for 44% of infant deaths nationally.<sup>102</sup> Hospital costs for newborns delivered in the low birthweight and very low birthweight ranges (<1,500 grams) are substantially higher than for normal-birthweight newborns (≥2,500 grams).<sup>103</sup> In addition, newborns delivered at low or very low birthweight are at increased risk for life-long disabilities.

According to the CDC, the proportion of low-birthweight deliveries in the United States in 2011 was 8.1%,<sup>104</sup> whereas only 6.8% of California births were low birthweight.

The sections that follow show that California has met the Healthy People 2020 birth outcome goals, and in many cases, the Medi-Cal program has exceeded these benchmarks. However, it is important to recognize that the demographic profile of California mothers is different from that found in other parts of the country in ways that often favor positive birth outcomes. For example, California has a large foreign-born population compared to the rest of the county.<sup>105</sup> These mothers, regardless of other factors (income, insurance coverage, race, etc.) tend to experience better birth outcomes than U.S.-born mothers.<sup>106,107</sup>

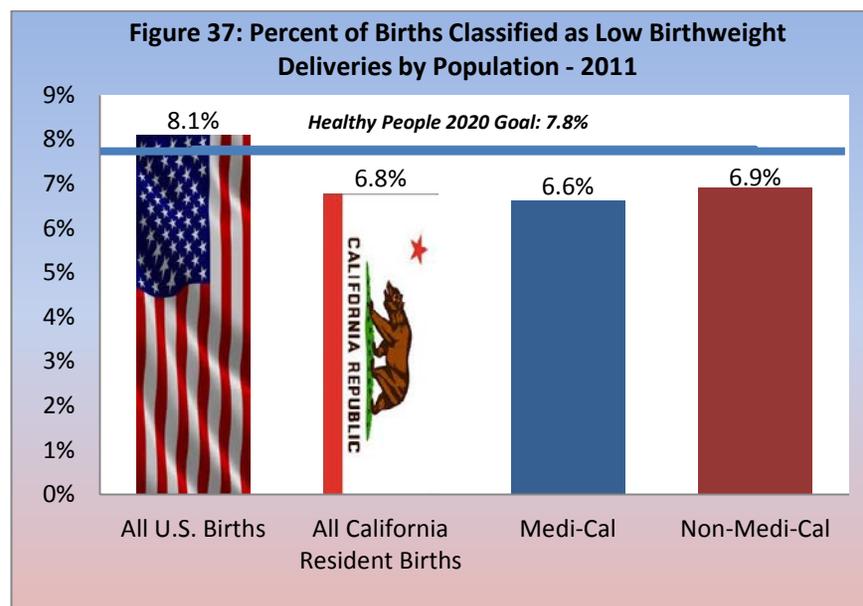
RASD found that the following factors were associated with higher percentages of low birthweight among Medi-Cal mothers:

- Multiple Gestation Births
- Hypertension
- Substance Use
- Blind/Disabled Aid Category

- African-American Mothers
- Age 35 or Older
- Smoking During Pregnancy
- Mother Underweight Before Pregnancy

The following factors were associated with lower percentages of low birthweight among Medi-Cal mothers:

- Mothers Without SIS
- Singleton Birth
- Foreign Born Mothers
- Hispanic Mothers
- One Previous Birth
- Age 20-24, or 25-29



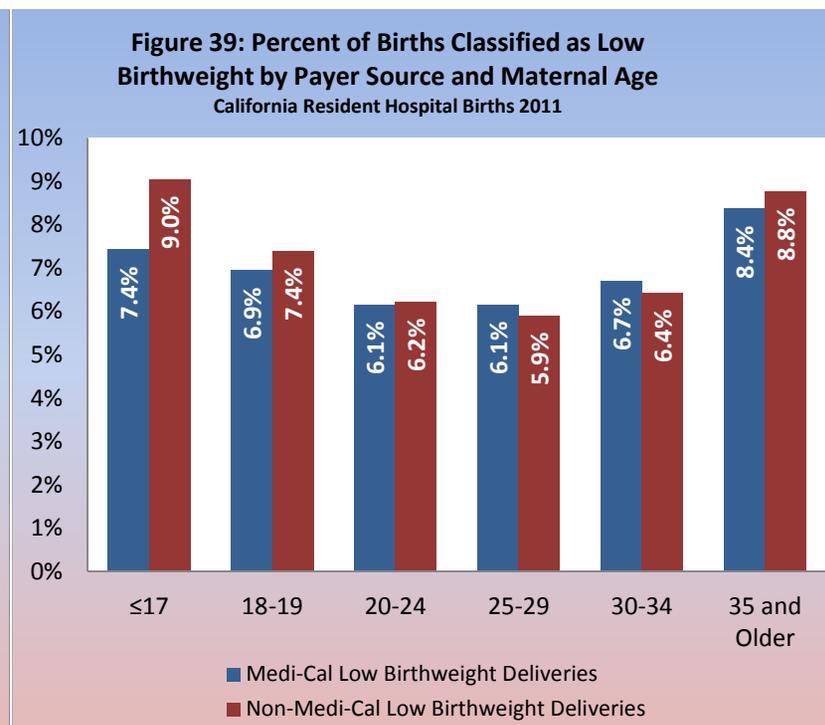
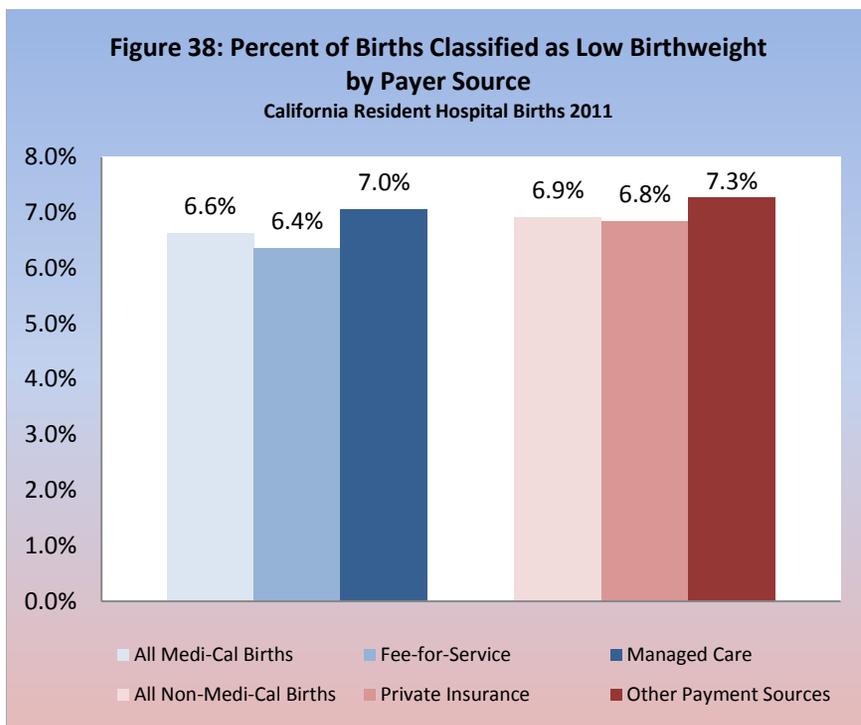
Martin, J.A., Hamilton, B.E., Ventura, S.J., Osterman, M.J.K., Mathews, T.J. (2013, June 28). National Vital Statistics Report – Births: Final Data for 2011. Centers for Disease Control, National Center for Health Statistics, National Vital Statistics System (62)1. Retrieved from [http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62\\_01.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62_01.pdf)

Low-birthweight percentages were slightly higher among births to mothers who participated in Medi-Cal managed care (7.0%) than those who participated in Medi-Cal’s traditional FFS system (6.4%). Mothers with births financed by other funding sources had the highest rate of low-birthweight outcomes (7.3%).

The high percentages of low birthweight among older mothers may be due, in part, to the increased prevalence of multiple-gestation births

among this age group.<sup>108,109</sup> For Medi-Cal mothers age 35 and older, the percent of low-birthweight deliveries was 8.4%. Among non-Medi-Cal mothers age 35 and older, the percent was slightly higher at 8.8%.

Younger mothers also displayed higher percentages of low birthweight. For Medi-Cal mothers age 17 and younger, the percent of low-birthweight deliveries was 7.4%, and 9.0% for non-Medi-Cal mothers age 17 and younger (Figure 39).

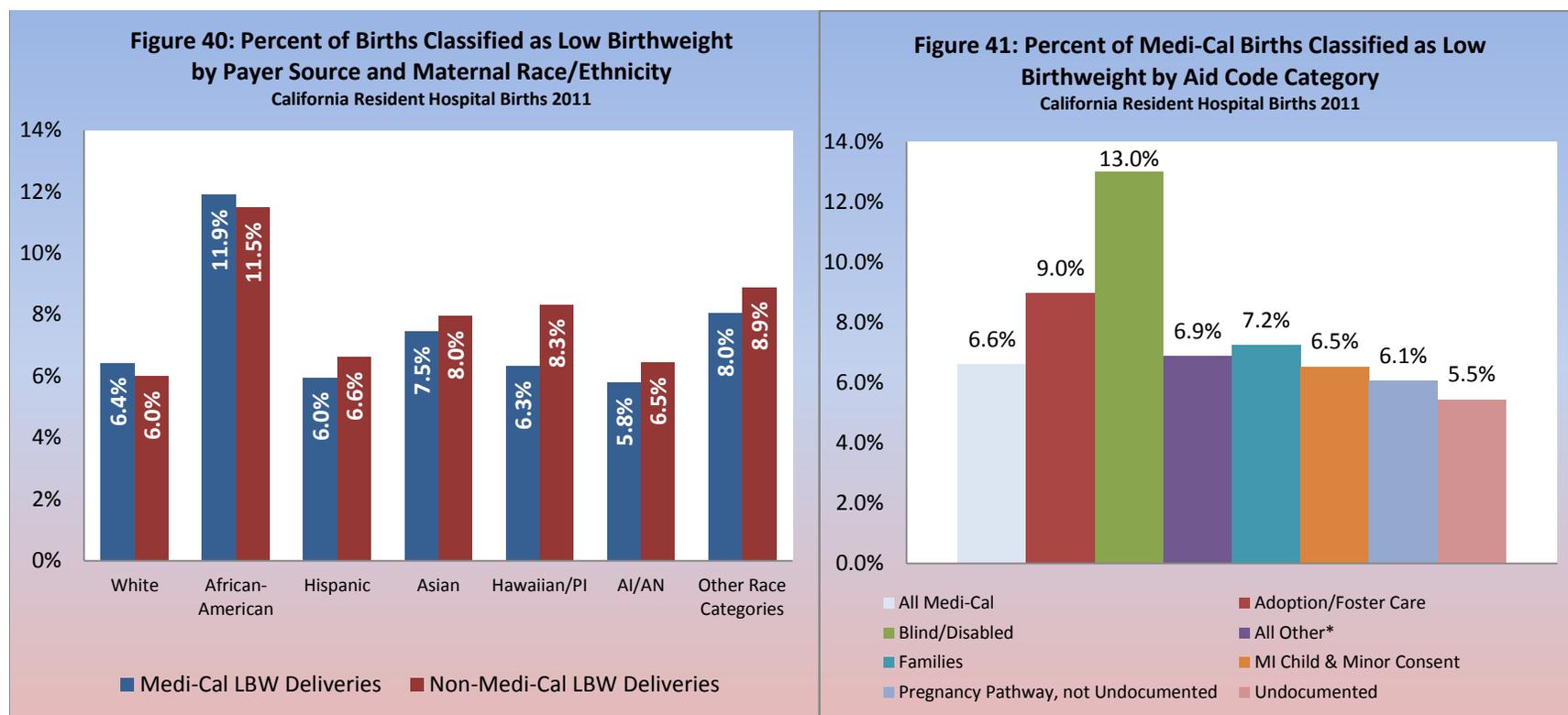


Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

Although the percentage of low birthweight deliveries varied among mothers of different racial cohorts, Medi-Cal and non-Medi-Cal mothers within the same racial cohort exhibited similar percentages. African-American mothers had the highest percentages of low birthweight for Medi-Cal (11.9%) and non-Medi-Cal births (11.5%) (Figure 40). Mothers in the American Indian/Alaskan Native cohort had the lowest percentage of low-birthweight deliveries for Medi-Cal

(5.8%). Among non-Medi-Cal mothers, white mothers had the lowest percentage of low birthweight (6.0%).

Among Medi-Cal mothers, the highest percentage of low birthweight was found among mothers enrolled in Blind/Disabled aid codes (13.0%) and the lowest percentage was found among mothers without SIS (Undocumented, 5.5%) (Figure 41).

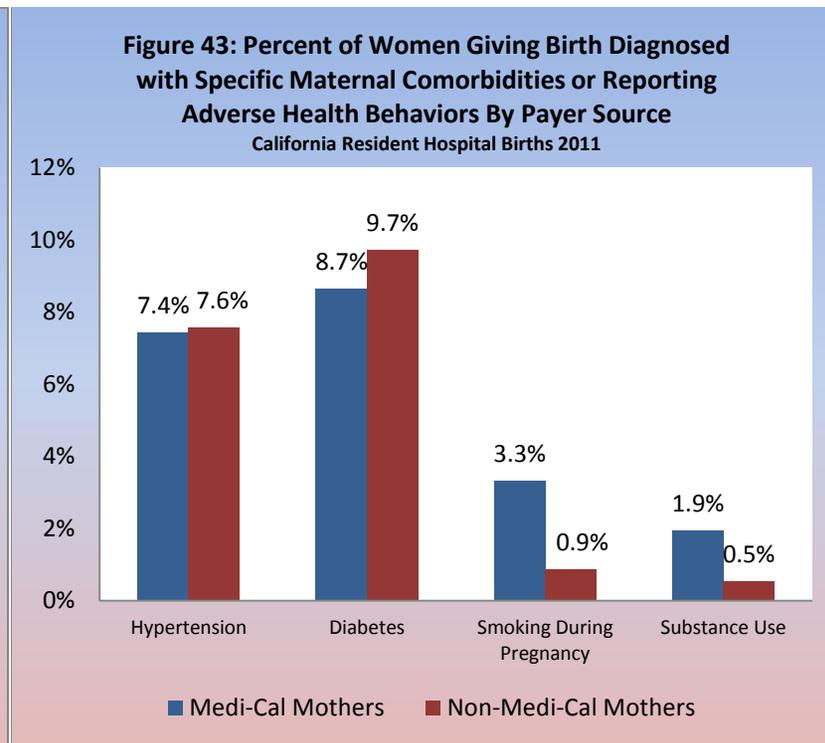
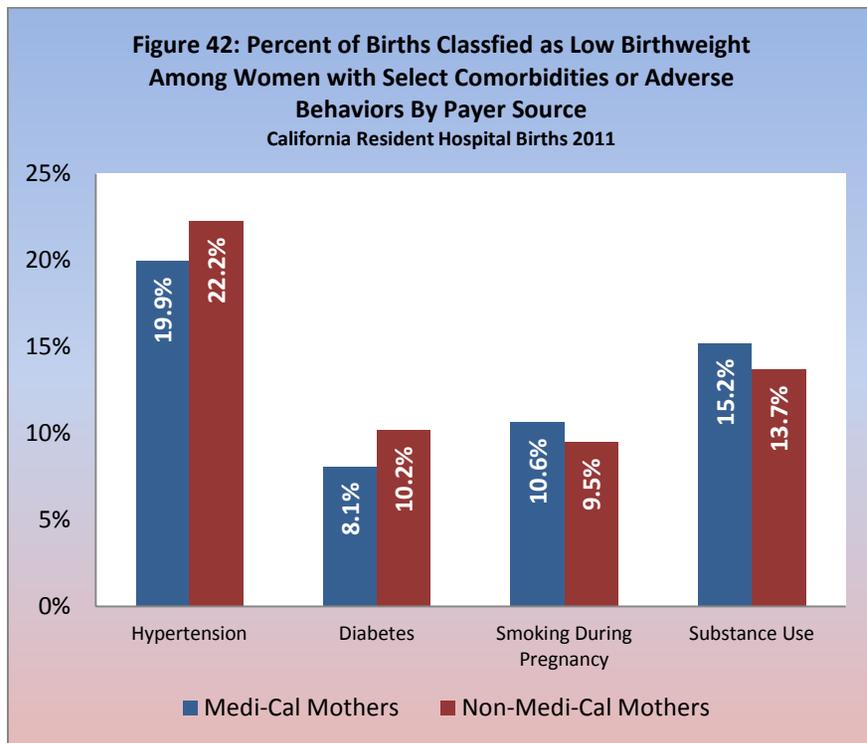


Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

Most clinical conditions studied in this report showed an association with births resulting in low birthweight. For example, while the prevalence of low birthweight among Medi-Cal births was 6.6%, low birthweight was substantially higher among mothers with hypertension (19.9%), smokers (10.6%), and mothers diagnosed with substance use at the time of delivery (15.2%). Among non-Medi-Cal mothers the percentage of low birthweight was also elevated for those with

hypertension (22.2%), smokers (9.5%), diabetes (10.2%), and mothers diagnosed with substance use (13.7%) (Figure 42).

As displayed in Figure 43, the prevalence of hypertension and diabetes among Medi-Cal and non-Medi-Cal mothers was similar. However, Medi-Cal mothers displayed a markedly higher prevalence of being overweight/obese (53.7%) (not shown), smoking during pregnancy (3.3%), and substance use (1.9%).



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

**Very Low Birthweight:** Newborns delivered at a very low birthweight (<1,500 grams) account for over half (53.1%) of all infant deaths in the U.S.<sup>110</sup> Among all births financed by Medi-Cal, the percent classified as very low birthweight was 1.1%. The Healthy People 2020 goal is to reduce the percent of very low birthweight to 1.4% or below.

