

# 2007 Medi-Cal Birth Statistics



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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 2007, approximately 13% of all hospitalizations in the U.S. were for maternity care, and an additional 11.9% 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 2007, 8.25 million Californians were eligible for Medi-Cal for at least one month. Of these beneficiaries, 23.0%, or 1.9 million, were women of reproductive age, between ages of 15 and 44.<sup>2</sup>

From 2002 to 2007, the U.S. general fertility rate (GFR) increased 7.3%, while the California GFR increased 4.4%.<sup>3,4,5</sup>

The 2007 Medi-Cal Birth Statistics report presents the descriptive statistics for 2007 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 2002 through 2007, the number of hospital deliveries to Medi-Cal mothers increased by over 29,000 deliveries, or 12.4% over 5 years.

### Health Delivery System Participation

- In 2007, the Medi-Cal program financed 47.8% of all births to [resident Californians](#) occurring in hospital settings (Figure 1). Of the 268,342 births financed by Medi-Cal, 71.0% were to mothers participating in the FFS delivery system and 29.0% were to mothers participating in the managed care delivery system.

### Maternal Demographics

- **Age:** The mean maternal age for Medi-Cal financed births was 25.7 years (median = 25 years), while the mean maternal age among non-Medi-Cal births was 31.1 years (median = 30 years). Medi-Cal financed 76.8% 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 (71.8%). 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 15.1% of Medi-Cal's managed care participants, but only 3.4% 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, 46.5% had less than a high school education, 33.5% had a high school diploma, 16.7% had some college, and 3.3% had a college degree. Conversely, only 10.7% of non-Medi-Cal mothers had less than a high school education, 21.7% had a high school diploma, 26.5% had some college, and 41.1% attained a college degree.
- **Nativity:** Among Medi-Cal financed births, 45.5% were to U.S.-born mothers and 54.5% were to foreign-born mothers. Among non-Medi-Cal financed births, 61.6% were to U.S.-born mothers and 38.4% to foreign-born mothers. Foreign born mothers made up 67.9% of mothers who participated in Medi-Cal's FFS program, but only 21.5% 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, 36.0% were first-time mothers, 28.4% had one previous birth, and 35.6% had two or more previous births. Among non-Medi-Cal mothers, 41.8% were first-time mothers, 33.5% had one previous birth, and 24.6% had two or more previous births.
- **Multiple Gestation Births:** **Multiple-gestation** births were more common among non-Medi-Cal mothers than Medi-Cal mothers (4.0% vs. 2.2%).
- **Prenatal Care:** The percent of Medi-Cal mothers who initiated

prenatal care during their first trimester of pregnancy was 76.4%. In contrast, 91.0% 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 76.8% 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 33.1%, and highest among privately insured births at 33.5%. The primary cesarean section rate was lower among Medi-Cal births (16.5%) than non-Medi-Cal births (20.2%).

### Maternal Comorbidities and Health Behaviors

- **Hypertension:** The prevalence of [hypertension](#) was similar among Medi-Cal mothers (6.4%) and privately insured mothers (7.0%). 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 7.9%, slightly higher than the prevalence among Medi-Cal mothers (7.0%).
- **Smoking:** Among Medi-Cal managed care mothers, 6.2% smoked

during pregnancy, compared to 3.1% among mothers who participated in the FFS delivery system. Mothers with births not financed by Medi-Cal had a smoking prevalence of 1.3%, while the overall frequency of smoking among Medi-Cal mothers was 4.1%. Mothers who smoked were more likely to have a [low birthweight](#) outcome than those who did not smoke.

- **Substance Use:** Substance use was three times higher among Medi-Cal mothers than non-Medi-Cal mothers (1.8% vs. 0.5%), and more common among mothers who participated in Medi-Cal managed care (3.1%). 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, 49.9% had a [pre-pregnancy weight considered](#) overweight or obese, compared to only 39.5% of non-Medi-Cal mothers. Medi-Cal mothers enrolled in Blind/Disabled [aid codes](#) had pre-pregnancy overweight/obesity rates of 55.2%, whereas 50.9% of Medi-Cal mothers enrolled in Families aid codes had a pre-pregnancy weight considered overweight/obese.

### Birth Outcomes

- **Low Birthweight (<2500 grams):** The overall low-birthweight percent among Medi-Cal births was 6.7%, and 7.0% 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 11.6%, while the percent among non-Medi-Cal mothers was 10.7%. 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 (10.5%) than **singleton** non-Medi-Cal births (8.7%).

- **Very Preterm Births (<32 weeks of gestation):** The percent of very preterm births among Medi-Cal mothers was 1.7%, while the percent among non-Medi-Cal mothers was 1.5%. 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 (1.6%) and its managed care delivery system (1.9%).