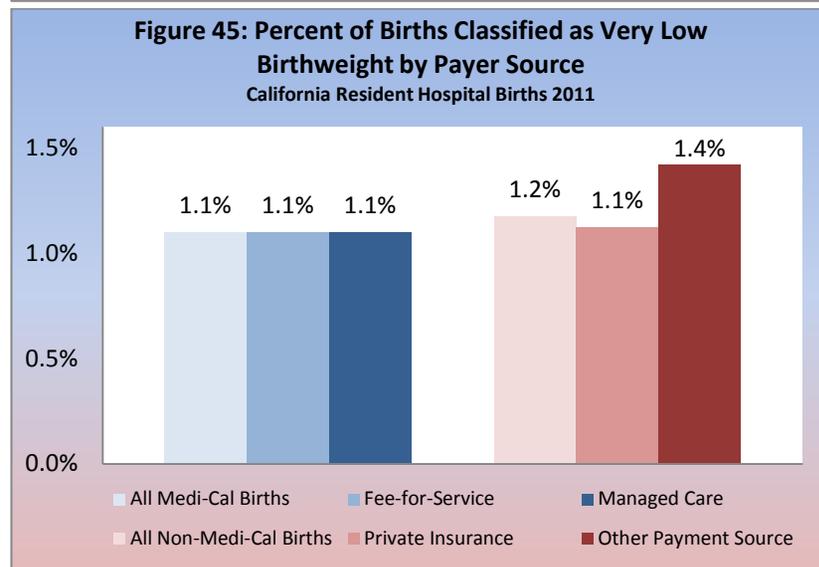
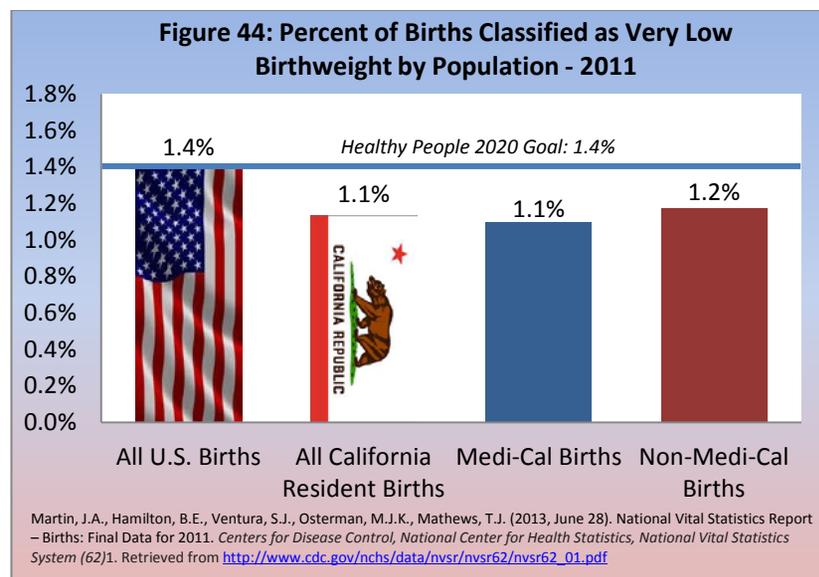
The percentages of very low birthweight were similar for births to Medi-Cal managed care beneficiaries (1.1%), Medi-Cal FFS beneficiaries (1.1%), and mothers with private insurance (1.1%).

RASD found that these factors were associated with higher percentages of very low birthweight deliveries among Medi-Cal mothers:

- Multiple gestation births
- Hypertension
- Substance use
- African-American mothers
- Blind/Disabled mothers
- Mothers over age 35

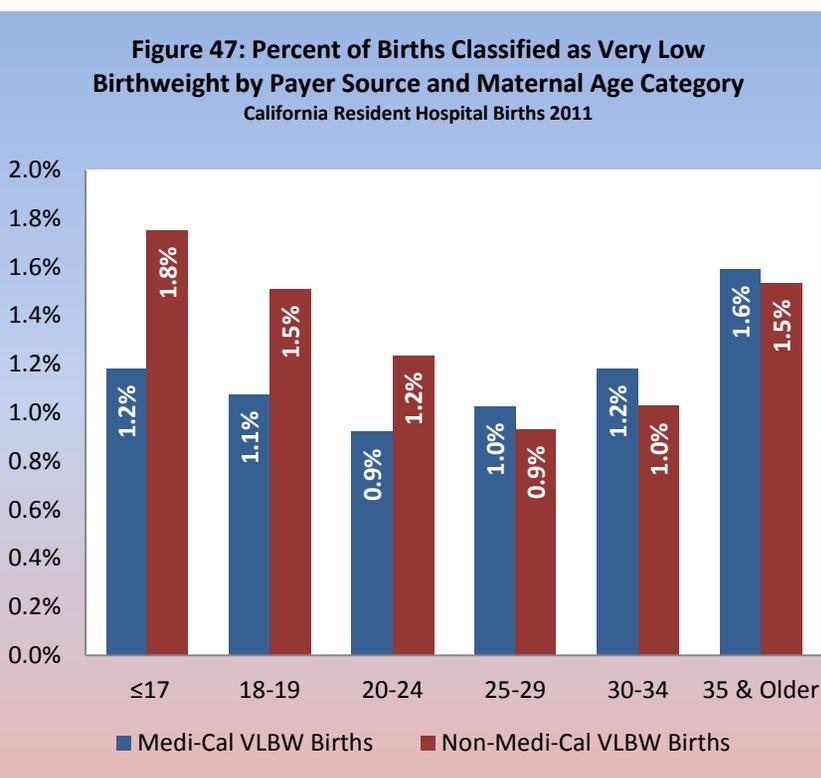
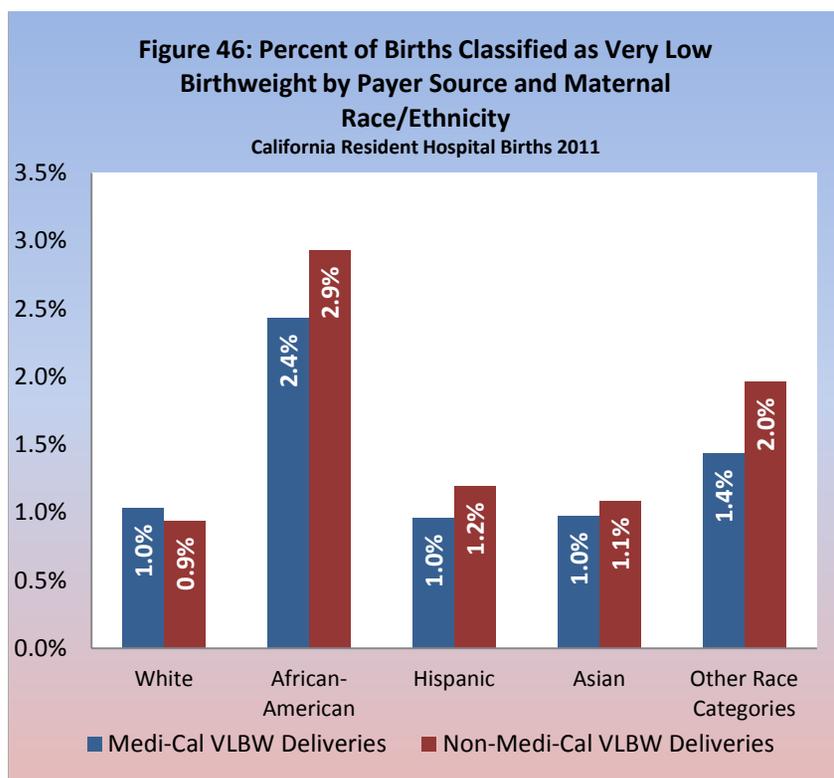
The following factors were associated with lower percentages of very low birthweight among Medi-Cal mothers:

- Mothers without SIS
- Singleton births
- Age 20-24
- One previous birth
- Hispanic, Asian, or white mothers
- Less than a high school education



Among maternal racial cohorts, African-American mothers had the highest percentages of very low birthweight at 2.4% for Medi-Cal births and 2.9% for non-Medi-Cal births (Figure 46). The lowest percentages of very low birthweight occurred among white, Asian, and Hispanic mothers.

Very low birthweight was lowest among Medi-Cal mothers ages 20-29, ranging from 0.9% to 1.0%. Percentages of very low birthweight within Medi-Cal were somewhat higher among women age 17 or younger at 1.2%. The highest percent was among this same age group for non-Medi-Cal births at 1.8%. The percent of very low birthweight was high among mothers age 35 or older, at 1.6% for Medi-Cal births and 1.5% for non-Medi-Cal births (Figure 47).

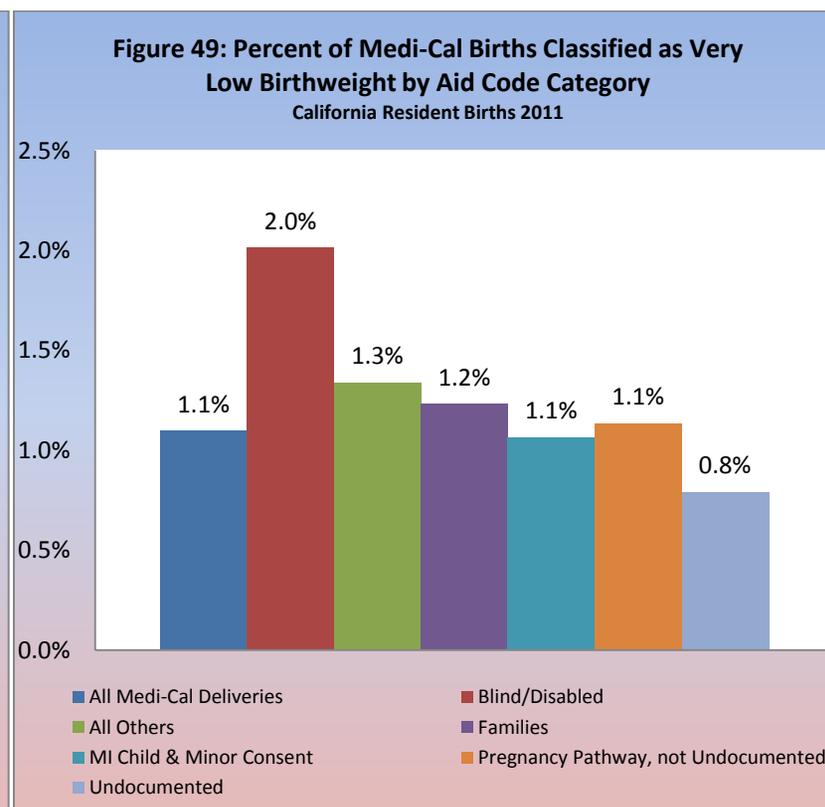
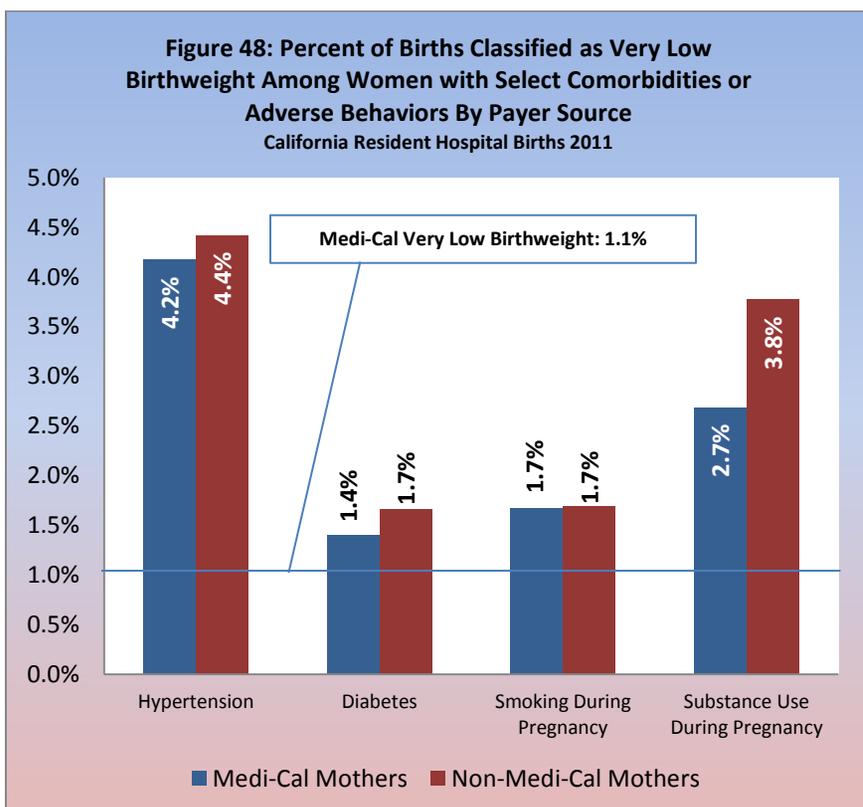


Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

The prevalence of very low birthweight was highest among mothers with negative health behaviors and those diagnosed with select comorbidities. For example, very low birthweight was four times higher for mothers diagnosed with hypertension and over twice as high for both Medi-Cal and non-Medi-Cal mothers diagnosed with substance use than the overall Medi-Cal percent of 1.1% (Figure 48). Factors such as smoking and diabetes also modestly elevated the likelihood of a very

low birthweight delivery between both Medi-Cal and non-Medi-Cal populations.

Among Medi-Cal mothers, the highest percentage of very low birthweight was found among mothers enrolled in Blind/Disabled aid codes (2.0%), and the lowest was found among mothers without SIS (Undocumented, 0.8%) (Figure 49).



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

**Preterm Births:** The percentage of preterm births is almost twice as high in the U.S. compared to other developed countries.<sup>111</sup> Babies born prematurely (<37 complete weeks of gestation) are at increased risk for death and life-long disabling conditions including hearing and vision loss, respiratory problems, mental retardation, and cerebral palsy.<sup>112</sup> The Healthy People 2020 goal is to reduce the percent of preterm births to 11.4%.

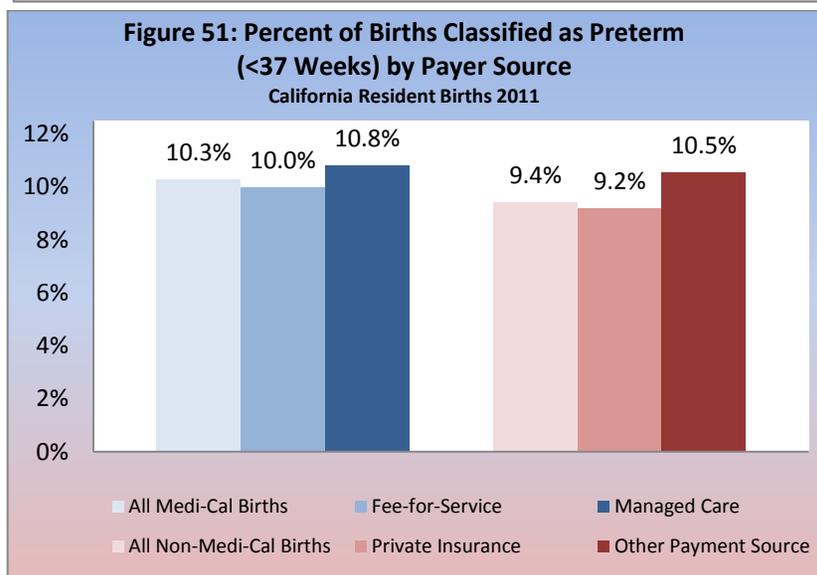
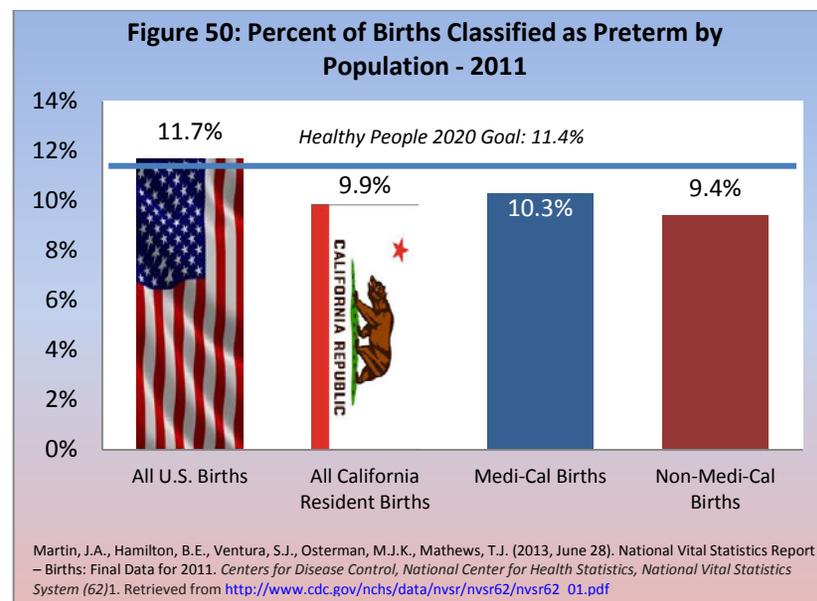
In 2011, 9.9% of hospital births to all California resident mothers were premature. Preterm births were more common among Medi-Cal-financed births (10.3%) than non-Medi-Cal financed births (9.4%) (Figure 50). Preterm percentages were slightly higher among Medi-Cal FFS beneficiaries (10.0%) than births financed by private insurance (9.2%), and more prevalent among Medi-Cal managed care beneficiaries (10.8%) and births financed by other funding sources (10.5%) (Figure 51).

Medi-Cal categories with higher percentages of preterm births:

- Multiple gestation births
- Hypertension
- Substance use
- Blind/Disabled aid category
- Diabetes

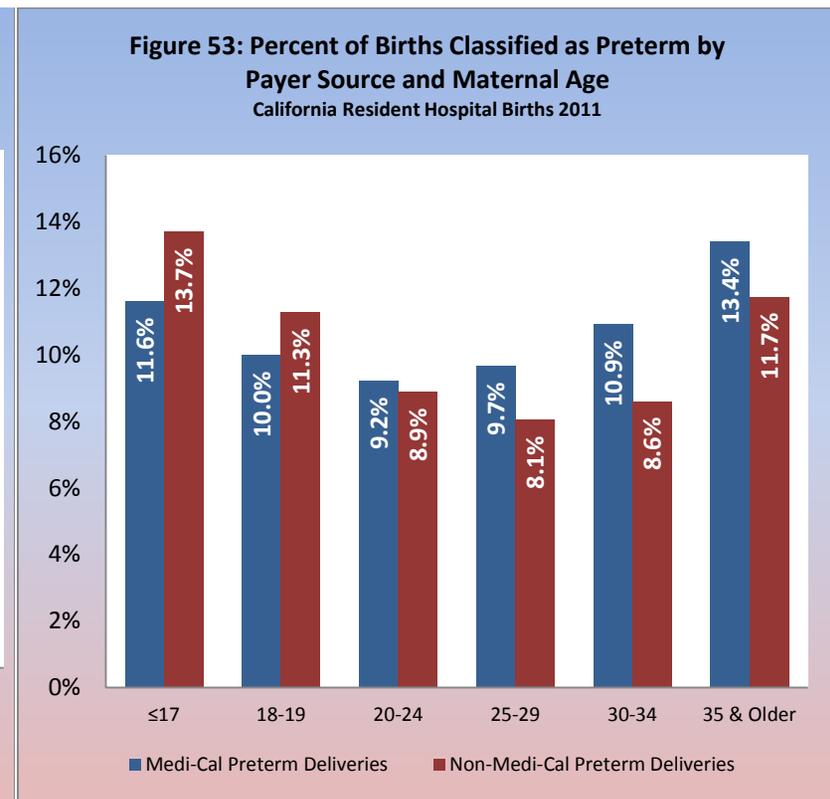
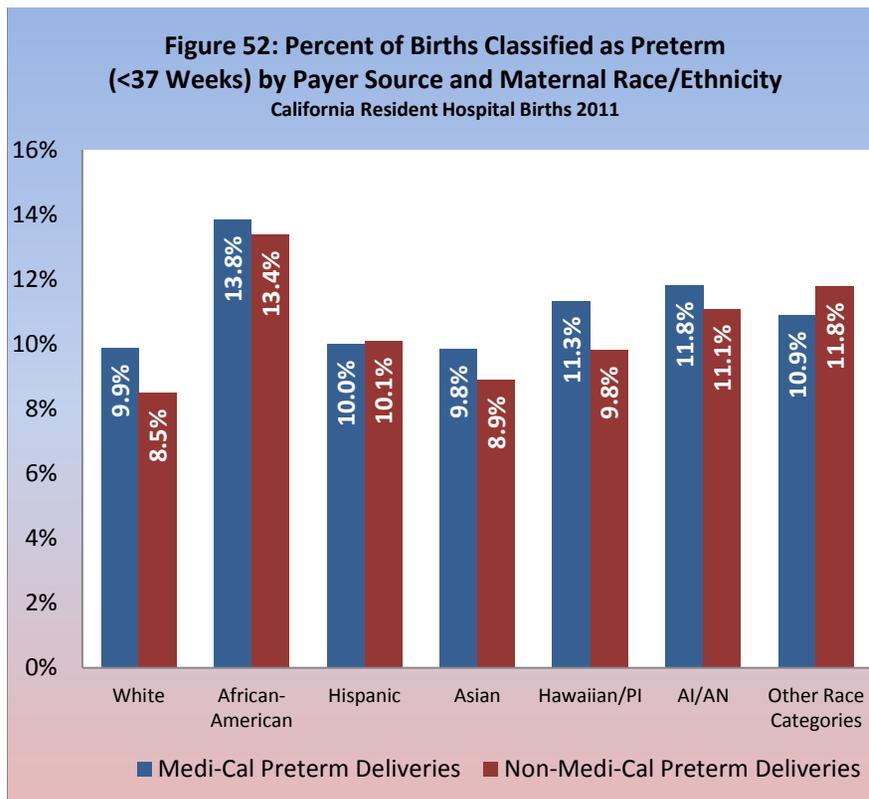
Medi-Cal categories with lower percentages of preterm births:

- Singleton birth
- Pregnancy-related aid category
- Ages 20-24
- First-born child
- Bachelor's degree or higher
- Foreign-born mothers



Similar to low-birthweight deliveries, African-American mothers had the highest percentages of preterm deliveries among racial cohorts (13.8% for Medi-Cal-financed births and 13.4% for non-Medi-Cal-financed births). Between both Medi-Cal and non-Medi-Cal financed births, white mothers experienced the lowest percent of preterm delivery at 9.9% and 8.5%, respectively (Figure 52).

The incidence of preterm births was lowest among mothers 20-34 years of age, whereas the youngest and oldest age cohorts had the highest percentages of preterm births. Percentages for mothers age 17 and younger, and over 34 years of age were above the Healthy People 2020 goal of 11.4% (Figure 53).

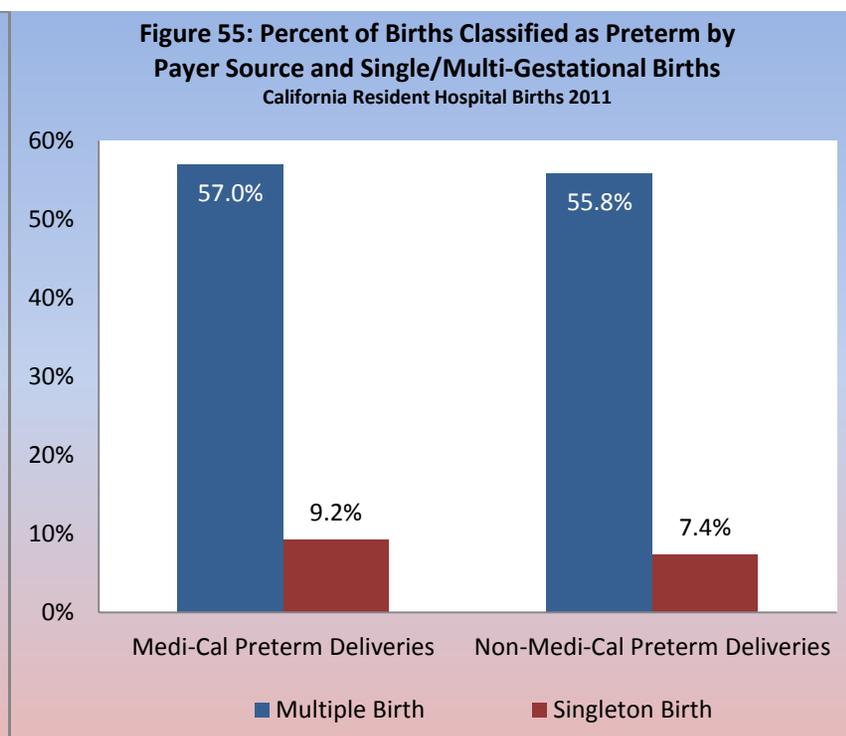
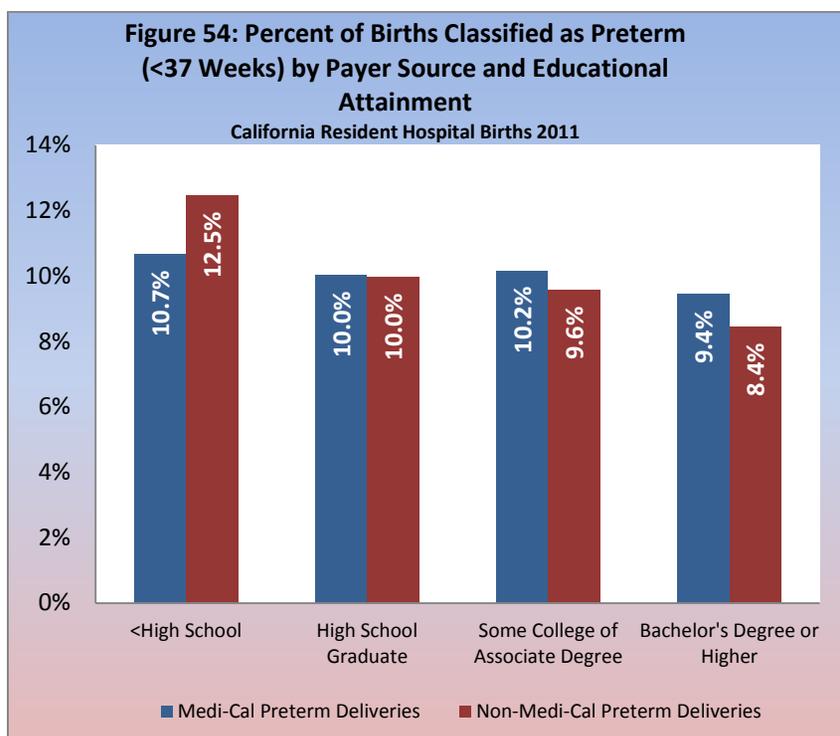


Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

Percentages of preterm delivery were inversely associated with educational attainment. Mothers with less than a high school education had the highest percentage of preterm birth (10.7% for Medi-Cal-financed births and 12.5% for non-Medi-Cal-financed births), and those with a bachelor’s degree or higher experienced the lowest percentage of preterm birth (9.4% for Medi-Cal-financed births and 8.4% for non-Medi-Cal-financed births) (Figure 54). Non-Medi-Cal

mothers were particularly illustrative of this trend.

The highest percentage of preterm birth was associated with births of more than one infant, or multiple gestations. Percentages for Medi-Cal and non-Medi-Cal financed births involving multiple-gestation births were similar (Figure 55).

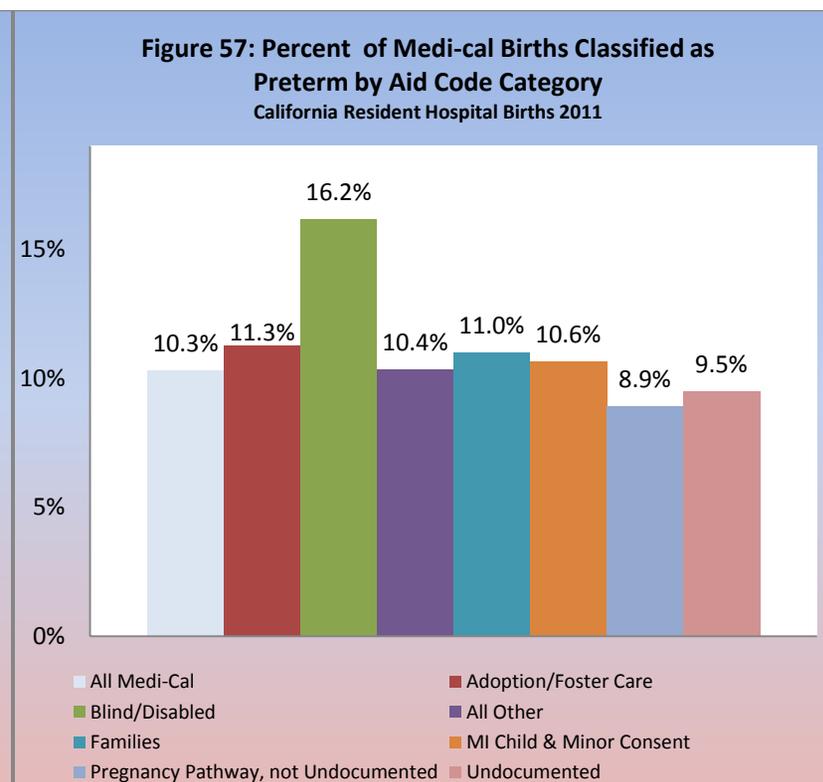
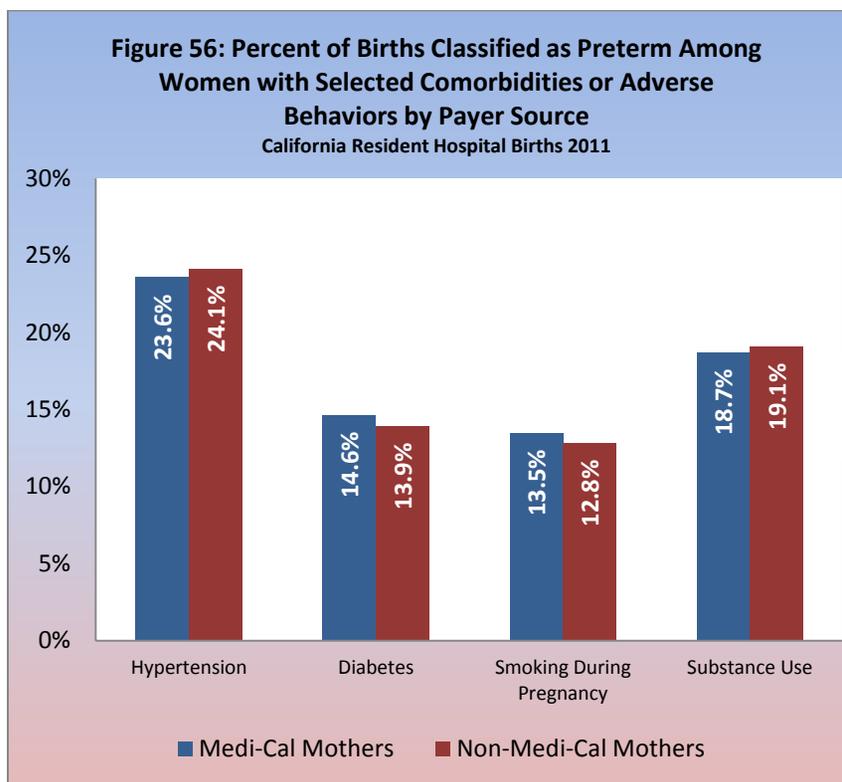


Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

Medi-Cal and non-Medi-Cal mothers with hypertension experienced a percentage of preterm birth about twice the Healthy People 2020 goal of 11.4%. The percentage for mothers with hypertension were 23.6% for Medi-Cal financed births and 24.1% for non-Medi-Cal financed births. Mothers with diabetes also exhibited elevated incidence of preterm delivery, with percentages of 14.6% and 13.9% for Medi-Cal and non-Medi-Cal financed births, respectively (Figure 56). Significantly higher percentages of preterm delivery were also found among mothers with a diagnosis for substance use, 18.7% for Medi-Cal

financed births and 19.1% for non-Medi-Cal financed births (Figure 56).

Medi-Cal mothers enrolled in the Blind/Disabled aid category experienced a higher percentage of preterm delivery (16.2%) compared to Medi-Cal mothers enrolled in other aid codes. Women without SIS (Undocumented, 9.5%) and women enrolled in Pregnancy aid codes (8.9%) had the lowest percentages of preterm deliveries (Figure 57).



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

**Very Preterm Births:** Very preterm births are those that occur at less than 32 weeks of pregnancy. Nationally, according to the CDC, 11.7% of infants were born preterm in 2011.<sup>113</sup> Of those, 8.3% of babies were born at 34 to 36 weeks gestation, 1.5% of babies were born at 32-33 weeks, and 1.9% were born “very preterm” (less than 32 weeks).

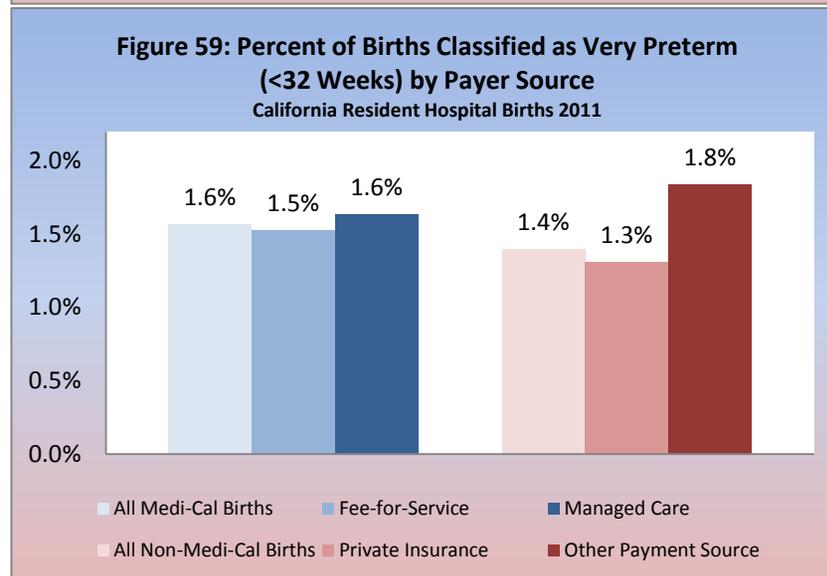
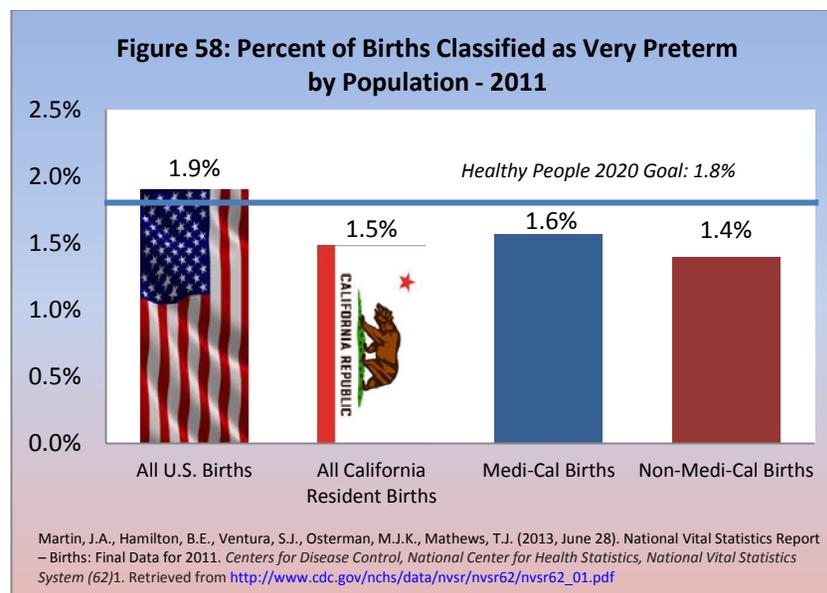
In California, the percentage of very preterm births (1.5%) was lower than the national average. Very preterm births were slightly higher among Medi-Cal births (1.6%) than non-Medi-Cal births (1.4%). Among Medi-Cal financed births, very preterm delivery percentages were similar among births financed by the FFS delivery system (1.5%) and births to mothers participating in Medi-Cal managed care (1.6%).

Medi-Cal categories with higher percentages of very preterm births:

- Multiple-Gestation births
- Hypertension
- Substance Use
- African-American Mothers
- Adoption/Foster Care and Blind/Disabled Aid Codes
- Smoking During Pregnancy
- Age 17 or Younger and Age 35 and Older

Medi-Cal categories with lower percentages of very preterm births:

- American Indian/Alaskan Natives Mothers
- Bachelor's Degree or Higher
- Age 20-24 and Age 25-29
- One Previous Birth
- Singleton Birth
- Mothers Without SIS

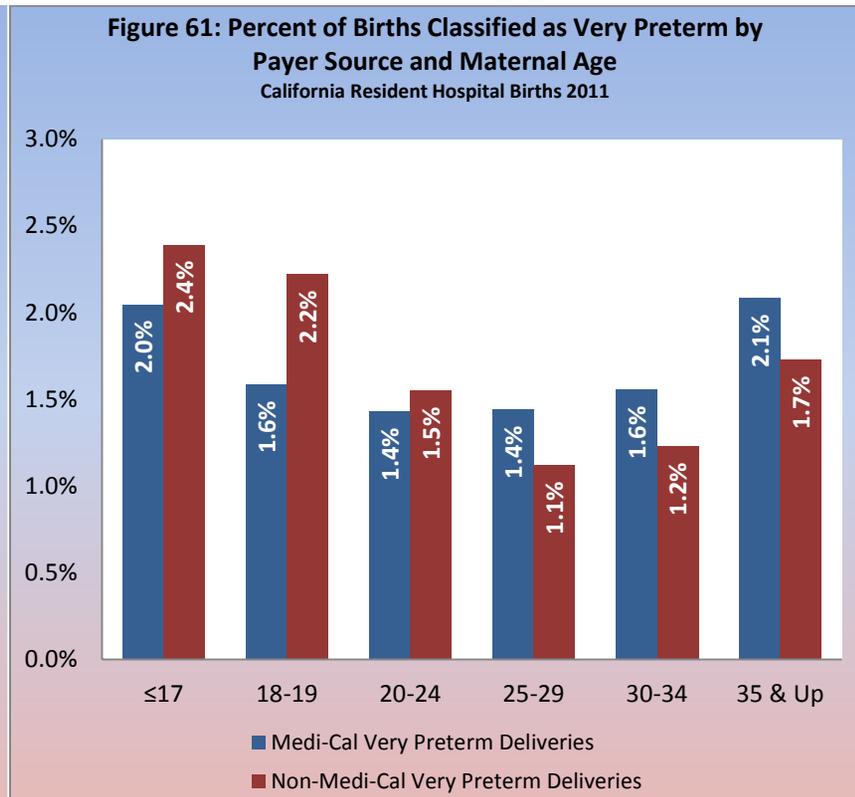
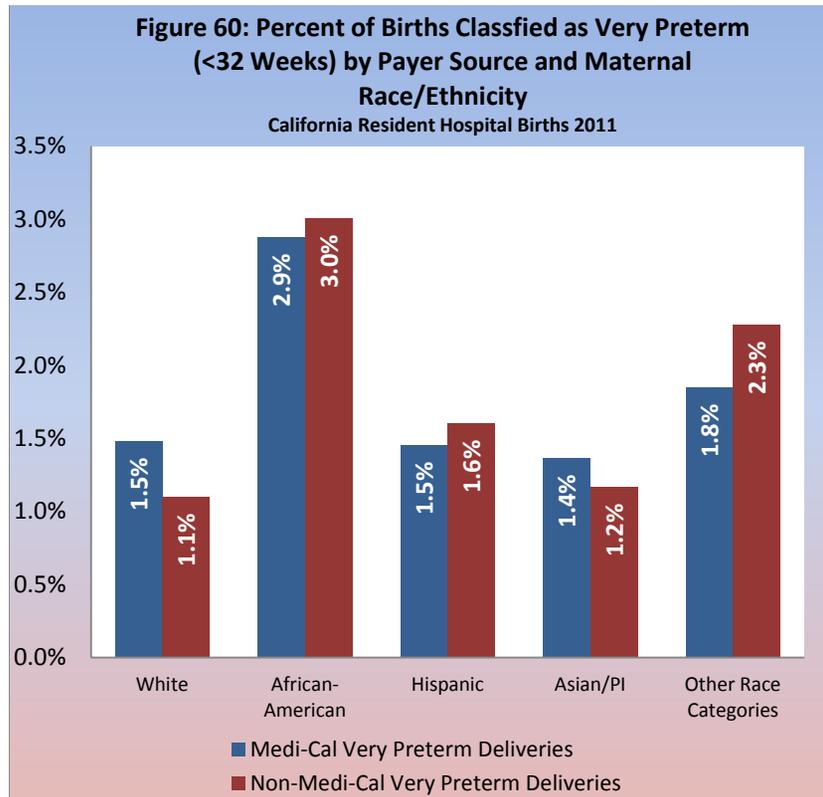


Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

The incidence of very preterm births was elevated for African-American mothers regardless of payer source. Mothers who self-identify in the “other” racial cohort had similarly heightened percentages.