## MEDI-CAL PROGRAM BACKGROUND

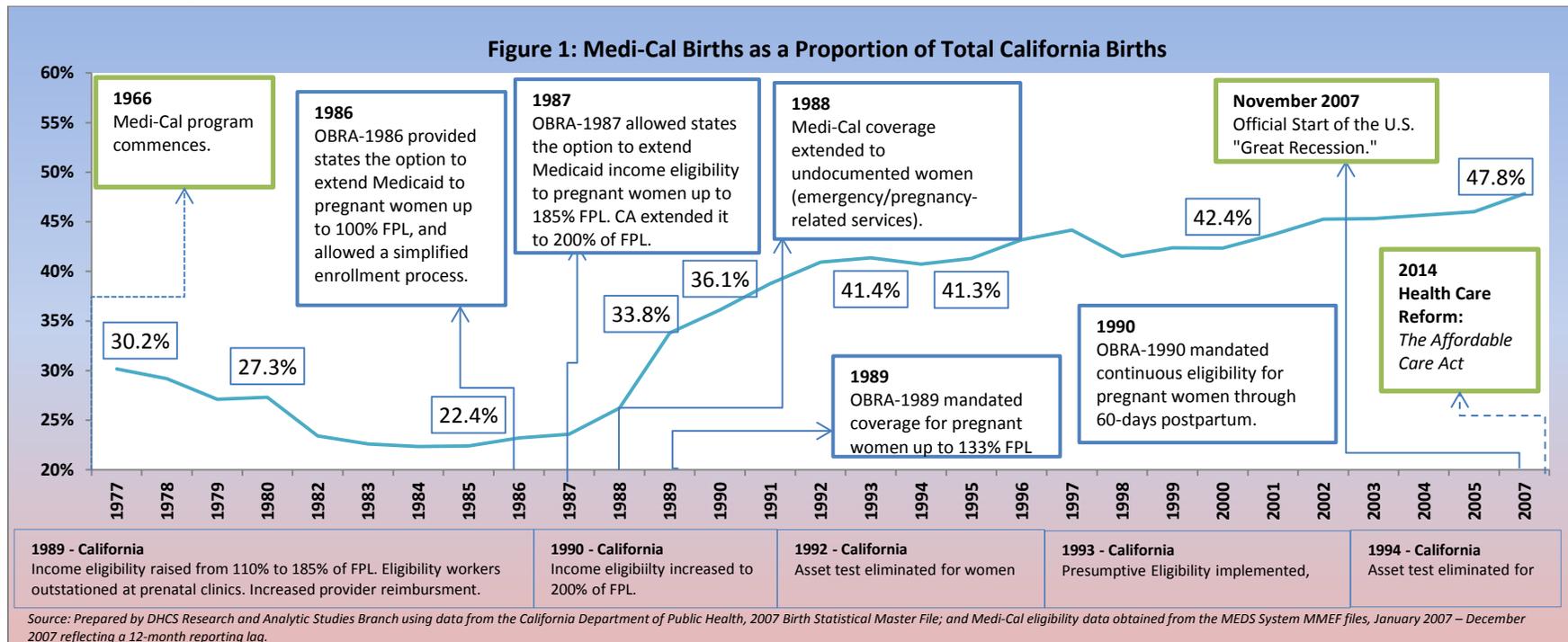
Medi-Cal provides comprehensive health care services at no cost or low cost for low-income individuals.<sup>6</sup> The federal government dictates a mandatory set of basic services be provided to beneficiaries including, but not limited to: physician services, family nurse practitioner services, nursing 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. In 2003, the Medicaid program financed approximately 1.5 million births, or 41% of births in the U.S.<sup>7</sup> In the 2007, Medi-Cal financed 47.8% 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.

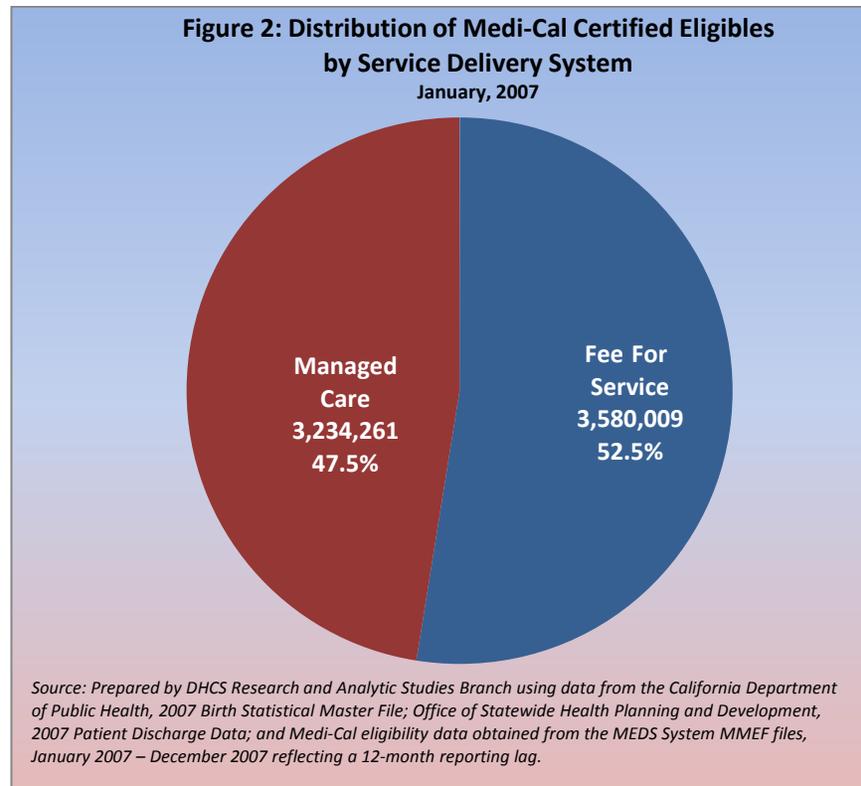
An “eligibility pathway” is the method by which a beneficiary qualifies for Medi-Cal. The state frequently determines a beneficiary’s eligibility pathway by income relative to the federal poverty level (FPL), but resources, health, age, and disability status are also factors in eligibility determinations. 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>8</sup> or those enrolled in special programs like the Tuberculosis Program<sup>9</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>10,11</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