When considering only Medi-Cal mothers, very preterm birth outcomes were most common among those age 17 and younger

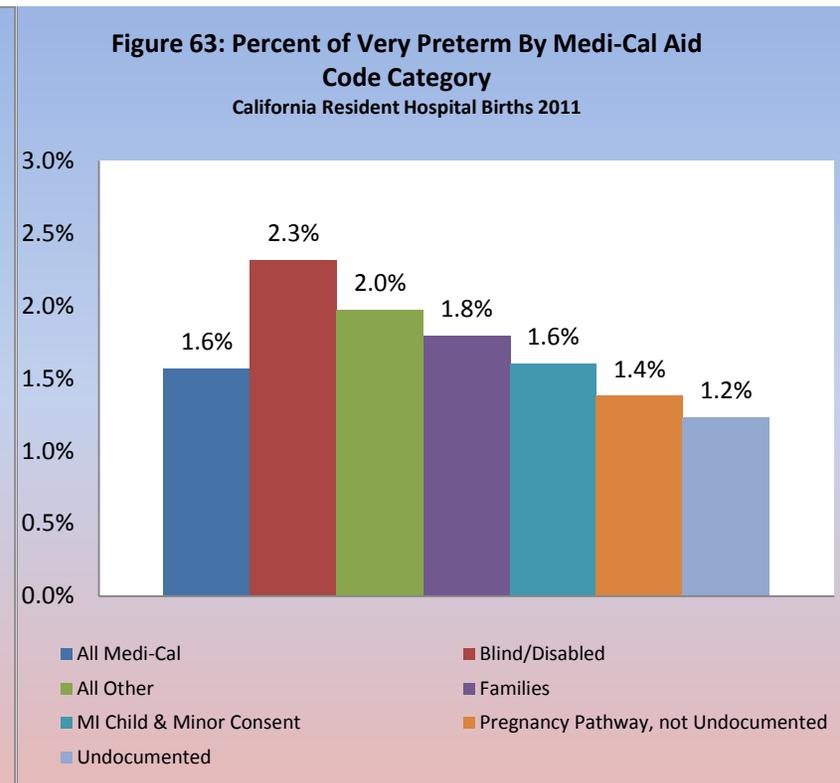
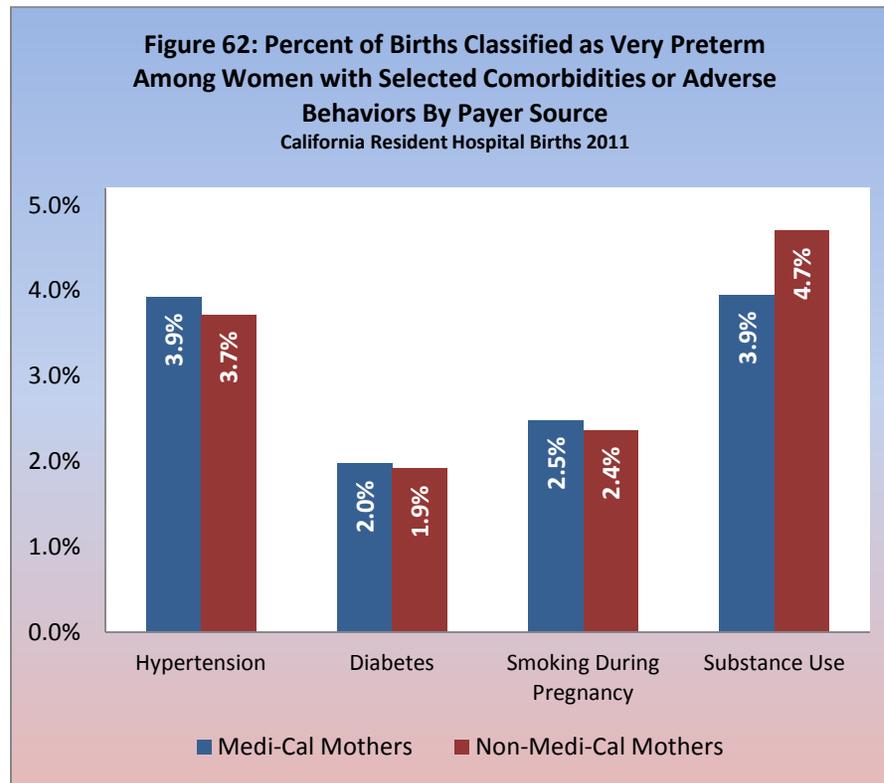
(2.0%), as well as mothers age 35 and older (2.1%). Within these age groups, non-Medi-Cal mothers displayed a somewhat higher incidence of very preterm births. Non-Medi-Cal mothers age 17 and younger had a very preterm percent of 2.4%, while non-Medi-Cal mothers age 35 and older had a percent of 1.7%.



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

Very preterm births among Medi-Cal mothers with hypertension (3.9%) and substance use (3.9%) diagnoses were more than twice the Healthy People 2020 goal of 1.8% or less. Medi-Cal mothers who smoked during pregnancy (2.5%) or had a diagnosis for diabetes (2.0%) also had percentages of very preterm delivery above the Healthy People 2020 target (Figure 62).

The incidence of very preterm births varied slightly across Medi-Cal aid code categories. Very preterm births were more prevalent among mothers enrolled in Blind/Disabled aid codes (2.3%), while mothers enrolled in Pregnancy pathway (1.4%) and Undocumented (1.2%) aid codes were the least likely to have a very preterm birth (Figure 63).



Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2011 – December 2011 reflecting a 12-month reporting lag.

## CONCLUSION

Despite declining fertility rates at the national, state, and program levels, Medi-Cal continues to finance a growing proportion of births in California, accounting for over 50% of resident hospital births in 2011. This report highlights differences in birth outcomes among various payers and within Medi-Cal's two delivery systems: FFS and managed care. Clear differences in outcomes exist between the Medi-Cal and non-Medi-Cal populations, Medi-Cal delivery systems, and among specific Medi-Cal subpopulations.

Among singleton births, Medi-Cal mothers had a slightly higher percentage of low birthweight, but similar percentages of very low birthweight when compared with non-Medi-Cal mothers. Preterm births among singleton deliveries were modestly higher among mothers who participated in Medi-Cal's managed care system than births financed by all other sources. Privately insured mothers had the lowest occurrences for most adverse birth outcomes studied.

A large percentage of Medi-Cal beneficiaries are from subgroups most vulnerable to adverse birth outcomes, which can account for variations in low birthweight and preterm delivery percentages. For example, mothers enrolled in Medi-Cal's Blind/Disabled aid category represented a subgroup with complex health care needs. Consequently, 13% of births to Medi-Cal mothers enrolled in the Blind/Disabled aid categories resulted in a low-birthweight outcome.

Medi-Cal also provided services to a number of subgroups with higher risks for adverse outcomes, such as African-American mothers, mothers with increased parity levels, and mothers with lower educational attainment. Medi-Cal delivered more than four times as many teen pregnancies, a subgroup at increased risk for low birthweight and preterm delivery, than other payers.

A greater proportion of Medi-Cal mothers live with comorbidities as compared to non-Medi-Cal mothers. With the exception of diabetes, Medi-Cal mothers showed a greater tendency toward the comorbidities and negative health behaviors studied, particularly smoking while pregnant, substance use, and a pre-pregnancy weight that qualified as overweight or obese. Incidences of hypertension were similar between Medi-Cal and non-Medi-Cal births, and both groups exhibited an increased prevalence of low birthweight and preterm births.

Mothers participating in Medi-Cal's managed care delivery system had the highest prevalence of several comorbidities and negative health behaviors, including smoking during pregnancy, substance use, hypertension, and pre-pregnancy weight qualifying as overweight or obese. The Medi-Cal managed care delivery system provided services to a significant number of the high-risk subgroups mentioned above, including a greater percentage of African-American women and mothers under age 19 than the Medi-Cal FFS system. In addition, protective factors such as being foreign-born and receiving early prenatal care were less prevalent among beneficiaries who participated in Medi-Cal managed care. The characteristics of each payer source's participants may explain much of the variation in percentages of low birthweight, very low birthweight, preterm and very preterm births that are reported here.

Considering the California population overall, RASD found, based on the birth outcomes studied, Medi-Cal mothers were largely comparable to those of non-Medi-Cal mothers, despite the program's high-risk population. Further, birth outcomes for Medi-Cal mothers were more favorable than national averages for all studied areas. Medi-Cal continues to meet national goals for prenatal care and birth outcomes, while financing a growing number of births in California.

## Appendix A – Definitions

**Birthweight:** The birth certificate reports the newborn’s birthweight in grams. Reported birthweights less than 227 grams or greater than 8,650 grams are outside the range of plausible values and were recoded to “missing/out-of-range.”

**Cesarean Section:** The delivery of a baby through a surgical opening in the mother’s lower abdomen area.

**Comorbidities:** Select diagnoses recorded on the hospital record in addition to birth and delivery-related conditions were examined in this report as comorbid conditions of pregnancy. These conditions include hypertension, diabetes, and substance use.

**Delivery Diagnosis:** Deliveries were identified in the Medi-Cal FFS claims data using a primary diagnosis code of 650.0 or 640.0 - 676.0 with a 5th digit of ‘1’ or ‘2.’

**Diabetes:** Diabetes was identified using one of several available ICD-9 fields on the hospital record. ICD-9 fields were grouped using the Clinical Classification Software (CCS) available from the Agency for Healthcare Research and Quality. The grouping of 186 was used to identify gestational diabetes, and 49 and 50 identified diabetes not related to pregnancy.

**Extremely Obese:** A mother’s pre-pregnancy weight as self-reported on the birth certificate was used in conjunction with self-reported height to develop a body mass index (BMI). BMI was categorized into 4 groupings as follows: underweight = BMI less than 18.5; normal weight = BMI 18.5 to 24.9; overweight = BMI 25.0 to 29.9; Obese/Extremely Obese = BMI 30.0 and greater.

**Fertility Rate:** The total number of children that would be born to each woman if she were to live to the end of her child-bearing years and bear children in accordance with current age-specific fertility rates.

**Gestational Age:** Gestational age is recorded on the birth certificate, and reflects the number of days between the mother’s last menstrual period and the date of birth. Gestational age less than 119 days or greater than 329 days were considered outside the range of plausible values and were recoded to “missing/out-of-range.”

**Hypertension:** Hypertension was identified using one of several available ICD-9 fields on the hospital record. ICD-9 fields were grouped using the Clinical Classification Software (CCS) available from the Agency for Healthcare Research and Quality. The grouping of 183 was used to identify gestational preeclampsia, eclampsia and hypertension; and 98 and 99 identified hypertension not related to pregnancy.

**Infant Mortality:** Death of an infant within the first year of life.

**Low Birthweight:** A newborn was considered low birthweight if the weight at delivery was <2,500 grams.

**Medi-Cal Aid Code:** Aid codes identify the criteria by which each person qualifies for Medi-Cal and the types of services he or she receives, and make clear whether the services are funded by the State or Federal government or both. An aid code is a combination of two numbers or a letter and a number and is attached to a Medi-Cal beneficiary’s identification numbers. Aid code category refers to a unique grouping of distinct aid codes into broad categories such as disabled, family, blind, aged, etc.

**Multiple Gestation Birth:** A delivery resulting in a twin or higher order birth.

**Neonatal Mortality:** Death of an infant within the first 28 days of life.

**Normal Weight:** A mother's pre-pregnancy weight as self-reported on the birth certificate was used in conjunction with self-reported height to develop a body mass index (BMI). BMI was categorized into four groupings as follows: underweight = BMI less than 18.5; normal weight = BMI 18.5 to 24.9; overweight = BMI 25.0 to 29.9; Obese/Extremely Obese = BMI 30.0 and greater.

**Overweight/Obese:** A mother's pre-pregnancy weight as self-reported on the birth certificate was used in conjunction with self-reported height to develop a body mass index (BMI). BMI was categorized into four groupings as follows: underweight = BMI less than 18.5; normal weight = BMI 18.5 to 24.9; overweight = BMI 25.0 to 29.9; Obese/Extremely Obese = BMI 30.0 and greater.

**Parity:** The number of live births a woman has during her reproductive years.

**Pre-Pregnancy Weight:** A mother's pre-pregnancy weight as self-reported on the birth certificate was used in conjunction with self-reported height to develop a body mass index (BMI). BMI was categorized into four groupings as follows: underweight = BMI less than 18.5; normal weight = BMI 18.5 to 24.9; overweight = BMI 25.0 to 29.9; Obese/Extremely Obese = BMI 30.0 and greater.

**Preterm:** Gestational age is recorded on the birth certificate, and reflects the number of days between the mother's last menstrual period and the date of birth. A newborn with a gestational age of <37 weeks was considered to be a preterm delivery.

**Primary Cesarean Section:** First cesarean section delivery regardless of parity.

**Protective Factors:** Individual or environmental characteristics, conditions, or behaviors that reduce the effects of stressful life events. These factors also increase an individual's ability to avoid risks or hazards, and promote social and emotional competence to thrive in all aspects of life, now and in the future.

**Reproductive Age:** Reproductive age refers to those between the ages of 15 and 44.

**Resident Births:** Resident births are defined as births to mothers who report an address on the 2011 birth certificate that is within the state of California.

**Satisfactory Immigration Status (SIS):** As pertains to Medi-Cal, SIS is verified by presenting documentation from the United States Citizenship and Immigration Services (USCIS) as proof of the immigrant's legal registration; the term "undocumented" refers to immigrants without USCIS documentation. Immigrants with verifiable SIS are evaluated using the same needs-based determinations as U.S.-born citizens and, if approved, will receive the same full-scope Medi-Cal coverage.

**Singleton Birth:** When a mother is carrying and delivers one baby; not a twin or multiple birth outcome.

**Substance Use:** Identified by CCS codes 660 and 661, substance use is defined as a state of dependence on any drug, including alcohol. Drug dependence is defined as a state, psychic and sometimes also physical, resulting from the interaction between a living organism and a drug, characterized by behavioral and other responses that always include a compulsion to take the drug on a continuous or periodic basis in

order to experience its psychic effects, and sometimes to avoid the discomfort of its absence.

**Underweight:** A mother's pre-pregnancy weight as self-reported on the birth certificate was used in conjunction with self-reported height to develop a body mass index (BMI). BMI was categorized into four groupings as follows: underweight = BMI < 18.5; normal weight = BMI 18.5 to 24.9; overweight = BMI 25.0 to 29.9; Obese/Extremely Obese = BMI 30.0 and greater.

**Very Low Birthweight:** A newborn was considered very low birthweight if the weight at delivery was <1,500 grams.

**Very Preterm:** Gestational age is recorded on the birth certificate, and reflects the number of days between the mother's last menstrual period and the date of birth. A newborn with a gestational age of <32 weeks was considered to be a very preterm delivery.

## Appendix B – Acronyms

Acronym	
<b>AHRQ</b>	Agency for Healthcare Research Quality
<b>AI</b>	American Indian
<b>AIM</b>	Access for Infants and Mothers
<b>AN</b>	Alaskan Native
<b>BIH</b>	Black Infant Health
<b>BMI</b>	Body Mass Index
<b>CalWORKS</b>	California Work Opportunity and Responsibility to Kids
<b>CCS</b>	Clinical Classification Software
<b>CDC</b>	Centers for Disease Control and Prevention
<b>CDPH</b>	California Department of Public Health
<b>COHS</b>	County Organized Health System
<b>CPSP</b>	Comprehensive Perinatal Services Program
<b>DHCS</b>	Department of Health Care Services
<b>FFS</b>	Fee-for-Service
<b>FPL</b>	Federal Poverty Level
<b>GFR</b>	General Fertility Rate
<b>GMC</b>	Geographic Managed Care
<b>LGA</b>	Large for gestational age
<b>MEDS</b>	Medi-Cal Eligibility Data System
<b>MI</b>	Medically Indigent
<b>MN</b>	Medically Needy
<b>NHLBI</b>	National Heart, Lung, and Blood Institute
<b>OSHPD</b>	Office of Statewide Health and Planning and Development
<b>PA</b>	Public Assistance
<b>PCG</b>	Prenatal Care Guidance
<b>PE</b>	Presumptive Eligibility
<b>PI</b>	Pacific Islander
<b>PRAMS</b>	Pregnancy Risk Assessment Monitoring Systems
<b>RASD</b>	Research and Analytic Studies Division
<b>SIDS</b>	Sudden Infant Death Syndrome
<b>SIS</b>	Satisfactory Immigration Status
<b>SOC</b>	Share of Cost

## Appendix C – Regional Assignment of California Counties

Region	County
Bay Area	Alameda
Bay Area	Contra Costa
Bay Area	Marin
Bay Area	Napa
Bay Area	San Francisco
Bay Area	San Mateo
Bay Area	Santa Clara
Bay Area	Solano
Bay Area	Sonoma
Central Coast	Monterey
Central Coast	San Benito
Central Coast	San Luis Obispo
Central Coast	Santa Barbara
Central Coast	Santa Cruz
Central Coast	Ventura
Central Valley	Fresno
Central Valley	Kern
Central Valley	Kings
Central Valley	Madera
Central Valley	Merced
Central Valley	San Joaquin
Central Valley	Stanislaus
Central Valley	Tulare
Far North	Modoc
Far North	Shasta
Far North	Siskiyou
Far North	Trinity
Los Angeles	Los Angeles
North Coast	Del Norte
North Coast	Humboldt
North Coast	Lake
North Coast	Mendocino
Sacramento Valley	Butte
Sacramento Valley	Colusa
Sacramento Valley	Glenn
Sacramento Valley	Sacramento
Sacramento Valley	Sutter
Sacramento Valley	Tehama
Sacramento Valley	Yolo
Sacramento Valley	Yuba
Sierra Range/Foothills	Alpine
Sierra Range/Foothills	Amador
Sierra Range/Foothills	Calaveras
Sierra Range/Foothills	El Dorado
Sierra Range/Foothills	Inyo
Sierra Range/Foothills	Lassen
Sierra Range/Foothills	Mariposa
Sierra Range/Foothills	Mono
Sierra Range/Foothills	Nevada
Sierra Range/Foothills	Placer
Sierra Range/Foothills	Plumas
Sierra Range/Foothills	Sierra
Sierra Range/Foothills	Tuolumne
Southern California	Imperial
Southern California	Orange
Southern California	Riverside
Southern California	San Bernardino
Southern California	San Diego

**Appendix D – Aid Code Groupings Used for this Analysis**

<b>Aid Category</b>	<b>Budget Aid Category</b>	<b>Delivery Aid Code</b>
Adoption/Foster Care	All Other	40, 45
	Categorically Needy	42, 4F, 4M 5K
Blind/Disabled	All Other	2E, 6E
	Categorically Needy	20, 60, 66, 6C, 6H, 6N
	Medically Needy	64, 67
All Other	All Other	1, 2, 81, 6J
	Categorically Needy	47, 0P, 6G, 7H, 8E
Families	Categorically Needy	30, 32, 33, 35, 38, 39, 54, 59, 3A, 3C, 3D, 3E, 3G, 3H, 3L, 3M, 3N, 3P, 3R, 3U, 3W, 7J
	Medically Needy	34, 37
MI Child & Minor Consent	All Other	82, 83, 7C, 7M, 7N, 7P, 8T
	Categorically Needy	7A, 8R, 8W
Pregnancy Pathway, not Undocumented	All Other	86, 87
	Categorically Needy	44, 76
Undocumented	All Other	48, 58, 0U, 0V, 3T, 3V, 5F, 5T, 5W, 6U, 7K

## Appendix E – Healthy People 2020 Goals – Maternal and Infant Health

Healthy People 2020 Goals – Maternal and Infant Health	
Target Goal	Baseline
<b>Reduce the Rate of Low Birthweight</b>	
Low Birthweight(<2500g)	
<b>7.8%</b>	8.2% (2007)
	5% Improvement
Very Low Birthweight (1500g)	
<b>1.4%</b>	1.5% (2007)
	5% Improvement
<b>Reduce the Rate of Preterm Births</b>	
Preterm Births(<36 weeks)	
<b>11.4%</b>	12.7% (2007)
	10% Improvement
Very Preterm Births (32 weeks)	
<b>1.8%</b>	2.0% (2007)
	10% Improvement
<b>Increase the Rate of Prenatal Care</b>	
First Trimester Initiation	
<b>77.9%</b>	70.8% (2007)
	10% Improvement
<b>Increase the Rate of Abstaining From Cigarette Use During Pregnancy</b>	
<b>98.6%</b>	89.6% (2007)*
	10% Improvement
<b>Increase the Rate of Abstaining From Illicit Drug Use During Pregnancy (women ages 15-44 in the last 30 days)</b>	
<b>100%</b>	94.9% (2007-2008)*
	Total Coverage
National Vital Statistics System (NVSS), CDC, NCHS	
*National Survey on Drug Use and Health (NSDUH), SAMHSA	

### Appendix F – Reconciliation to Vital Statistics Reports

<b>Totals</b>	<b>Subtractions</b>	<b>Vital Statistics</b>
Birth Records on File		503,856
	Out-of State Resident	(1,833)
California Resident Births		502,023
	Non-Hospital Birth or Birth in Transit	(3,309)
	Out-of-State Hospital	(804)
	Location Not Classifiable	(1,504)
	Maternity Hospital Code Could Not be Confirmed	(377)
California Resident In-Hospital Births		496,029

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## Appendix G – End Notes and References

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- <sup>11</sup> W&I CODE § 14007.5 : California Code - Section 14007.5
- <sup>12</sup> Medi-Cal Eligibility Procedures Manual, 5N-F
- <sup>13</sup> Medi-Cal Eligibility Procedures Manual, 5N-F
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- <sup>15</sup> OBRA-1986 provided states the option to extend Medicaid income eligibility to pregnant women up to 100% of FPL, and allowed simplified enrollment processes. OBRA-1987 allowed states the option to extend Medicaid income eligibility to pregnant women to 185% of FPL. OBRA-1989 mandated coverage for pregnant women up to 133% of FPL. OBRA-1990 mandated continuous eligibility for pregnant women through 60-days postpartum.

- <sup>16</sup> 42 U.S.C. Section 1396r-1; Cal. Welf. & Inst. Code Section 14148.7; ACWDL # 93-78 (Oct. 27, 1993), 95-74 (Nov. 23, 1995); Medi-Cal Eligibility Procedures Manual Article 5M.
- <sup>17</sup> 42 U.S.C. Section 1396r-1(b) (1) (B).
- <sup>18</sup> Medi-Cal Eligibility Procedures Manual, 5M-4, 5M-6
- <sup>19</sup> 42 U.S.C. Section 1396r-1 (a)
- <sup>20</sup> ACWDL # 93-78 (Oct. 27 1993), 94-103 (Dec. 26, 1994); Medi-Cal Medical Services Provider Manual, 200-92-13. The PE program will cover treatment of a septic abortion, a spontaneous abortion (miscarriage), or missed abortion. Medi-Cal Provider Manual, 200-92-11.
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- <sup>23</sup> 42 U.S.C. Sections 1396a(a) (10) (A) (i) (IV), (VI), 1396a(l)(1) (A); Cal. Welf. & Inst. Code Section 14148(f); Medi-Cal Eligibility Procedures Manual, Article 5F.
- <sup>24</sup> 42 U.S.C. Section 1396o(a) (2) (B); 42 C.F.R. Section 447.53(b) (2).
- <sup>25</sup> Medi-Cal Medical Services Provider Manual at 100-31-2
- <sup>26</sup> Prior to July 2012, California did not require all health insurance policies to provide coverage for maternity-related expenses. In 2004, 82% of plans included maternity coverage while in 2011, only 12% did. In some parts of the state, it is less than 1%. Health Access, California Coverage Now Includes Maternity Care For Individual & Small Group Health Plans. <http://www.health-access.org/files/advocating/Maternity%20Fact%20Sheet%207-1-12.pdf>
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**Appendix H**

Table 1 - Medi-Cal and Non-Medi-Cal Births by Select Maternal Characteristics  
California Resident Hospital Births 2011

MATERNAL CHARACTERISTICS	Medi-Cal Births			Non-Medi-Cal Births		
	Total	Fee-for-Service	Managed Care	Total	Other	Private Insurance
<b>AGE OF MOTHER</b>						
Age ≤17	9,315	4,842	4,473	2,853	1,586	1,267
18-19	21,870	10,914	10,956	4,382	2,265	2,117
20-24	76,775	43,462	33,313	25,276	9,270	16,006
25-29	68,215	44,402	23,813	64,598	11,425	53,173
30-34	45,331	31,514	13,817	85,193	9,940	75,253
35 and Older	28,652	20,560	8,092	63,550	6,862	56,688
<i>Invalid</i>	0	0	0	19	7	12
<b>RACE/ETHNICITY OF MOTHER</b>						
White	37,097	20,759	16,338	98,963	11,178	87,785
African American	18,369	5,927	12,442	8,424	2,266	6,158
Hispanic	170,297	115,368	54,929	77,814	19,543	58,271
Asian	14,549	8,339	6,210	47,014	6,111	40,903
Hawaiian/Pacific Islanders	1,200	553	647	936	254	682
American Indian/Alaskan Native	1,085	652	433	651	189	462
Two or more Race Categories	4,552	2,103	2,449	5,853	860	4,993
<i>Others/Unknown</i>	3,009	1,993	1,016	6,216	954	5,262
<b>MOTHER'S NATIVITY</b>						
Foreign Born	112,528	94,335	18,193	85,539	18,509	67,030
U.S. Born	137,526	61,288	76,238	160,194	22,797	137,397
<i>Unknown</i>	104	71	33	138	49	89
<b>MOTHER'S EDUCATION STATUS</b>						
<High School	88,840	61,664	27,176	15,500	8,678	6,822
High School Graduate	82,427	46,838	35,589	40,821	10,825	29,996
Some College or Associate Degree	58,088	32,205	25,883	64,789	10,503	54,286
Bachelor's Degree or Higher	11,751	8,698	3,053	114,700	9,138	105,562
<i>Unknown</i>	9,052	6,289	2,763	10,061	2,211	7,850
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>250,158</b>	<b>155,694</b>	<b>94,464</b>	<b>245,871</b>	<b>41,355</b>	<b>204,516</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Table 2 - Medi-Cal and Non-Medi-Cal Births by Select Birth Characteristics  
California Resident Hospital Births, 2011

MATERNAL CHARACTERISTICS	Medi-Cal Births			Non-Medi-Cal Births		
	Total	Fee-for-Service	Managed Care	Total	Other	Private Insurance
<b>PARITY STATUS</b>						
First Born	87,223	56,358	30,865	105,301	16,792	88,509
One Previous Birth	71,674	43,550	28,124	85,046	12,727	72,319
Two+ Previous Births	91,127	55,713	35,414	55,350	11,784	43,566
<i>Unknown or Unreported</i>	134	73	61	174	52	122
<b>SINGLE/MULTIPLE BIRTH</b>						
Multiple Birth	5,649	3,236	2,413	10,280	1,282	8,998
Singleton	244,509	152,458	92,051	235,591	40,073	195,518
<b>PRENATAL CARE INITIATION</b>						
No Prenatal Care	1,478	810	668	697	590	107
First Trimester	189,041	119,796	69,245	217,457	31,966	185,491
Second Trimester	43,778	25,767	18,011	19,890	5,781	14,109
Third Trimester	9,704	5,964	3,740	3,434	1,597	1,837
<i>Unknown or Unreported</i>	6,157	3,357	2,800	4,393	1,421	2,972
<b>METHOD OF DELIVERY</b>						
Cesarean-Primary	40,904	26,095	14,809	49,796	7,674	42,122
Cesarean-Repeat	40,522	24,717	15,805	34,732	6,207	28,525
Vaginal	167,085	103,826	63,259	159,156	27,230	131,926
Vaginal After Previous Cesarean	1,647	1,056	591	2,187	244	1,943
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>250,158</b>	<b>155,694</b>	<b>94,464</b>	<b>245,871</b>	<b>41,355</b>	<b>204,516</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

This table contains corrections for *PRENATAL CARE INITIATION*. Persons who began prenatal care in the 9th month were erroneously included in "Unknown or Unreported". Revision as of 09/18/2014.

Table 3a - Medi-Cal Delivery Methods by Select Maternal Characteristics  
California Resident Hospital Births, 2011

MATERNAL CHARACTERISTICS	Total	Method of Delivery			
		Cesarean-Primary	Cesarean-Repeat	Vaginal	Vaginal After Previous Cesarean
<b>AGE OF MOTHER</b>					
Age ≤ 17	9,315	1,651	98	7,560	6
18-19	21,870	4,110	888	16,830	42
20-24	76,775	12,792	8,851	54,783	349
25-29	68,215	10,215	12,817	44,669	514
30-34	45,331	6,917	10,394	27,597	423
35 and Older	28,652	5,219	7,474	15,646	313
<b>RACE/ETHNICITY OF MOTHER</b>					
White	37,097	6,859	5,226	24,810	202
African American	18,369	3,838	3,093	11,273	165
Hispanic	170,297	25,966	29,054	114,170	1,107
Asian	14,549	2,498	1,772	10,164	115
Hawaiian/Pacific Islanders	1,200	193	203	794	10
American Indian/Alaskan Native	1,085	167	199	711	8
Two or more Race Categories	4,552	892	586	3,048	26
<i>Others/Unknown</i>	<i>3,009</i>	<i>491</i>	<i>389</i>	<i>2,115</i>	<i>14</i>
<b>MOTHER'S NATIVITY</b>					
Foreign Born	112,528	16,624	21,181	73,766	957
U.S. Born	137,526	24,264	19,318	93,254	690
<i>Unknown</i>	<i>104</i>	<i>16</i>	<i>23</i>	<i>65</i>	<i>0</i>
<b>MOTHER'S EDUCATION STATUS</b>					
<High School	88,840	12,490	16,321	59,368	661
High School Graduate	82,427	13,598	12,648	55,682	499
Some College or Associate Degree	58,088	10,819	8,551	38,377	341
Bachelor's Degree or Higher	11,751	2,532	1,622	7,514	83
<i>Unknown</i>	<i>9,052</i>	<i>1,465</i>	<i>1,380</i>	<i>6,144</i>	<i>63</i>
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>250,158</b>	<b>40,904</b>	<b>40,522</b>	<b>167,085</b>	<b>1,647</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Table 3b - Non-Medi-Cal Delivery Methods by Select Maternal Characteristics  
California Resident Hospital Births, 2011

MATERNAL CHARACTERISTICS	Total	Method of Delivery			
		Cesarean-Primary	Cesarean-Repeat	Vaginal	Vaginal After Previous Cesarean
<b>AGE OF MOTHER</b>					
Age ≤ 17	2,853	460	25	2,367	1
18-19	4,382	805	116	3,456	5
20-24	25,276	4,646	1,757	18,765	108
25-29	64,598	12,236	6,927	44,967	468
30-34	85,193	17,003	12,605	54,705	880
35 and Older	63,550	14,638	13,301	34,887	724
<i>Invalid</i>	19	8	1	9	1
<b>RACE/ETHNICITY OF MOTHER</b>					
White	98,963	20,152	13,081	64,809	921
African American	8,424	2,067	1,300	4,978	79
Hispanic	77,814	14,537	12,214	50,456	607
Asian	47,014	9,947	6,399	30,227	441
Hawaiian/Pacific Islanders	936	197	129	591	19
American Indian/Alaskan Native	651	114	97	431	9
Two or more Race Categories	5,853	1,188	752	3,841	72
<i>Others/Unknown</i>	6,216	1,594	760	3,823	39
<b>MOTHER'S NATIVITY</b>					
Foreign Born	85,539	17,602	13,447	53,672	818
U.S. Born	160,194	32,170	21,272	105,386	1,366
<i>Unknown</i>	138	24	13	98	3
<b>MOTHER'S EDUCATION STATUS</b>					
<High School	15,500	2,392	2,554	10,430	124
High School Graduate	40,821	7,258	5,883	27,368	312
Some College or Associate Degree	64,789	12,819	9,440	42,018	512
Bachelor's Degree or Higher	114,700	24,971	15,530	73,028	1,171
<i>Unknown</i>	10,061	2,356	1,325	6,312	68
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>245,871</b>	<b>49,796</b>	<b>34,732</b>	<b>159,156</b>	<b>2,187</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Table 4 - Medi-Cal and Non-Medi-Cal Births by Select Maternal Comorbidities  
California Resident Hospital Births, 2011

COMORBIDITIES	Medi-Cal Births			Non-Medi-Cal Births		
	Total	Fee-for-Service	Managed Care	Total	Other	Private Insurance
<b>HYPERTENSION<sup>1</sup></b>						
Hypertension	18,527	11,159	7,368	16,961	1,877	15,084
No Hypertension Diagnosis	231,021	144,534	86,487	207,161	25,593	181,568
<i>Unknown</i>	610	1	609	21,749	13,885	7,864
<b>DIABETES<sup>1</sup></b>						
Diabetes	21,598	14,662	6,936	21,796	2,011	19,785
No Diabetes Diagnosis	227,950	141,031	86,919	202,326	25,459	176,867
<i>Unknown</i>	610	1	609	21,749	13,885	7,864
<b>SMOKING DURING PREGNANCY<sup>4</sup></b>						
Maternal Smoker	8,183	4,106	4,077	1,926	541	1,385
Maternal Non-Smoker	238,662	150,147	88,515	220,604	26,624	193,980
<i>Unknown</i>	3,313	1,441	1,872	23,341	14,190	9,151
<b>SUBSTANCE USE<sup>1</sup></b>						
Maternal Substance User	4,818	2,147	2,671	1,184	448	736
Maternal Non-Substance User	244,730	153,546	91,184	222,938	27,022	195,916
<i>Unknown</i>	610	1	609	21,749	13,885	7,864
<b>PRE-PREGNANCY WEIGHT<sup>2</sup></b>						
Underweight	8,682	5,156	3,526	8,506	1,225	7,281
Normal Weight	98,785	62,990	35,795	116,087	12,442	103,645
Overweight	65,207	42,409	22,798	49,265	6,233	43,032
Obese/Extremely Obese	59,670	34,627	25,043	34,348	4,304	30,044
<i>Out of Range/Unknown</i>	17,814	10,512	7,302	37,665	17,151	20,514
<b>TOTAL BIRTHS<sup>3</sup></b>	<b>250,158</b>	<b>155,694</b>	<b>94,464</b>	<b>245,871</b>	<b>41,355</b>	<b>204,516</b>

<sup>1</sup>Comorbidities such as hypertension, diabetes and substance use have been identified in the hospital discharge data using ICD-9 diagnostic codes in up to 25 separate fields. ICD-9 codes were further grouped into clinically relevant classifications using the Clinical Classification Software (CCS) made available by the Agency for Health Care Research & Quality (AHRQ).

<sup>2</sup>Pre-pregnancy weight as reported on the birth certificate has been categorized into 4 weight groupings based on body mass index (BMI) classification set by the National Heart Lung and Blood Institute.

<sup>3</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

<sup>4</sup>Maternal smoking was identified using self-reported data provided on the birth certificate and included in the California Birth Statistical Master File.