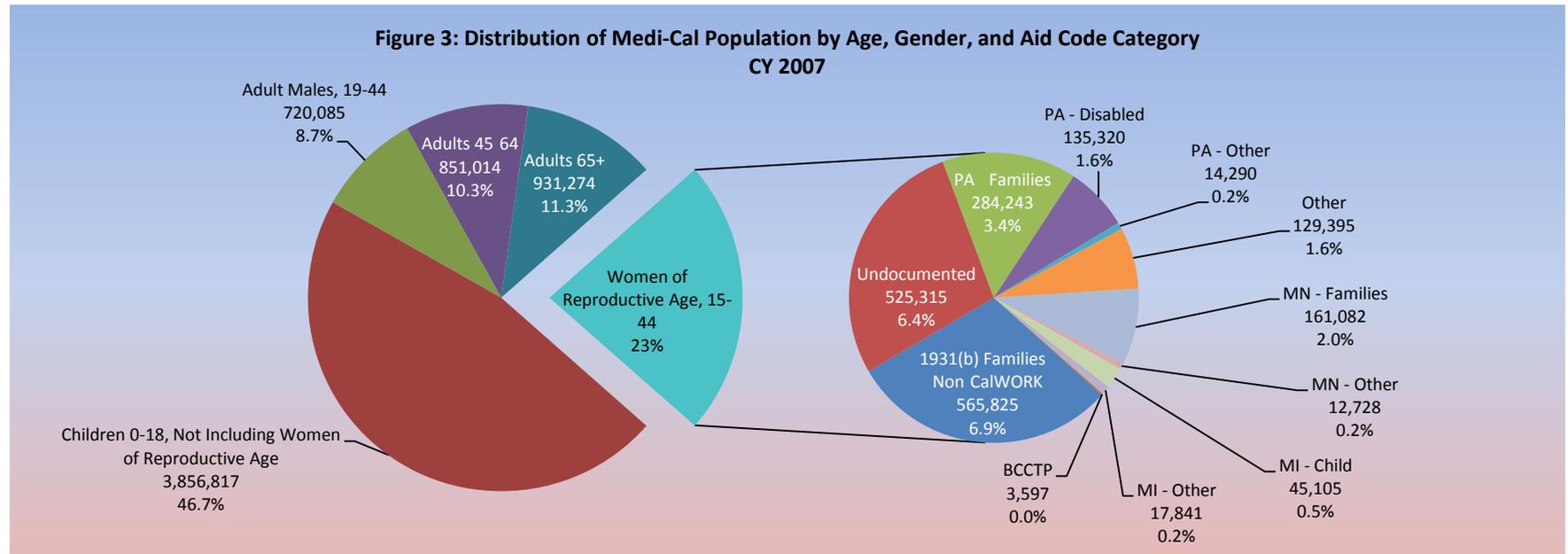


bills Medi-Cal for each service administered. Beneficiaries in FFS must locate providers willing to accept Medi-Cal as a payer source.

The second delivery system is Medi-Cal managed care. In 2007, roughly 47% 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 Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

## Medi-Cal's Population

During calendar year 2007, 8.25 million Californians were eligible for Medi-Cal for at least one month. Women between the ages of 15 and 44 made up 23.0% 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 an 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>12</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.

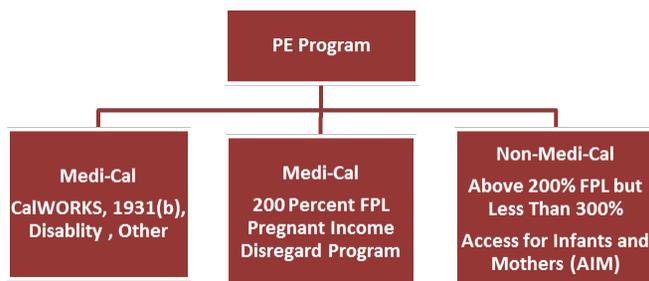
**Presumptive Eligibility (PE) Program:** Medi-Cal's PE program enables providers to bestow immediate, temporary prenatal Medi-Cal coverage to a pregnant woman based on her responses to a few income and residency questions.<sup>13</sup> Medi-Cal provides this coverage under the assumption that the pregnant 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>14</sup> Women who apply for Medi-Cal coverage or CalWORKs during the PE period will receive another 60 days of PE coverage.<sup>15</sup> The PE program covers all ambulatory prenatal care services,<sup>16</sup> but does not cover the costs of delivery, family planning, or induced abortion procedures.<sup>17</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>18</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>19</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>20,21</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>22</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>23,24,25,26</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>27</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>28</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>29</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>30</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>31</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>32</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>33</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>34</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>35</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>36</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>37</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 2007 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 2007 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, 2007 through December 31, 2007 and containing a delivery diagnosis code were used to confirm birth certificate records for women giving birth in 2007 financed by Medi-Cal's 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 560,884 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 560,884 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 33.9% and 13.9% 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 42.7%. 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 25,207 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>38</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>39</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>40</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>41</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 6.7% to 6.9%, the very low birthweight percent would rise from 1.1% to 1.2%, the preterm birth percent would rise from 11.6% to 11.8%, and the very preterm birth percent would rise from 1.7% to 1.8%. 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 12.9%. Similarly, 13.6% of mothers age 17 and younger had a preterm

birth outcome, but this age group represented only 4.8% 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>42</sup>

## FINDINGS

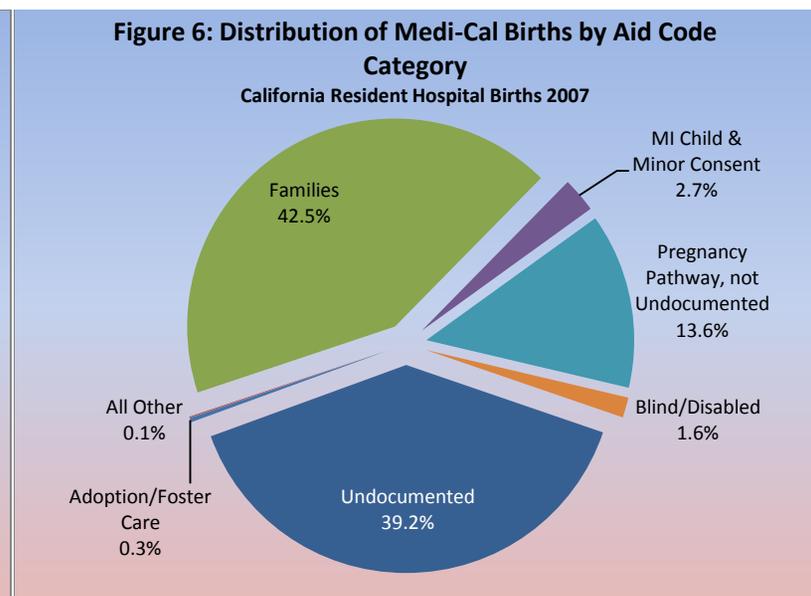
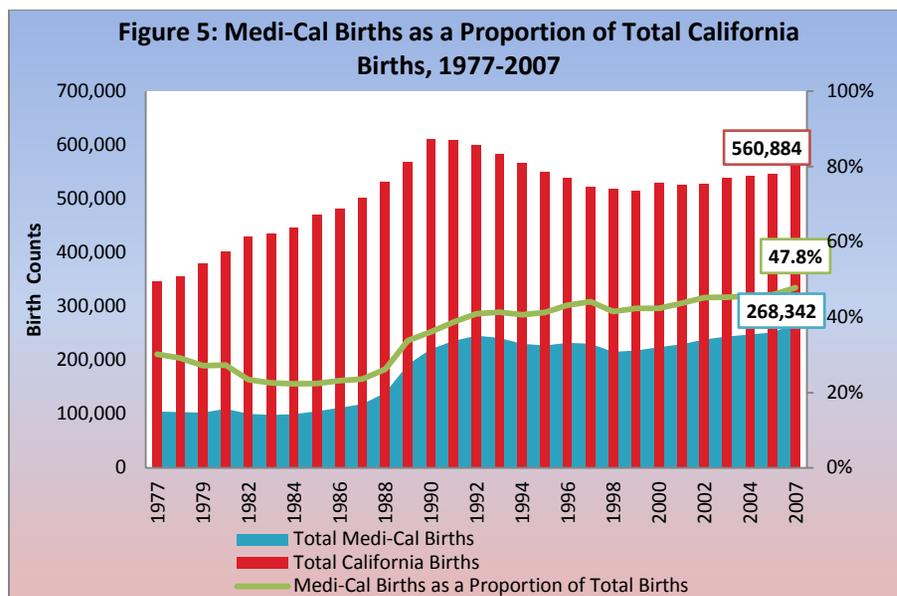
### National and California Fertility Trends

The U.S. general fertility rate (GFR) in 2007 was 69.5 births per 1,000 women of childbearing age (age 15-44), a 1.0% increase from 2006 (68.5 births per 1,000 women of childbearing age).<sup>43</sup> In California, fertility rates remained unchanged from 2006 to 2007 at 71.3.<sup>44,45</sup> The California GFR was slightly higher than the national rate.