Table 5a - Medi-Cal and Non-Medi-Cal TOTAL Births by Select Birth Outcomes  
California Resident Hospital Births, 2011

BIRTH OUTCOMES	Medi-Cal Births			Non-Medi-Cal Births		
	Total	Fee-for-Service	Managed Care	Total	Other	Private Insurance
<b>BIRTHWEIGHT</b>						
Low Birthweight	16,555	9,897	6,658	17,002	3,003	13,999
Normal Birthweight	233,587	145,786	87,801	228,823	38,337	190,486
<i>Out of Range</i>	16	11	5	46	15	31
<b>VERY LOW BIRTHWEIGHT STATUS</b>						
Birthweight >=1500g	247,398	153,986	93,412	242,943	40,754	202,189
Very Low Birthweight (<1500g)	2,744	1,697	1,047	2,882	586	2,296
<i>Out of Range</i>	16	11	5	46	15	31
<b>GESTATION<sup>1</sup></b>						
Preterm Delivery (<37 Weeks)	24,941	15,093	9,848	22,639	4,228	18,411
Normal Gestation (>=37 Weeks)	217,426	136,244	81,182	218,034	35,914	182,120
<i>Out of Range/Missing</i>	7,791	4,357	3,434	5,198	1,213	3,985
<b>VERY PRETERM STATUS<sup>1</sup></b>						
Very Preterm Delivery (<32 Weeks)	3,802	2,312	1,490	3,360	738	2,622
Gestation >=32 Weeks	238,565	149,025	89,540	237,313	39,404	197,909
<i>Out of Range/Missing</i>	7,791	4,357	3,434	5,198	1,213	3,985
<b>TOTAL BIRTHS<sup>2</sup></b>	<b>250,158</b>	<b>155,694</b>	<b>94,464</b>	<b>245,871</b>	<b>41,355</b>	<b>204,516</b>

<sup>1</sup>Gestational age of infant and preterm status are estimated using the date of last menses from the birth certificate. A large number of birth certificates (N=12,989) are missing this data element.

<sup>2</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Table 5b - Medi-Cal and Non-Medi-Cal SINGLETON Births by Select Birth Outcomes  
California Resident Hospital Births, 2011

BIRTH OUTCOMES	Medi-Cal Births			Non-Medi-Cal Births		
	Total	Fee-for-Service	Managed Care	Total	Other	Private Insurance
<b>BIRTHWEIGHT</b>						
Low Birthweight	13,405	8,084	5,321	11,446	2,322	9,124
Normal Birthweight	231,090	144,365	86,725	224,115	37,739	186,376
<i>Out of Range</i>	14	9	5	30	12	18
<b>VERY LOW BIRTHWEIGHT STATUS</b>						
Birthweight >=1500g	242,241	151,014	91,227	233,640	39,590	194,050
Very Low Birthweight (<1500g)	2,254	1,435	819	1,921	471	1,450
<i>Out of Range</i>	14	9	5	30	12	18
<b>GESTATION<sup>1</sup></b>						
Preterm Delivery (<37 Weeks)	21,815	13,325	8,490	17,042	3,520	13,522
Normal Gestation (>=37 Weeks)	215,064	134,875	80,189	213,606	35,365	178,241
<i>Out of Range/Missing</i>	7,630	4,258	3,372	4,943	1,188	3,755
<b>VERY PRETERM STATUS<sup>1</sup></b>						
Very Preterm Delivery (<32 Weeks)	3,219	1,999	1,220	2,351	612	1,739
Gestation >=32 Weeks	233,660	146,201	87,459	228,297	38,273	190,024
<i>Out of Range/Missing</i>	7,630	4,258	3,372	4,943	1,188	3,755
<b>TOTAL SINGLETON BIRTHS<sup>2</sup></b>	<b>244,509</b>	<b>152,458</b>	<b>92,051</b>	<b>235,591</b>	<b>40,073</b>	<b>195,518</b>

<sup>1</sup>Gestational age of infant and preterm status are estimated using the date of last menses from the birth certificate. A large number of birth certificates (N=12,989) are missing this data element.

<sup>2</sup>Total Singleton Births = Births in Hospital Only. DHCS identified a total of 480,100 singleton births to California mothers in 2011 occurring in a hospital setting.

Table 6a - Birthweight Among Medi-Cal Births, by Select Maternal and Birth Characteristics  
California Resident Hospital Births, 2011

MATERNAL CHARACTERISTICS	Total	Out of Range	Total (Excluding Out of Range)	Birthweight (Excluding Out of Range)		Very Low Birthweight (Excluding Out of Range)	
				Low Birthweight	Normal Birthweight	Birthweight >=1500g	Very Low Birthweight <1500g
<b>AGE OF MOTHER</b>							
Age ≤ 17	9,315	0	9,315	691	8,624	9,205	110
18-19	21,870	1	21,869	1,518	20,351	21,634	235
20-24	76,775	4	76,771	4,721	72,050	76,064	707
25-29	68,215	1	68,214	4,193	64,021	67,514	700
30-34	45,331	6	45,325	3,036	42,289	44,789	536
35 and Older	28,652	4	28,648	2,396	26,252	28,192	456
<b>RACE/ETHNICITY OF MOTHER</b>							
White	37,097	3	37,094	2,387	34,707	36,712	382
African American	18,369	4	18,365	2,185	16,180	17,919	446
Hispanic	170,297	5	170,292	10,151	160,141	168,659	1,633
Asian	14,549	2	14,547	1,085	13,462	14,405	142
Hawaiian/Pacific Islanders	1,200	0	1,200	76	1,124	1,187	13
American Indian/Alaskan Native	1,085	0	1,085	63	1,022	1,080	5
Two or more Race Categories	4,552	0	4,552	358	4,194	4,477	75
Others/Unknown	3,009	2	3,007	250	2,757	2,959	48
<b>MOTHER'S NATIVITY</b>							
Foreign Born	112,528	6	112,522	6,473	106,049	111,521	1,001
U.S. Born	137,526	10	137,516	10,068	127,448	135,775	1,741
Unknown	104	0	104	14	90	102	2
<b>MOTHER'S EDUCATION STATUS</b>							
<High School	88,840	4	88,836	5,661	83,175	87,973	863
High School Graduate	82,427	3	82,424	5,434	76,990	81,502	922
Some College or Associate Degree	58,088	6	58,082	4,030	54,052	57,375	707
Bachelor's Degree or Higher	11,751	0	11,751	750	11,001	11,623	128
Unknown	9,052	3	9,049	680	8,369	8,925	124
<b>PARITY STATUS</b>							
First Born	87,223	9	87,214	6,054	81,160	86,143	1,071
One Previous Birth	71,674	1	71,673	4,151	67,522	71,046	627
Two+ Previous Births	91,127	5	91,122	6,332	84,790	90,083	1,039
Unknown or Unreported	134	1	133	18	115	126	7
<b>SINGLE/MULTI BIRTH</b>							
Multiple Birth	5,649	2	5,647	3,150	2,497	5,157	490
Singleton	244,509	14	244,495	13,405	231,090	242,241	2,254
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>250,158</b>	<b>16</b>	<b>250,142</b>	<b>16,555</b>	<b>233,587</b>	<b>247,398</b>	<b>2,744</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Table 6b - Birthweight Among Medi-Cal Births, by Select Comorbidities  
California Resident Hospital Births, 2011

MATERNAL AND BIRTH CHARACTERISTICS	Total	Out of Range	Total (Excluding Out of Range)	Birthweight (Excluding Out of Range)		Very Low Birthweight (Excluding Out of Range)	
				Low Birthweight	Normal Birthweight	Birthweight >=1500g	Very Low Birthweight <1500g
<b>HYPERTENSION<sup>1</sup></b>							
Hypertension	18,527	0	18,527	3,696	14,831	17,785	742
No Hypertension Diagnosis	231,021	15	231,006	12,800	218,206	229,017	1,989
Unknown	610	1	609	59	550	596	13
<b>DIABETES<sup>1</sup></b>							
Diabetes	21,598	1	21,597	1,743	19,854	21,299	298
No Diabetes Diagnosis	227,950	14	227,936	14,753	213,183	225,503	2,433
Unknown	610	1	609	59	550	596	13
<b>SUBSTANCE USE<sup>1</sup></b>							
Maternal Substance User	4,818	1	4,817	733	4,084	4,691	126
Maternal Non-Substance User	244,730	14	244,716	15,763	228,953	242,111	2,605
Unknown	610	1	609	59	550	596	13
<b>SMOKING DURING PREGNANCY<sup>4</sup></b>							
Maternal Smoker	8,183	1	8,182	870	7,312	8,048	134
Maternal Non-Smoker	238,662	13	238,649	15,407	223,242	236,101	2,548
Unknown	3,313	2	3,311	278	3,033	3,249	62
<b>PRE-PREGNANCY WEIGHT<sup>2</sup></b>							
Underweight	8,682	0	8,682	810	7,872	8,612	70
Normal Weight	98,785	3	98,782	6,100	92,682	97,979	803
Overweight	65,207	6	65,201	3,599	61,602	64,546	655
Obese/Extremely Obese	59,670	3	59,667	3,260	56,407	58,951	716
Out of Range/Unknown	17,814	4	17,810	2,786	15,024	17,310	500
<b>TOTAL BIRTHS<sup>3</sup></b>	<b>250,158</b>	<b>16</b>	<b>250,142</b>	<b>16,555</b>	<b>233,587</b>	<b>247,398</b>	<b>2,744</b>

<sup>1</sup>Comorbidities such as hypertension, diabetes and substance use have been identified in the hospital discharge data using ICD-9 diagnostic codes in up to 25 separate fields. ICD-9 codes were further grouped into clinically relevant classifications using the Clinical Classification Software (CCS) made available by the Agency for Health Care Research & Quality (AHRQ).

<sup>2</sup>Pre-pregnancy weight as reported on the birth certificate has been categorized into 4 weight groupings based on body mass index (BMI) classification set by the National Heart Lung and Blood Institute.

<sup>3</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

<sup>4</sup>Maternal smoking was identified using self-reported data provided on the birth certificate and included in the California Birth Statistical Master File.

Table 6c - Birthweight Among Non-Medi-Cal Births by Select Characteristics  
California Resident Hospital Births, 2011

MATERNAL AND BIRTH CHARACTERISTICS	Total	Out of Range	Total (Excluding Out of Range)	Birthweight (Excluding Out of Range)		Very Low Birthweight (Excluding Out of Range)	
				Low Birthweight	Normal Birthweight	Birthweight >=1500g	Very Low Birthweight <1500g
<b>AGE OF MOTHER</b>							
Age ≤ 17	2,853	1	2,852	258	2,594	2,802	50
18-19	4,382	5	4,377	324	4,053	4,311	66
20-24	25,276	8	25,268	1,570	23,698	24,956	312
25-29	64,598	13	64,585	3,805	60,780	63,984	601
30-34	85,193	9	85,184	5,467	79,717	84,309	875
35 and Older	63,550	10	63,540	5,571	57,969	62,566	974
<i>Invalid</i>	19	0	19	7	12	15	4
<b>RACE/ETHNICITY OF MOTHER</b>							
White	98,963	13	98,950	5,936	93,014	98,022	928
African American	8,424	3	8,421	968	7,453	8,174	247
Hispanic	77,814	18	77,796	5,160	72,636	76,866	930
Asian	47,014	5	47,009	3,745	43,264	46,500	509
Hawaiian/Pacific Islanders	936	0	936	78	858	922	14
American Indian/Alaskan Native	651	1	650	42	608	641	9
Two or more Race Categories	5,853	3	5,850	381	5,469	5,774	76
<i>Others/Unknown</i>	6,216	3	6,213	692	5,521	6,044	169
<b>MOTHER'S NATIVITY</b>							
Foreign Born	85,539	14	85,525	6,300	79,225	84,499	1,026
U.S. Born	160,194	29	160,165	10,688	149,477	158,314	1,851
<i>Unknown</i>	138	3	135	14	121	130	5
<b>MOTHER'S EDUCATION STATUS</b>							
<High School	15,500	8	15,492	1,223	14,269	15,237	255
High School Graduate	40,821	12	40,809	2,735	38,074	40,286	523
Some College or Associate Degree	64,789	10	64,779	4,303	60,476	64,007	772
Bachelor's Degree or Higher	114,700	8	114,692	7,732	106,960	113,599	1,093
<i>Unknown</i>	10,061	8	10,053	1,009	9,044	9,814	239
<b>PARITY STATUS</b>							
First Born	105,301	21	105,280	7,564	97,716	104,015	1,265
One Previous Birth	85,046	13	85,033	5,326	79,707	84,165	868
Two+ Previous Births	55,350	12	55,338	4,090	51,248	54,596	742
<i>Unknown or Unreported</i>	174	0	174	22	152	167	7
<b>SINGLE/MULTI BIRTH</b>							
Multiple Birth	10,280	16	10,264	5,556	4,708	9,303	961
Singleton	235,591	30	235,561	11,446	224,115	233,640	1,921
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>245,871</b>	<b>46</b>	<b>245,825</b>	<b>17,002</b>	<b>228,823</b>	<b>242,943</b>	<b>2,882</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Table 6d - Birthweight Among Non-Medi-Cal Births by Select Comorbidities  
California Resident Hospital Births, 2011

MATERNAL AND BIRTH CHARACTERISTICS	Total	Out of Range	Total (Excluding Out of Range)	Birthweight (Excluding Out of Range)		Very Low Birthweight (Excluding Out of Range)	
				Low Birthweight	Normal Birthweight	Birthweight >=1500g	Very Low Birthweight <1500g
<b>HYPERTENSION<sup>1</sup></b>							
Hypertension	16,961	2	16,959	3,772	13,187	16,241	718
No Hypertension Diagnosis	207,161	21	207,140	11,207	195,933	205,455	1,685
Unknown	21,749	23	21,726	2,023	19,703	21,247	479
<b>DIABETES<sup>1</sup></b>							
Diabetes	21,796	0	21,796	2,218	19,578	21,441	355
No Diabetes Diagnosis	202,326	23	202,303	12,761	189,542	200,255	2,048
Unknown	21,749	23	21,726	2,023	19,703	21,247	479
<b>SUBSTANCE USE<sup>1</sup></b>							
Maternal Substance User	1,184	0	1,184	162	1,022	1,141	43
Maternal Non-Substance User	222,938	23	222,915	14,817	208,098	220,555	2,360
Unknown	21,749	23	21,726	2,023	19,703	21,247	479
<b>SMOKING DURING PREGNANCY<sup>4</sup></b>							
Maternal Smoker	1,926	0	1,926	183	1,743	1,894	32
Maternal Non-Smoker	220,604	22	220,582	14,679	205,903	218,230	2,352
Unknown	23,341	24	23,317	2,140	21,177	22,819	498
<b>PRE-PREGNANCY WEIGHT<sup>2</sup></b>							
Underweight	8,506	1	8,505	633	7,872	8,445	60
Normal Weight	116,087	6	116,081	6,330	109,751	115,226	855
Overweight	49,265	5	49,260	2,690	46,570	48,781	479
Obese/Extremely Obese	34,348	4	34,344	1,987	32,357	33,943	401
Out of Range/Unknown	37,665	30	37,635	5,362	32,273	36,548	1,087
<b>TOTAL BIRTHS<sup>3</sup></b>	<b>245,871</b>	<b>46</b>	<b>245,825</b>	<b>17,002</b>	<b>228,823</b>	<b>242,943</b>	<b>2,882</b>

<sup>1</sup>Comorbidities such as hypertension, diabetes and substance use have been identified in the hospital discharge data using ICD-9 diagnostic codes in up to 25 separate fields. ICD-9 codes were further grouped into clinically relevant classifications using the Clinical Classification Software (CCS) made available by the Agency for Health Care Research & Quality (AHRQ).

<sup>2</sup>Pre-pregnancy weight as reported on the birth certificate has been categorized into 4 weight groupings based on body mass index (BMI) classification set by the National Heart Lung and Blood Institute.

<sup>3</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

<sup>4</sup>Maternal smoking was identified using self-reported data provided on the birth certificate and included in the California Birth Statistical Master File.

Table 7a - Gestational Age Among Medi-Cal Births by Select Maternal and Birth Characteristics  
California Resident Hospital Births, 2011

MATERNAL AND BIRTH CHARACTERISTICS	Total	Out of Range /Missing	Total (Excluding Out of Range)	Gestation <sup>1</sup> (Excluding Out of Range)		Very Preterm Status (<32 wks gestation) <sup>1</sup> (Excluding Out of Range)		
				Preterm Delivery (<37 Weeks)	Normal Range	Very Preterm Delivery (<32 Weeks)	Gestation >=32 Weeks	
<b>AGE OF MOTHER</b>								
Age ≤ 17	9,315	330	8,985	1,043	7,942	184	8,801	
18-19	21,870	778	21,092	2,108	18,984	335	20,757	
20-24	76,775	2,546	74,229	6,850	67,379	1,062	73,167	
25-29	68,215	2,080	66,135	6,392	59,743	955	65,180	
30-34	45,331	1,284	44,047	4,812	39,235	685	43,362	
35 and Older	28,652	773	27,879	3,736	24,143	581	27,298	
<b>RACE/ETHNICITY OF MOTHER</b>								
White	37,097	1,215	35,882	3,544	32,338	532	35,350	
African American	18,369	715	17,654	2,444	15,210	508	17,146	
Hispanic	170,297	5,170	165,127	16,507	148,620	2,398	162,729	
Asian	14,549	346	14,203	1,397	12,806	184	14,019	
Hawaiian/Pacific Islanders	1,200	36	1,164	132	1,032	26	1,138	
American Indian/Alaskan Native	1,085	52	1,033	122	911	11	1,022	
Two or more Race Categories	4,552	146	4,406	485	3,921	87	4,319	
Others/Unknown	3,009	111	2,898	310	2,588	56	2,842	
<b>MOTHER'S NATIVITY</b>								
Foreign Born	112,528	2,814	109,714	10,627	99,087	1,408	108,306	
U.S. Born	137,526	4,967	132,559	14,299	118,260	2,391	130,168	
Unknown	104	10	94	15	79	3	91	
<b>MOTHER'S EDUCATION STATUS</b>								
<High School	88,840	2,800	86,040	9,183	76,857	1,345	84,695	
High School Graduate	82,427	2,614	79,813	8,007	71,806	1,262	78,551	
Some College or Associate Degree	58,088	1,770	56,318	5,728	50,590	887	55,431	
Bachelor's Degree or Higher	11,751	217	11,534	1,089	10,445	162	11,372	
Unknown	9,052	390	8,662	934	7,728	146	8,516	
<b>PARITY STATUS</b>								
First Born	87,223	2,273	84,950	7,737	77,213	1,380	83,570	
One Previous Birth	71,674	2,344	69,330	6,517	62,813	925	68,405	
Two+ Previous Births	91,127	3,131	87,996	10,678	77,318	1,493	86,503	
Unknown or Unreported	134	43	91	9	82	4	87	
<b>SINGLE/MULTI BIRTH</b>								
Multiple Birth	5,649	161	5,488	3,126	2,362	583	4,905	
Singleton	244,509	7,630	236,879	21,815	215,064	3,219	233,660	
<b>TOTAL BIRTHS<sup>2</sup></b>	<b>250,158</b>	<b>7,791</b>	<b>242,367</b>	<b>24,941</b>	<b>217,426</b>	<b>3,802</b>	<b>238,565</b>	

<sup>1</sup>Gestational age of infant and preterm status are estimated using the date of last menses from the birth certificate. A large number of birth certificates (N=7,791) are missing this data element.