### Medi-Cal Population Statistics

**Medi-Cal as Percent of Total California Births:** In 2007, Medi-Cal financed 47.8% of hospital births to California residents (Figure 5). Medi-Cal births represented 268,342 of the total 560,884 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).

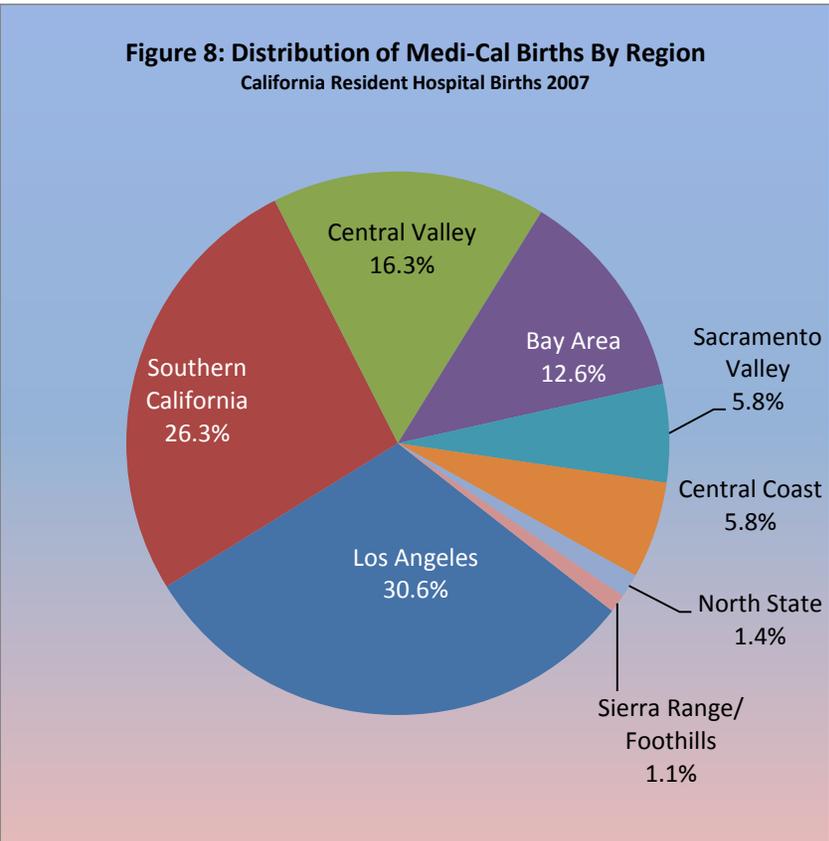
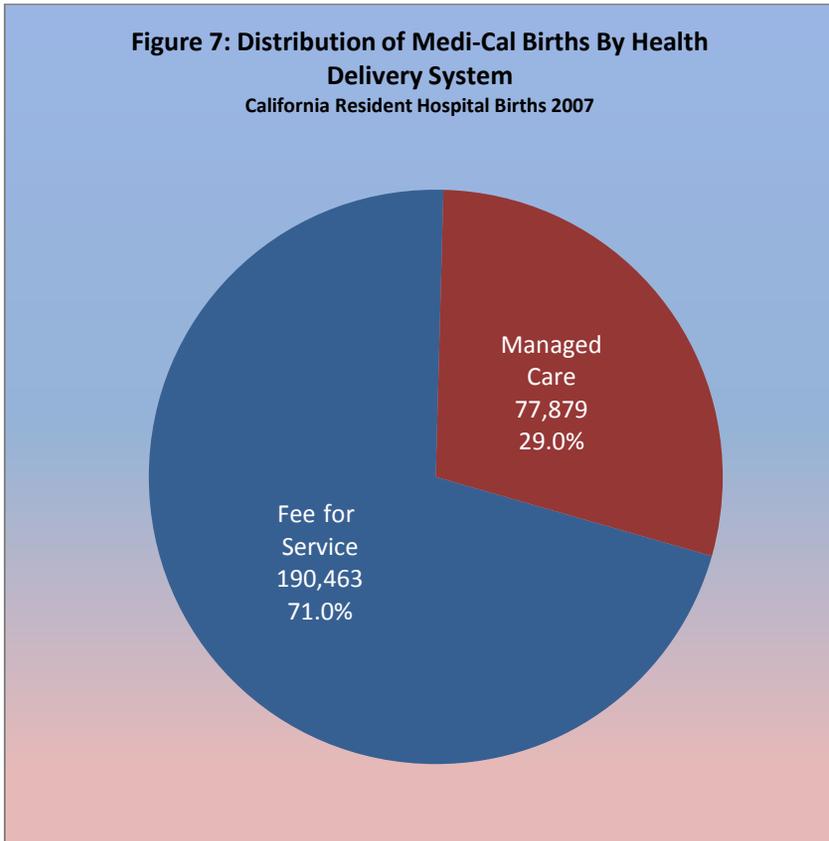
**Medi-Cal Births by Eligibility Pathway:** A large segment of Medi-Cal-financed births were to mothers without SIS (39.2%) and/or mothers enrolled in Families aid codes (42.5%) (Figure 6).



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

**Medi-Cal Births by Medi-Cal Health Delivery System:** Of the 268,342 Medi-Cal financed births, 71.0% were to mothers participating in the FFS program and 29.0% 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).