<sup>2</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Table 7b - Gestational Age Among Medi-Cal Births by Select Comorbidities  
California Resident Hospital Births, 2011

MATERNAL AND BIRTH CHARACTERISTICS	Total	Out of Range /Missing	Total (Excluding Out of Range)	Gestation <sup>1</sup> (Excluding Out of Range)		Very Preterm Status (<32 wks gestation) <sup>1</sup> (Excluding Out of Range)	
				Preterm Delivery (<37 Weeks)	Normal Range	Very Preterm Delivery (<32 Weeks)	Gestation >=32 Weeks
<b>HYPERTENSION<sup>2</sup></b>							
Hypertension	18,527	641	17,886	4,214	13,672	702	17,184
No Hypertension Diagnosis	231,021	7,123	223,898	20,646	203,252	3,084	220,814
Unknown	610	27	583	81	502	16	567
<b>DIABETES<sup>2</sup></b>							
Diabetes	21,598	658	20,940	3,063	17,877	413	20,527
No Diabetes Diagnosis	227,950	7,106	220,844	21,797	199,047	3,373	217,471
Unknown	610	27	583	81	502	16	567
<b>SUBSTANCE USE<sup>2</sup></b>							
Maternal Substance User	4,818	309	4,509	844	3,665	178	4,331
Maternal Non-Substance User	244,730	7,455	237,275	24,016	213,259	3,608	233,667
Unknown	610	27	583	81	502	16	567
<b>SMOKING DURING PREGNANCY<sup>5</sup></b>							
Maternal Smoker	8,183	360	7,823	1,055	6,768	194	7,629
Maternal Non-Smoker	238,662	7,131	231,531	23,478	208,053	3,537	227,994
Unknown	3,313	300	3,013	408	2,605	71	2,942
<b>PRE-PREGNANCY WEIGHT<sup>3</sup></b>							
Underweight	8,682	233	8,449	900	7,549	120	8,329
Normal Weight	98,785	2,471	96,314	8,938	87,376	1,269	95,045
Overweight	65,207	1,714	63,493	6,073	57,420	885	62,608
Obese/Extremely Obese	59,670	1,684	57,986	5,914	52,072	971	57,015
Out of Range/Unknown	17,814	1,689	16,125	3,116	13,009	557	15,568
<b>TOTAL BIRTHS<sup>4</sup></b>	<b>250,158</b>	<b>7,791</b>	<b>242,367</b>	<b>24,941</b>	<b>217,426</b>	<b>3,802</b>	<b>238,565</b>

<sup>1</sup>Gestational age of infant and preterm status are estimated using the date of last menses from the birth certificate. A large number of birth certificates (N=7,791) are missing this data element.

<sup>2</sup>Comorbidities such as hypertension, diabetes and substance use have been identified in the hospital discharge data using ICD-9 diagnostic codes in up to 25 separate fields. ICD-9 codes were further grouped into clinically relevant classifications using the Clinical Classification Software (CCS) made available by the Agency for Health Care Research & Quality (AHRQ).

<sup>3</sup>Pre-pregnancy weight as reported on the birth certificate has been categorized into 4 weight groupings based on body mass index (BMI) classification set by the National Heart Lung and Blood Institute.

<sup>4</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

<sup>5</sup>Maternal smoking was identified using self-reported data provided on the birth certificate and included in the California Birth Statistical Master File.

Table 7c - Gestational Age Among Non-Medi-Cal Births, by Select Maternal and Birth Characteristics  
California Resident Hospital Births, 2011

MATERNAL AND BIRTH CHARACTERISTICS	Total	Out of Range /Missing	Total (Excluding Out of Range)	Gestation <sup>1</sup> (Excluding Out of Range)		Very Preterm Status (<32 wks gestation) <sup>1</sup> (Excluding Out of Range)	
				Preterm Delivery (<37 Weeks)	Normal Range	Very Preterm Delivery (<32 Weeks)	Gestation >=32 Weeks
<b>AGE OF MOTHER</b>							
Age ≤ 17	2,853	137	2,716	372	2,344	65	2,651
18-19	4,382	156	4,226	477	3,749	94	4,132
20-24	25,276	681	24,595	2,183	22,412	381	24,214
25-29	64,598	1,384	63,214	5,090	58,124	710	62,504
30-34	85,193	1,547	83,646	7,198	76,448	1,030	82,616
35 and Older	63,550	1,286	62,264	7,312	54,952	1,076	61,188
<i>Invalid</i>	19	7	12	7	5	4	8
<b>RACE/ETHNICITY OF MOTHER</b>							
White	98,963	1,803	97,160	8,246	88,914	1,069	96,091
African American	8,424	272	8,152	1,091	7,061	245	7,907
Hispanic	77,814	2,031	75,783	7,643	68,140	1,214	74,569
Asian	47,014	744	46,270	4,114	42,156	534	45,736
Hawaiian/Pacific Islanders	936	19	917	90	827	16	901
American Indian/Alaskan Native	651	29	622	69	553	9	613
Two or more Race Categories	5,853	110	5,743	508	5,235	90	5,653
<i>Others/Unknown</i>	6,216	190	6,026	878	5,148	183	5,843
<b>MOTHER'S NATIVITY</b>							
Foreign Born	85,539	1,649	83,890	7,999	75,891	1,160	82,730
U.S. Born	160,194	3,529	156,665	14,618	142,047	2,194	154,471
<i>Unknown</i>	138	20	118	22	96	6	112
<b>MOTHER'S EDUCATION STATUS</b>							
<High School	15,500	527	14,973	1,868	13,105	342	14,631
High School Graduate	40,821	1,048	39,773	3,962	35,811	640	39,133
Some College or Associate Degree	64,789	1,461	63,328	6,053	57,275	883	62,445
Bachelor's Degree or Higher	114,700	1,799	112,901	9,537	103,364	1,239	111,662
<i>Unknown</i>	10,061	363	9,698	1,219	8,479	256	9,442
<b>PARITY STATUS</b>							
First Born	105,301	1,839	103,462	8,894	94,568	1,418	102,044
One Previous Birth	85,046	1,812	83,234	7,444	75,790	1,029	82,205
Two+ Previous Births	55,350	1,484	53,866	6,278	47,588	908	52,958
<i>Unknown or Unreported</i>	174	63	111	23	88	5	106
<b>SINGLE/MULTI BIRTH</b>							
Multiple Birth	10,280	255	10,025	5,597	4,428	1,009	9,016
Singleton	235,591	4,943	230,648	17,042	213,606	2,351	228,297
<b>TOTAL BIRTHS<sup>2</sup></b>	<b>245,871</b>	<b>5,198</b>	<b>240,673</b>	<b>22,639</b>	<b>218,034</b>	<b>3,360</b>	<b>237,313</b>

<sup>1</sup>Gestational age of infant and preterm status are estimated using the date of last menses from the birth certificate. A large number of birth certificates (N=5,198) are missing this data element.

<sup>2</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Table 7d - Gestational Age Among Non-Medi-Cal Births by Select Comorbidities  
California Resident Hospital Births, 2011

MATERNAL AND BIRTH CHARACTERISTICS	Total	Out of Range /Missing	Total (Excluding Out of Range)	Gestation <sup>1</sup> (Excluding Out of Range)		Very Preterm Status (<32 wks gestation) <sup>1</sup> (Excluding Out of Range)	
				Preterm Delivery (<37 Weeks)	Normal Range	Very Preterm Delivery (<32 Weeks)	Gestation >=32 Weeks
<b>HYPERTENSION<sup>2</sup></b>							
Hypertension	16,961	398	16,563	3,990	12,573	616	15,947
No Hypertension Diagnosis	207,161	4,235	202,926	15,967	186,959	2,199	200,727
Unknown	21,749	565	21,184	2,682	18,502	545	20,639
<b>DIABETES<sup>2</sup></b>							
Diabetes	21,796	527	21,269	2,956	18,313	407	20,862
No Diabetes Diagnosis	202,326	4,106	198,220	17,001	181,219	2,408	195,812
Unknown	21,749	565	21,184	2,682	18,502	545	20,639
<b>SUBSTANCE USE<sup>2</sup></b>							
Maternal Substance User	1,184	77	1,107	211	896	52	1,055
Maternal Non-Substance User	222,938	4,556	218,382	19,746	198,636	2,763	215,619
Unknown	21,749	565	21,184	2,682	18,502	545	20,639
<b>SMOKING DURING PREGNANCY<sup>5</sup></b>							
Maternal Smoker	1,926	65	1,861	238	1,623	44	1,817
Maternal Non-Smoker	220,604	4,481	216,123	19,558	196,565	2,748	213,375
Unknown	23,341	652	22,689	2,843	19,846	568	22,121
<b>PRE-PREGNANCY WEIGHT<sup>3</sup></b>							
Underweight	8,506	141	8,365	665	7,700	79	8,286
Normal Weight	116,087	1,904	114,183	8,611	105,572	1,042	113,141
Overweight	49,265	907	48,358	4,017	44,341	585	47,773
Obese/Extremely Obese	34,348	730	33,618	3,135	30,483	485	33,133
Out of Range/Unknown	37,665	1,516	36,149	6,211	29,938	1,169	34,980
<b>TOTAL BIRTHS<sup>4</sup></b>	<b>245,871</b>	<b>5,198</b>	<b>240,673</b>	<b>22,639</b>	<b>218,034</b>	<b>3,360</b>	<b>237,313</b>

<sup>1</sup>Gestational age of infant and preterm status are estimated using the date of last menses from the birth certificate. A large number of birth certificates (N=5,198) are missing this data element.

<sup>2</sup>Comorbidities such as hypertension, diabetes and substance use have been identified in the hospital discharge data using ICD-9 diagnostic codes in up to 25 separate fields. ICD-9 codes were further grouped into clinically relevant classifications using the Clinical Classification Software (CCS) made available by the Agency for Health Care Research & Quality (AHRQ).

<sup>3</sup>Pre-pregnancy weight as reported on the birth certificate has been categorized into 4 weight groupings based on body mass index (BMI) classification set by the National Heart Lung and Blood Institute.

<sup>4</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

<sup>5</sup>Maternal smoking was identified using self-reported data provided on the birth certificate and included in the California Birth Statistical Master File.

Table 8a - **Medi-Cal** Births by Aid Category and Select Birth Characteristics  
California Resident Hospital Births, 2011

COMORBIDITIES	Medi-Cal Aid Category							
	Total	Adoption/ Foster Care	Blind/Disabled	All Others	Families	MI Child & Minor Consent	Pregnancy Pathway, not Undocumented	Undocumented
<b>METHOD OF DELIVERY</b>								
Cesarean-Primary	40,904	118	928	345	21,054	897	7,488	10,074
Cesarean-Repeat	40,522	13	836	204	20,038	64	5,043	14,324
Vaginal	167,085	459	2,324	1,319	84,873	3,732	26,269	48,109
Vaginal After Previous Cesarean	1,647	0	35	6	735	2	243	626
<b>PRENATAL CARE INITIATION</b>								
No Prenatal Care	1,478	6	80	16	1,069	19	102	186
First Trimester	189,041	392	2,934	1,395	91,762	3,221	30,781	58,556
Second Trimester	43,778	142	734	348	24,613	1,102	6,317	10,522
Third Trimester	9,704	35	209	91	5,600	253	1,167	2,349
Unknown or Unreported	6,157	15	166	24	3,656	100	676	1,520
<b>BIRTHWEIGHT</b>								
Low Birthweight	16,555	53	536	129	9,170	307	2,373	3,987
Normal Birthweight	233,587	537	3,587	1,745	117,520	4,386	36,668	69,144
Out of Range	16	0	0	0	10	2	2	2
<b>VERY LOW BIRTHWEIGHT STATUS</b>								
Birthweight >=1500g	247,398	583	4,040	1,848	125,131	4,643	38,599	72,554
Very Low Birthweight (<1500g)	2,744	7	83	26	1,559	50	442	577
Out of Range	16	0	0	0	10	2	2	2
<b>GESTATION<sup>1</sup></b>								
Preterm Delivery (<37 Weeks)	24,941	63	628	189	13,421	484	3,386	6,770
Normal Gestation (>=37 Weeks)	217,426	496	3,260	1,637	108,736	4,070	34,702	64,525
Out of Range/Missing	7,791	31	235	48	4,543	141	955	1,838
<b>VERY PRETERM STATUS<sup>1</sup></b>								
Very Preterm Delivery (<32 Weeks)	3,802	14	90	33	2,188	73	525	879
Gestation >=32 Weeks	238,565	545	3,798	1,793	119,969	4,481	37,563	70,416
Out of Range/Missing	7,791	31	235	48	4,543	141	955	1,838
<b>TOTAL BIRTHS<sup>2</sup></b>	<b>250,158</b>	<b>590</b>	<b>4,123</b>	<b>1,874</b>	<b>126,700</b>	<b>4,695</b>	<b>39,043</b>	<b>73,133</b>

<sup>1</sup>Gestational age of infant and preterm status are estimated using the date of last menses from the birth certificate. A large number of birth certificates (N=7,791) are missing this data element.

<sup>2</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

This table contains corrections for *PRENATAL CARE INITIATION*. Persons who began prenatal care in the 9th month were erroneously included in "Unknown or Unreported". Revision as of 09/18/2014.

Table 8b - Medi-Cal Births by Aid Category and Select Comorbidities  
California Resident Hospital Births, 2011

COMORBIDITIES	Total	Medi-Cal Aid Category						
		Adoption/ Foster Care	Blind/ Disabled	All Others	Families	MI Child & Minor Consent	Pregnancy Pathway, not Undocumented	Undocumented
<b>HYPERTENSION<sup>1</sup></b>								
Hypertension	18,527	61	531	159	9,979	379	3,060	4,358
No Hypertension Diagnosis	231,021	529	3,584	1,714	116,125	4,312	35,982	68,775
<i>Unknown</i>	610	0	8	1	596	4	1	0
<b>DIABETES<sup>1</sup></b>								
Diabetes	21,598	5	434	162	9,080	102	3,516	8,299
No Diabetes Diagnosis	227,950	585	3,681	1,711	117,024	4,589	35,526	64,834
<i>Unknown</i>	610	0	8	1	596	4	1	0
<b>SUBSTANCE USE<sup>1</sup></b>								
Maternal Substance User	4,818	24	348	36	3,826	51	364	169
Maternal Non-Substance User	244,730	566	3,767	1,837	122,278	4,640	38,678	72,964
<i>Unknown</i>	610	0	8	1	596	4	1	0
<b>SMOKING DURING PREGNANCY<sup>4</sup></b>								
Maternal Smoker	8,183	28	502	48	6,551	72	793	189
Maternal Non-Smoker	238,662	552	3,526	1,808	117,921	4,594	37,982	72,279
<i>Unknown</i>	3,313	10	95	18	2,228	29	268	665
<b>PRE-PREGNANCY WEIGHT<sup>2</sup></b>								
Underweight	8,682	28	153	65	4,865	312	1,511	1,748
Normal Weight	98,785	303	1,408	830	49,054	2,597	16,672	27,921
Overweight	65,207	145	891	466	30,504	1,024	9,806	22,371
Obese/Extremely Obese	59,670	82	1,249	415	32,630	550	8,879	15,865
<i>Out of Range/Unknown</i>	17,814	32	422	98	9,647	212	2,175	5,228
<b>TOTAL BIRTHS<sup>3</sup></b>	<b>250,158</b>	<b>590</b>	<b>4,123</b>	<b>1,874</b>	<b>126,700</b>	<b>4,695</b>	<b>39,043</b>	<b>73,133</b>

<sup>1</sup>Comorbidities such as hypertension, diabetes and substance use have been identified in the hospital discharge data using ICD-9 diagnostic codes in up to 25 separate fields. ICD-9 codes were further grouped into clinically relevant classifications using the Clinical Classification Software (CCS) made available by the Agency for Health Care Research & Quality (AHRQ).

<sup>2</sup>Pre-pregnancy weight as reported on the birth certificate has been categorized into 4 weight groupings based on body mass index (BMI) classification set by the National Heart Lung and Blood

<sup>3</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

<sup>4</sup>Maternal smoking was identified using self-reported data provided on the birth certificate and included in the California Birth Statistical Master File.

Table 9a - Medi-Cal Births by Beneficiary County and Maternal Race/Ethnicity  
California Resident Hospital Births, 2011

BENEFICIARY COUNTY	Total	Race/Ethnicity of Mother							
		White	African American	Hispanic	Asian	Hawaiian/ Pacific Islanders	American Indian/Alaskan Native	Two or More Race Categories	Others/ Unknown
Alameda	7,254	810	1,457	3,501	999	115	15	171	186
Alpine	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Amador	131	87	Suppressed	30	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Butte	1,444	874	25	295	132	Suppressed	32	82	Suppressed
Calaveras	181	123	Suppressed	33	Suppressed	Suppressed	Suppressed	16	Suppressed
Colusa	156	14	Suppressed	136	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Contra Costa	4,484	736	626	2,505	300	Suppressed	Suppressed	163	97
Del Norte	251	128	Suppressed	56	20	Suppressed	25	20	Suppressed
El Dorado	634	385	Suppressed	211	Suppressed	Suppressed	Suppressed	13	Suppressed
Fresno	11,000	1,444	728	7,414	1,138	Suppressed	91	112	Suppressed
Glenn	281	94	Suppressed	172	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Humboldt	905	548	Suppressed	141	41	Suppressed	88	65	13
Imperial	1,951	94	17	1,824	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Inyo	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Kern	9,118	1,688	655	6,404	178	14	39	92	48
Kings	1,382	221	46	1,050	22	Suppressed	Suppressed	32	Suppressed
Lake	496	288	Suppressed	136	Suppressed	Suppressed	23	38	Suppressed
Lassen	189	147	Suppressed	27	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Los Angeles	72,231	4,718	6,901	55,477	3,456	240	105	739	595
Madera	1,719	219	27	1,416	20	Suppressed	16	16	Suppressed
Marin	696	111	34	506	28	Suppressed	Suppressed	12	Suppressed
Mariposa	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Mendocino	765	337	Suppressed	328	Suppressed	Suppressed	47	35	12
Merced	3,030	525	104	2,125	226	Suppressed	Suppressed	36	Suppressed
Modoc	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Mono	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Monterey	4,194	268	47	3,730	67	17	Suppressed	46	Suppressed
Napa	672	97	Suppressed	534	17	Suppressed	Suppressed	11	Suppressed
Nevada	357	253	Suppressed	73	Suppressed	Suppressed	Suppressed	20	Suppressed
Orange	15,815	1,874	185	12,147	1,225	71	20	160	133
Placer	1,006	589	11	306	39	Suppressed	Suppressed	45	Suppressed
Plumas	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Riverside	16,273	2,709	1,027	11,593	351	59	59	338	137
Sacramento	10,087	2,740	1,615	3,664	1,284	147	49	554	34
San Benito	429	56	Suppressed	366	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
San Bernardino	17,288	2,895	1,879	11,693	375	62	43	309	32
San Diego	15,491	2,643	968	10,124	714	102	74	344	522
San Francisco	2,772	313	346	1,147	828	43	14	62	19
San Joaquin	6,170	939	542	3,657	790	31	29	165	17
San Luis Obispo	1,207	480	Suppressed	651	26	Suppressed	Suppressed	30	Suppressed
San Mateo	2,445	196	46	1,157	232	69	Suppressed	Suppressed	705
Santa Barbara	3,245	343	22	2,769	44	Suppressed	Suppressed	38	25
Santa Clara	7,415	679	268	5,138	1,024	49	23	101	133
Santa Cruz	1,688	290	Suppressed	1,324	28	Suppressed	Suppressed	22	14
Shasta	1,277	952	20	157	49	Suppressed	51	33	Suppressed
Sierra	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Siskiyou	246	161	Suppressed	36	Suppressed	Suppressed	15	24	Suppressed
Solano	2,163	446	365	983	176	25	Suppressed	141	Suppressed
Sonoma	2,217	546	Suppressed	1,445	58	Suppressed	31	58	43
Stanislaus	4,686	1,114	122	3,050	192	30	15	122	41
Sutter	96	42	Suppressed	45	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Tehama	583	322	Suppressed	235	Suppressed	Suppressed	Suppressed	16	Suppressed
Trinity	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Tulare	5,892	874	75	4,664	159	Suppressed	35	68	Suppressed
Tuolumne	236	175	Suppressed	41	Suppressed	Suppressed	Suppressed	14	Suppressed
Ventura	5,157	584	55	4,352	96	Suppressed	Suppressed	49	Suppressed
Yolo	1,024	271	28	602	72	Suppressed	Suppressed	19	14
Yuba	664	312	Suppressed	243	68	Suppressed	Suppressed	24	Suppressed
Invalid County Code	554	57	33	429	15	2	1	10	7
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>250,158</b>	<b>37,097</b>	<b>18,369</b>	<b>170,297</b>	<b>14,549</b>	<b>1,200</b>	<b>1,085</b>	<b>4,552</b>	<b>3,009</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Suppressed cells reflect: 1) counties with fewer than 20,000 residents; or 2) cells with fewer than 11 beneficiaries and a complementary cell within that row.