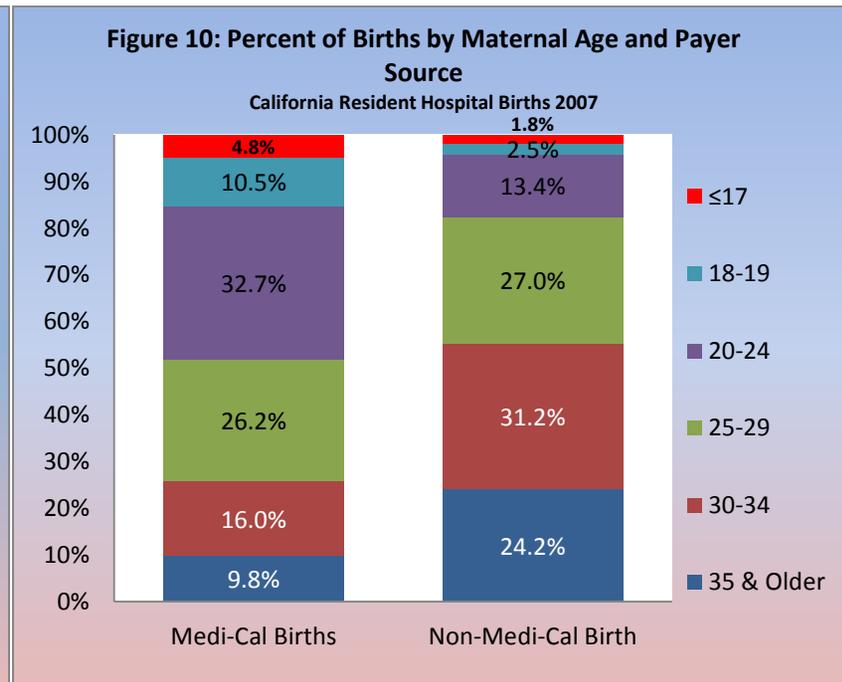
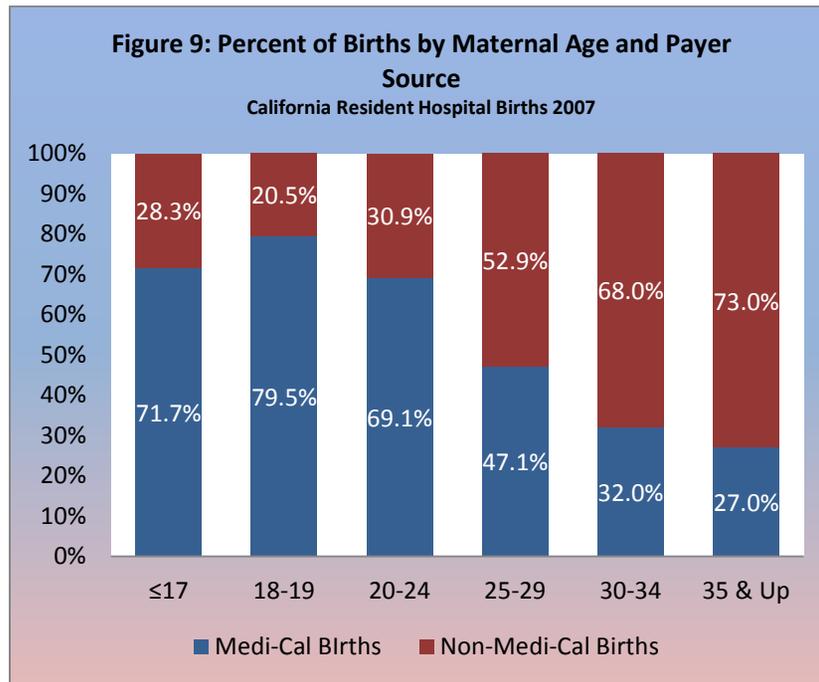
Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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>46,47,48</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 25.7 years (median = 25 years), while the mean maternal age among non-Medi-Cal births was 30.1 years (median = 30 years).

Medi-Cal financed a significant percentage of California's births for younger women. Medi-Cal financed 71.7% of the births to women age 17 and younger, 79.5% of the births to women between 18 and 19 years of age, and 69.1% 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 48.0% of total Medi-Cal births, while among non-Medi-Cal mothers only 17.7% were 24 years of age or younger. Among non-Medi-Cal mothers, 55.4% were to mothers 30 years of age or older (Figure 10).



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

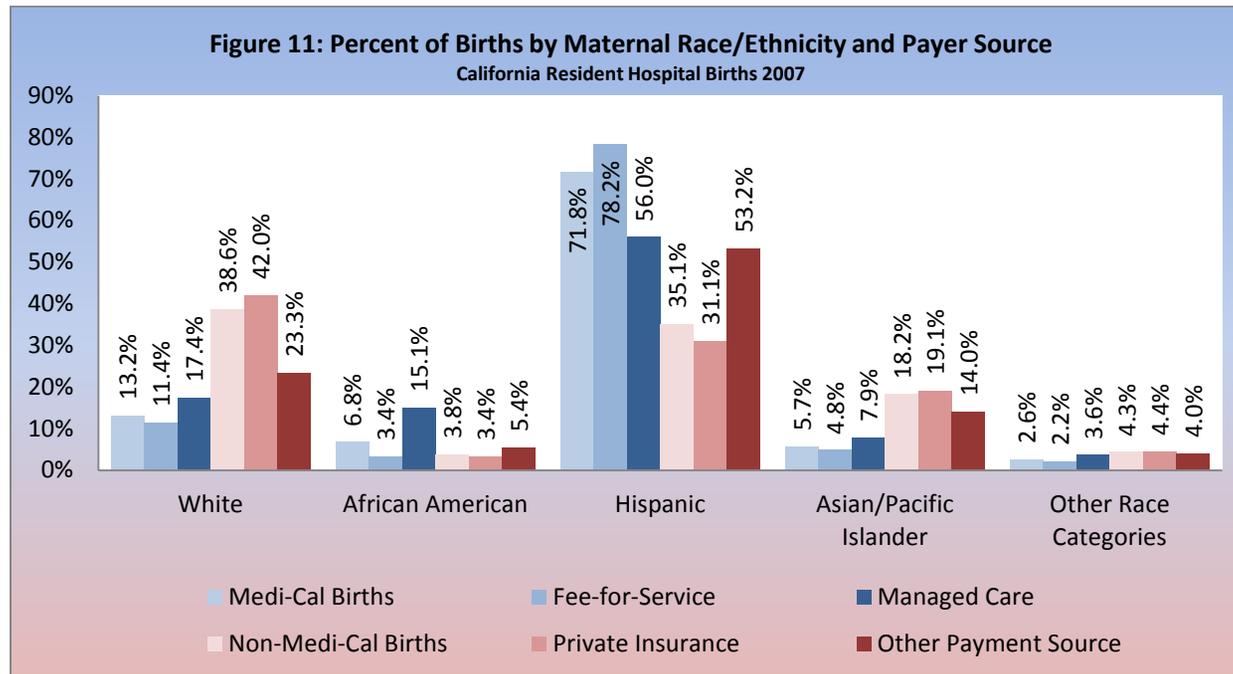
\*Note: Values in figures may not add up to 100.0% due to rounding.

**Race/Ethnicity:** Hispanic mothers comprised the largest percentage of Medi-Cal financed births. Overall, 71.8% of births financed by Medi-Cal were to Hispanic mothers, while only 35.1% of non-Medi-Cal financed births were to mothers of Hispanic ethnicity (Figure 11). Additionally, 13.2% of Medi-Cal financed births were to white mothers compared to 38.6% of non-Medi-Cal mothers (Figure 11).

The remaining Medi-Cal births were attributed to the following groups: 6.8% to African-American mothers; 5.7% to Asian or Pacific Islander mothers; and 2.6% to mothers of other race/ethnic backgrounds (Figure 11). Non-Medi-Cal births displayed significantly different proportions: Asian or Pacific Islander mothers comprised 18.2%;

African-American mothers constituted 3.8%; and mothers of other race/ethnic backgrounds made up 4.3% 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 6.8% 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 over two times that, or 15.1% (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>49,50,51,52</sup>

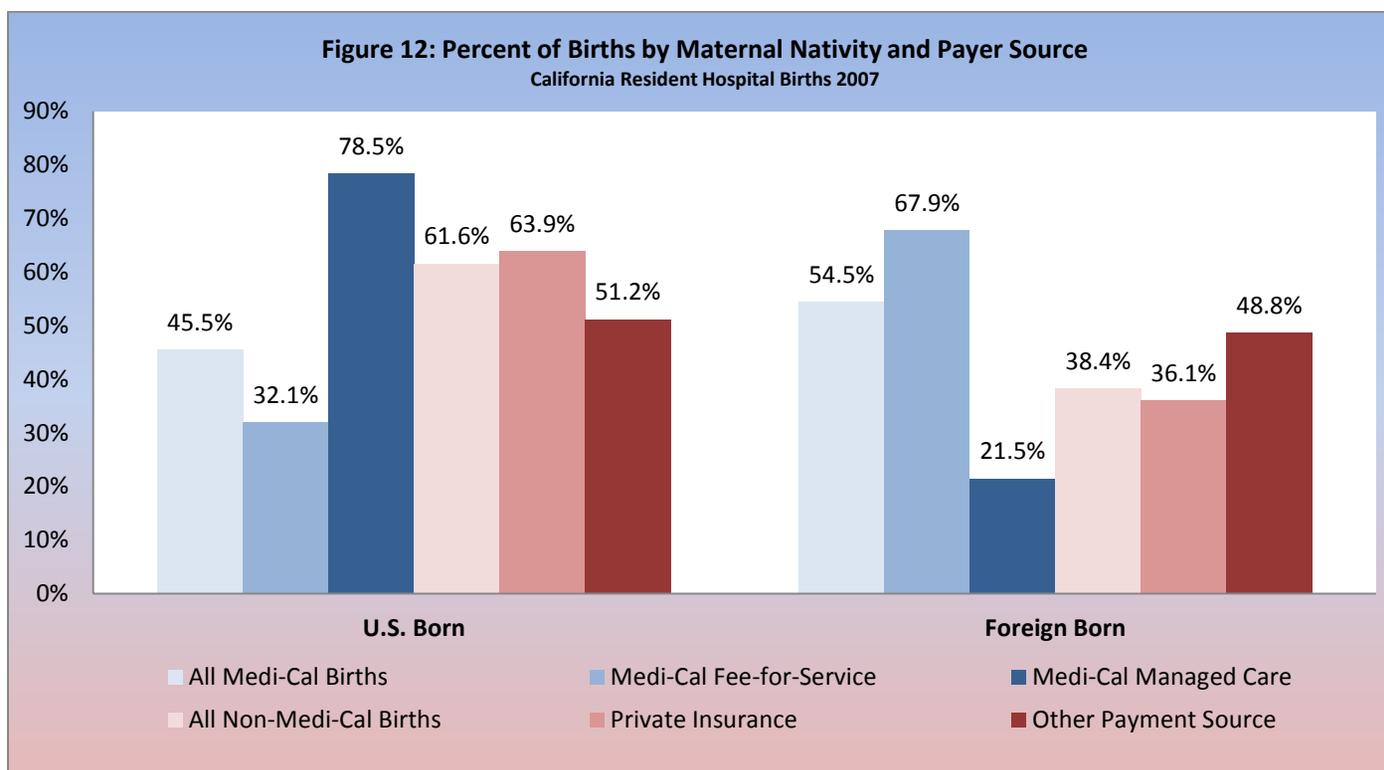


Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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>53,54</sup>

Among Medi-Cal financed births, 45.5% were to U.S.-born mothers and 54.5% were to foreign-born mothers. A larger segment of non-Medi-Cal financed births was to U.S.-born mothers (61.6%), and a smaller segment (38.4%) was to foreign-born mothers (Figure 12). Among Medi-Cal mothers who participated in managed care, 21.5% were foreign-born, whereas 67.9% of mothers who participated in Medi-Cal’s FFS delivery system were foreign-born (Figure 12).