Table 9b - Medi-Cal Births by Beneficiary County and Maternal Age  
California Resident Hospital Births, 2011

BENEFICIARY COUNTY	Total	Age of Mother					
		Age ≤ 17	18-19	20-24	25-29	30-34	35 and Older
Alameda	7,254	205	531	2,048	2,119	1,436	915
Alpine	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Amador	131	Suppressed	Suppressed	40	44	19	14
Butte	1,444	59	124	547	397	205	112
Calaveras	181	Suppressed	17	57	60	29	Suppressed
Colusa	156	Suppressed	Suppressed	29	55	31	24
Contra Costa	4,484	144	319	1,309	1,305	868	539
Del Norte	251	Suppressed	27	99	61	35	Suppressed
El Dorado	634	15	40	196	202	113	68
Fresno	11,000	513	1,054	3,617	2,921	1,816	1,079
Glenn	281	20	21	85	71	56	28
Humboldt	905	17	76	287	280	177	68
Imperial	1,951	117	204	698	500	300	132
Inyo	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Kern	9,118	468	1,049	3,238	2,290	1,297	776
Kings	1,382	64	171	436	386	218	107
Lake	496	18	51	193	132	58	44
Lassen	189	Suppressed	24	70	57	26	Suppressed
Los Angeles	72,231	2,561	6,007	21,234	19,301	13,797	9,331
Madera	1,719	94	155	540	444	282	204
Marin	696	16	48	153	196	168	115
Mariposa	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Mendocino	765	28	48	231	240	133	85
Merced	3,030	126	293	1,006	807	509	289
Modoc	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Mono	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Monterey	4,194	185	409	1,284	1,167	731	418
Napa	672	24	49	182	201	130	86
Nevada	357	Suppressed	33	117	104	62	Suppressed
Orange	15,815	545	1,189	4,262	4,425	3,177	2,217
Placer	1,006	Suppressed	Suppressed	299	326	185	105
Plumas	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Riverside	16,273	528	1,475	5,358	4,485	2,781	1,646
Sacramento	10,087	285	879	3,237	2,876	1,795	1,015
San Benito	429	19	31	155	102	77	45
San Bernardino	17,288	715	1,675	5,909	4,511	2,785	1,693
San Diego	15,491	582	1,343	4,743	4,051	2,938	1,834
San Francisco	2,772	60	126	617	839	643	487
San Joaquin	6,170	209	572	1,957	1,731	1,095	606
San Luis Obispo	1,207	34	90	382	377	206	118
San Mateo	2,445	46	144	633	750	528	344
Santa Barbara	3,245	152	308	1,012	909	533	331
Santa Clara	7,415	238	598	2,014	1,997	1,548	1,020
Santa Cruz	1,688	66	135	472	479	322	214
Shasta	1,277	45	123	484	360	169	96
Sierra	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Siskiyou	246	Suppressed	19	96	76	33	Suppressed
Solano	2,163	60	182	695	608	393	225
Sonoma	2,217	57	159	616	646	453	286
Stanislaus	4,686	177	413	1,533	1,401	767	395
Sutter	96	Suppressed	Suppressed	36	29	12	Suppressed
Tehama	583	Suppressed	50	221	174	85	Suppressed
Trinity	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Tulare	5,892	256	632	1,897	1,586	934	587
Tuolumne	236	Suppressed	19	90	72	35	Suppressed
Ventura	5,157	203	507	1,565	1,365	935	582
Yolo	1,024	38	80	295	295	199	117
Yuba	664	23	56	246	196	97	46
Invalid County Code	554	216	148	89	61	32	8
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>250,158</b>	<b>9,315</b>	<b>21,870</b>	<b>76,775</b>	<b>68,215</b>	<b>45,331</b>	<b>28,652</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Suppressed cells reflect: 1) counties with fewer than 20,000 residents; or 2) cells with fewer than 11 beneficiaries and a complementary cell within that row.

Table 9c - Medi-Cal Births by Beneficiary County and Aid Category  
California Resident Hospital Births, 2011

BENEFICIARY COUNTY	Total	Medi-Cal Aid Category					
		All Others	Blind/Disabled	Families	MI Child & Minor Consent	Pregnancy Pathway, not Undocumented	Undocumented
Alameda	7,254	95	218	3,844	101	910	2,086
Alpine	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Amador	131	Suppressed	Suppressed	86	Suppressed	28	11
Butte	1,444	21	75	1,033	20	222	73
Calaveras	181	Suppressed	Suppressed	122	Suppressed	39	11
Colusa	156	Suppressed	Suppressed	46	Suppressed	46	63
Contra Costa	4,484	57	104	2,184	65	683	1,391
Del Norte	251	Suppressed	Suppressed	177	Suppressed	40	14
El Dorado	634	Suppressed	14	366	Suppressed	136	102
Fresno	11,000	89	189	7,101	137	1,305	2,179
Glenn	281	Suppressed	Suppressed	135	Suppressed	59	73
Humboldt	905	Suppressed	36	531	Suppressed	253	65
Imperial	1,951	20	18	1,520	29	276	88
Inyo	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Kern	9,118	65	263	5,645	155	949	2,041
Kings	1,382	15	26	863	41	170	267
Lake	496	Suppressed	21	348	Suppressed	71	39
Lassen	189	Suppressed	Suppressed	134	Suppressed	31	Suppressed
Los Angeles	72,231	481	977	35,543	1,256	8,128	25,846
Madera	1,719	Suppressed	Suppressed	830	27	169	671
Marin	696	Suppressed	Suppressed	178	Suppressed	78	422
Mariposa	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Mendocino	765	Suppressed	Suppressed	418	14	147	173
Merced	3,030	25	70	1,760	48	449	678
Modoc	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Mono	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Monterey	4,194	39	25	1,514	115	520	1,981
Napa	672	Suppressed	Suppressed	244	20	129	269
Nevada	357	Suppressed	Suppressed	222	Suppressed	85	32
Orange	15,815	110	93	5,402	486	2,740	6,984
Placer	1,006	16	20	549	17	292	112
Plumas	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Riverside	16,273	89	216	7,726	375	4,074	3,793
Sacramento	10,087	94	362	6,609	57	1,574	1,391
San Benito	429	Suppressed	Suppressed	220	15	73	108
San Bernardino	17,288	102	296	10,287	395	2,692	3,516
San Diego	15,491	118	187	6,897	395	4,261	3,633
San Francisco	2,772	34	50	1,303	30	539	816
San Joaquin	6,170	34	164	3,741	61	860	1,310
San Luis Obispo	1,207	Suppressed	Suppressed	568	20	313	283
San Mateo	2,445	25	13	575	68	446	1,318
Santa Barbara	3,245	25	36	1,120	84	503	1,477
Santa Clara	7,415	82	87	3,397	115	1,119	2,615
Santa Cruz	1,688	Suppressed	Suppressed	612	69	333	645
Shasta	1,277	13	53	896	11	260	44
Sierra	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Siskiyou	246	Suppressed	11	180	Suppressed	40	Suppressed
Solano	2,163	30	76	1,319	28	263	447
Sonoma	2,217	19	37	771	32	520	838
Stanislaus	4,686	23	96	2,814	48	798	907
Sutter	96	Suppressed	Suppressed	65	Suppressed	18	Suppressed
Tehama	583		24	341	Suppressed	119	87
Trinity	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Tulare	5,892	35	71	3,300	102	813	1,571
Tuolumne	236	Suppressed	Suppressed	137	Suppressed	79	Suppressed
Ventura	5,157	36	39	1,782	135	932	2,233
Yolo	1,024	Suppressed	23	496	Suppressed	242	239
Yuba	664	Suppressed	22	453	Suppressed	99	78
<i>Invalid County Code</i>	554	554	0	0	0	0	0
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>250,158</b>	<b>2,464</b>	<b>4,123</b>	<b>126,700</b>	<b>4,695</b>	<b>39,043</b>	<b>73,133</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Suppressed cells reflect: 1) counties with fewer than 20,000 residents; or 2) cells with fewer than 11 beneficiaries and a complementary cell within that row.

Table 9d - Medi-Cal Births by Beneficiary Region and Maternal Race/Ethnicity  
California Resident Hospital Births, 2011

BENEFICIARY REGION	Total	Race/Ethnicity of Mother							
		White	African American	Hispanic	Asian	Hawaiian/ Pacific Islanders	American Indian/Alaskan Native	Two or More Race Categories	Others/ Unknown
Bay Area	30,118	3,934	3,179	16,916	3,662	359	108	756	1,204
Central Coast	15,920	2,021	139	13,192	264	31	12	187	74
Central Valley	42,997	7,024	2,299	29,780	2,725	99	233	643	194
Far North	1,623	1,183	Suppressed	209	60	Suppressed	71	62	Suppressed
Los Angeles	72,231	4,718	6,901	55,477	3,456	240	105	739	595
North Coast	2,417	1,301	Suppressed	661	68	Suppressed	183	158	27
Sacramento Valley	14,335	4,669	1,682	5,392	1,566	158	108	706	54
Sierra Range/ Foothills	3,145	1,975	22	860	62	Suppressed	68	135	Suppressed
Southern California	66,818	10,215	4,076	47,381	2,671	295	196	1,156	828
invalid Code	554	57	33	429	15	2	1	10	7
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>250,158</b>	<b>37,097</b>	<b>18,369</b>	<b>170,297</b>	<b>14,549</b>	<b>1,200</b>	<b>1,085</b>	<b>4,552</b>	<b>3,009</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Suppressed cells reflect: 1) counties with fewer than 20,000 residents; or 2) cells with fewer than 11 beneficiaries and a complementary cell within that row.

Note: Regions are comprised of the following counties:

Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma

Central Coast: Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura

Central Valley: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare

Far North: Modoc, Shasta, Siskiyou, Trinity

Los Angeles: Los Angeles

North Coast: Del Norte, Humboldt, Lake, Mendocino

Sacramento Valley: Butte, Colusa, Glenn, Sacramento, Sutter, Tehama, Yolo, Yuba

Sierra Range/Foothills: Alpine, Amador, Calaveras, El Dorado, Inyo, Lassen, Mariposa, Mono, Nevada, Placer

Southern California: Imperial, Orange, Riverside, San Bernardino, San Diego

Table 9e - Medi-Cal Births by Beneficiary Region and Maternal Age  
California Resident Hospital Births, 2011

BENEFICIARY REGION	Total	Age of Mother					
		Age ≤ 17	18-19	20-24	25-29	30-34	35 and Older
Bay Area	30,118	1,011	2,482	8,663	8,679	5,986	3,978
Central Coast	15,920	756	1,655	4,982	4,516	2,801	1,780
Central Valley	42,997	2,128	4,980	14,747	11,520	6,689	4,045
Far North	1,623	58	169	642	455	206	105
Los Angeles	72,231	2,944	6,854	22,193	19,805	13,902	9,164
North Coast	2,417	75	264	804	708	391	181
Sacramento Valley	14,335	491	1,443	5,080	4,196	2,397	1,378
Sierra Range/ Foothills	3,145	82	272	1,095	912	507	296
Southern California	66,818	2,764	6,720	21,552	17,954	11,472	7,324
invalid Code	554	12	17	48	27	8	7
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>250,158</b>	<b>10,321</b>	<b>24,856</b>	<b>79,806</b>	<b>68,772</b>	<b>44,359</b>	<b>28,258</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Note: Regions are comprised of the following counties:

Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma

Central Coast: Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura

Central Valley: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare

Far North: Modoc, Shasta, Siskiyou, Trinity

Los Angeles: Los Angeles

North Coast: Del Norte, Humboldt, Lake, Mendocino

Sacramento Valley: Butte, Colusa, Glenn, Sacramento, Sutter, Tehama, Yolo, Yuba

Sierra Range/Foothills: Alpine, Amador, Calaveras, El Dorado, Inyo, Lassen, Mariposa, Mono, Nevada, Placer, Plumas,

Southern California: Imperial, Orange, Riverside, San Bernardino, San Diego

Table 9f - Medi-Cal Births by Beneficiary Region and Aid Category  
California Resident Hospital Births, 2011

BENEFICIARY REGION	Total	Medi-Cal Aid Category					
		All Others	Aged,Blind/Disabled	Families	MI Child & Minor Concent	Pregnant Pathway, Not Undoc	Undoc
Bay Area	30,118	351	596	13,815	467	4,687	10,202
Central Coast	15,920	132	133	5,816	438	2,674	6,727
Central Valley	42,997	296	891	26,054	619	5,513	9,624
Far North	1,623	16	64	1,141	19	326	57
Los Angeles	72,231	481	977	35,543	1,256	8,128	25,846
North Coast	2,417	22	74	1,474	45	511	291
Sacramento Valley	14,335	135	513	9,178	117	2,379	2,013
Sierra Range/ Foothills	3,145	38	65	1,847	54	782	359
Southern California	66,818	439	810	31,832	1,680	14,043	18,014
Invalid Code	554	554	0	0	0	0	0
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>250,158</b>	<b>2,464</b>	<b>4,123</b>	<b>126,700</b>	<b>4,695</b>	<b>39,043</b>	<b>73,133</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

Note: Regions are comprised of the following counties:

Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma

Central Coast: Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura

Central Valley: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare

Far North: Modoc, Shasta, Siskiyou, Trinity

Los Angeles: Los Angeles

North Coast: Del Norte, Humboldt, Lake, Mendocino

Sacramento Valley: Butte, Colusa, Glenn, Sacramento, Sutter, Tehama, Yolo, Yuba

Sierra Range/Foothills: Alpine, Amador, Calaveras, El Dorado, Inyo, Lassen, Mariposa, Mono, Nevada, Placer, Plumas, Sierra, Tuolumne

Southern California: Imperial, Orange, Riverside, San Bernardino, San Diego

Table 10 - Medi-Cal Births and Non-Medi-Cal Births by Select Comorbidities and Maternal Race/Ethnicity  
California Resident Hospital Births, 2011

COMORBIDITIES	Medi-Cal Births							Non-Medi-Cal Births						
	Total	White	African-American	Hispanic	Asian/Pacific Islander	American Indian/Alaskan Native	Two+ race categories/ Others	Total	White	African-American	Hispanic	Asian/Pacific Islander	American Indian/Alaskan Native	Two+ race categories/ Others
<b>HYPERTENSION<sup>1</sup></b>														
Hypertension	18,527	2,899	2,191	11,704	943	99	691	16,961	6,988	905	5,304	2,791	50	923
No Hypertension Diagnosis	231,021	34,110	16,117	158,211	14,760	983	6,840	207,161	84,421	6,128	63,802	42,840	497	9,473
Unknown	610	88	61	382	46	3	30	21,749	7,554	1,391	8,708	2,319	104	1,673
<b>DIABETES<sup>1</sup></b>														
Diabetes	21,598	2,419	1,145	15,380	1,918	106	630	21,796	6,005	649	7,349	6,763	62	968
No Diabetes Diagnosis	227,950	34,590	17,163	154,535	13,785	976	6,901	202,326	85,404	6,384	61,757	38,868	485	9,428
Unknown	610	88	61	382	46	3	30	21,749	7,554	1,391	8,708	2,319	104	1,673
<b>SUBSTANCE USE<sup>1</sup></b>														
Maternal Substance User	4,818	1,829	782	1,661	118	82	346	1,184	518	118	368	40	23	117
Maternal Non-Substance User	244,730	35,180	17,526	168,254	15,585	1,000	7,185	222,938	90,891	6,915	68,738	45,591	524	10,279
Unknown	610	88	61	382	46	3	30	21,749	7,554	1,391	8,708	2,319	104	1,673
<b>SMOKING DURING PREGNANCY<sup>3</sup></b>														
Maternal Smoker	8,183	4,650	979	1,609	243	133	569	1,926	1,218	106	304	154	20	124
Maternal Non-Smoker	238,662	32,008	16,908	166,629	15,346	923	6,848	220,604	89,636	6,862	68,132	45,309	520	10,145
Unknown	3,313	439	482	2,059	160	29	144	23,341	8,109	1,456	9,378	2,487	111	1,800
<b>TOTAL BIRTHS<sup>2</sup></b>	<b>250,158</b>	<b>37,097</b>	<b>18,369</b>	<b>170,297</b>	<b>15,749</b>	<b>1,085</b>	<b>7,561</b>	<b>245,871</b>	<b>98,963</b>	<b>8,424</b>	<b>77,814</b>	<b>47,950</b>	<b>651</b>	<b>12,069</b>

<sup>1</sup>Comorbidities such as hypertension, diabetes and substance use have been identified in the hospital discharge data using ICD-9 diagnostic codes in up to 25 separate fields. ICD-9 codes were further grouped into clinically relevant classifications using the Clinical Classification Software (CCS) made available by the Agency for Health Care Research & Quality (AHRQ).

<sup>2</sup>Total Births = Births in Hospital Only. DHCS identified a total of 496,029 births to California mothers in 2011 occurring in a hospital setting.

<sup>3</sup>Maternal smoking was identified using self-reported data provided on the birth certificate and included in the California Birth Statistical Master File.