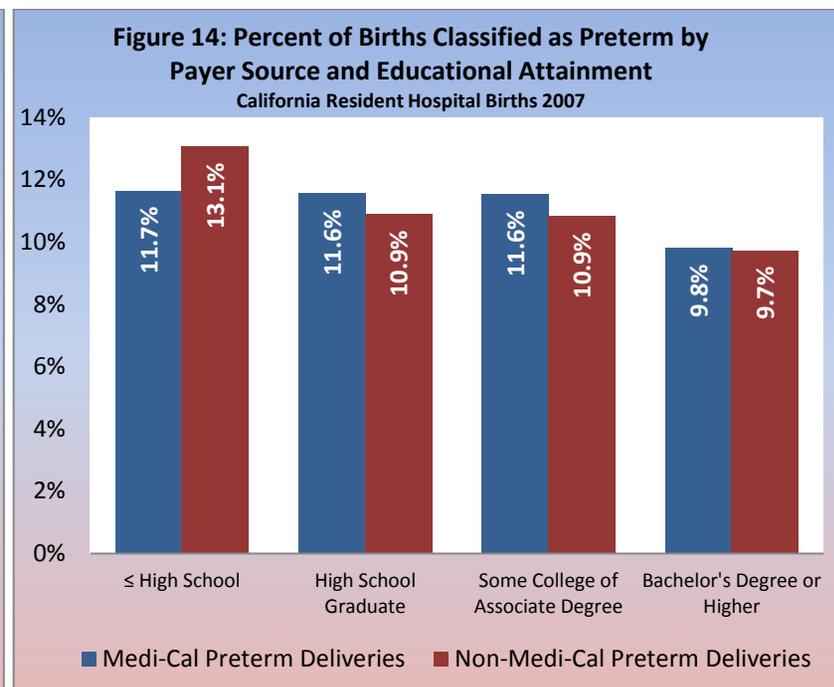
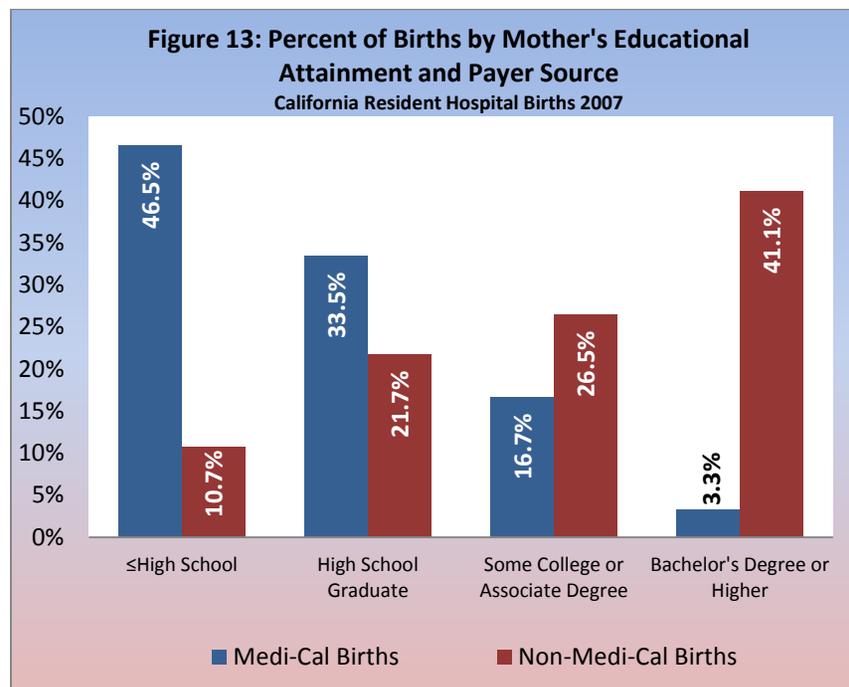
Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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>55,56</sup>

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

Cal mothers did. Overall, 46.5% of mothers enrolled in Medi-Cal had less than a high school education, 33.5% had a high school diploma, 16.7% had some college, and 3.3% had a college degree (Figure 13). Conversely, only 10.7% of non-Medi-Cal mothers had less than a high school education, 21.7% had a high school diploma, 26.5% had some college, and 41.1% 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).



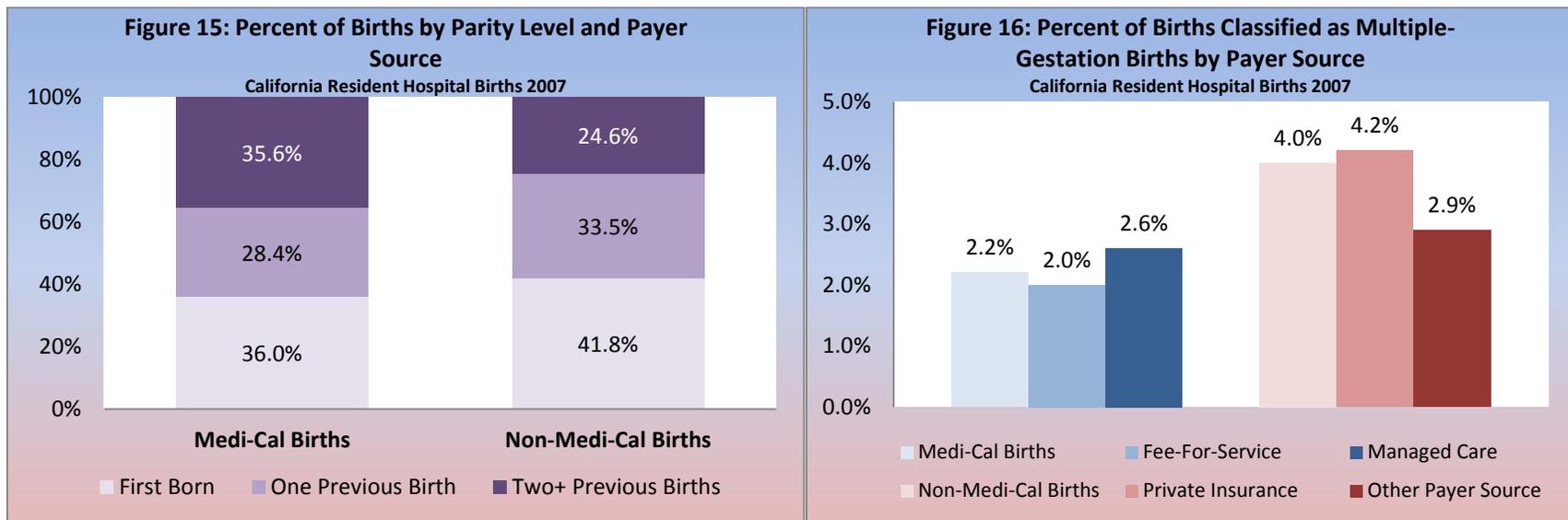
Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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>57,58</sup>

Among Medi-Cal mothers in 2007, 36.0% were first-time mothers, 28.4% had one previous birth, and 35.6% had two or more previous births (Figure 15). Medi-Cal managed care mothers had the highest parity, with 38.8% 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, 41.8% were first-time mothers, 33.5% had one previous birth, and 24.6% 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>59</sup> Multiple-gestation births are more common among older mothers or mothers using artificial reproductive technology.<sup>60,61</sup> These babies are also more likely to be delivered via cesarean section.

Among mothers that participated in Medi-Cal’s FFS delivery system, 2.0% 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 4.0%, particularly among births financed by private insurance sources (4.2%) (Figure 16).



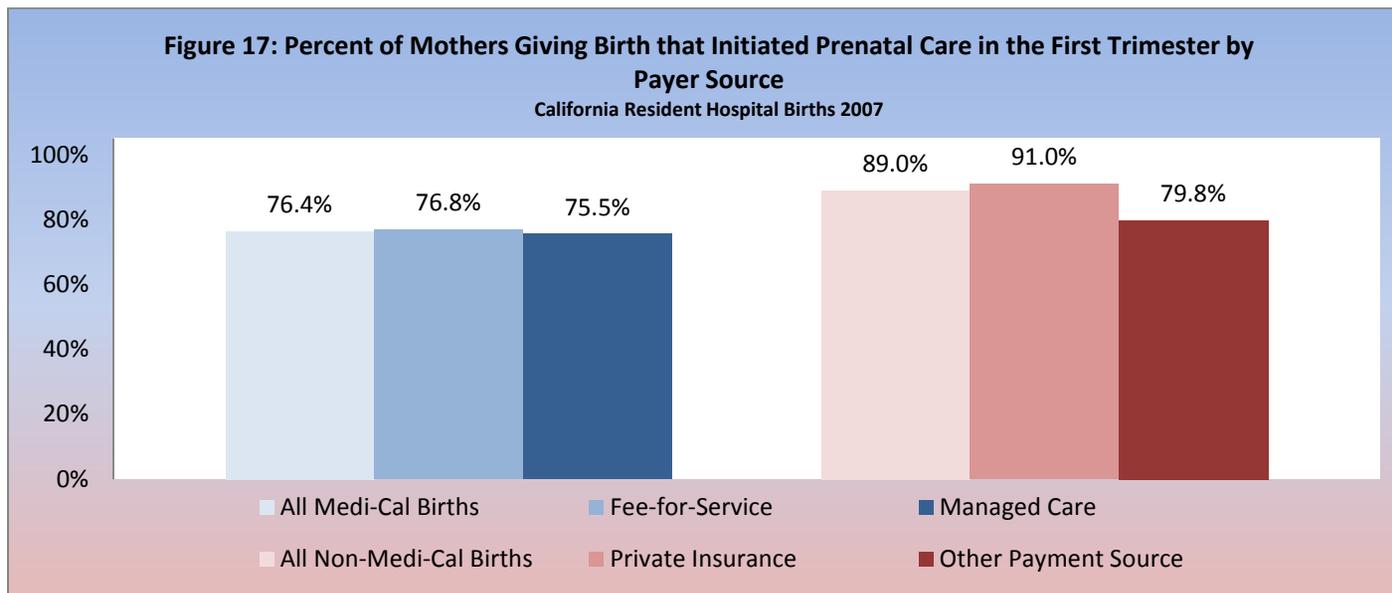
Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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>62</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>63</sup>

Among all Medi-Cal mothers, 76.4% initiated prenatal care in their first

trimester of pregnancy, 18.9% 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, 91.0% of privately insured mothers initiated prenatal care in their first trimester, while only 8.8% 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 76.8% 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 (80.0% and 78.2%, respectively) (Appendix H)



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

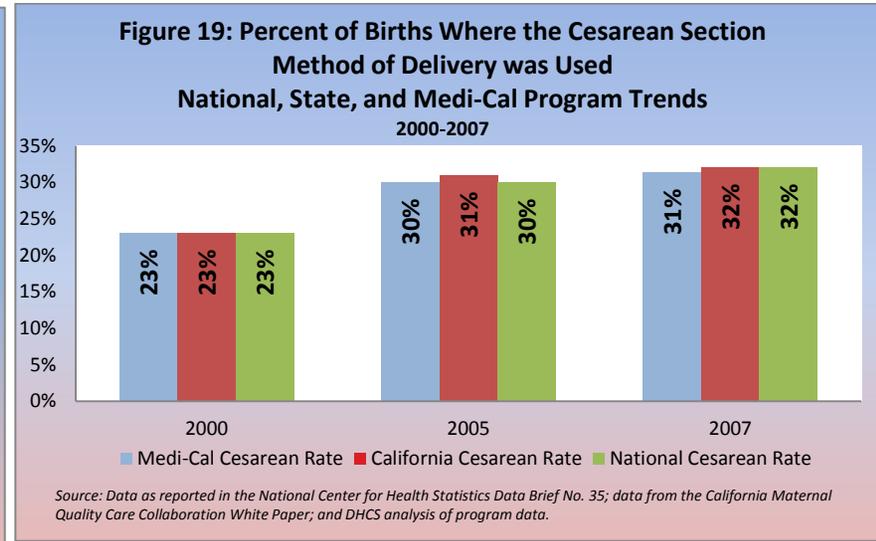
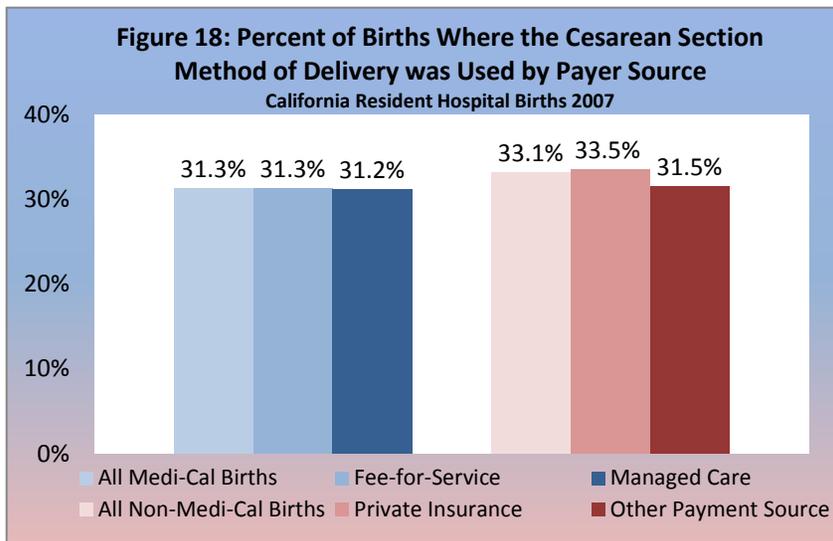
**Delivery Method:** From 1996 to 2007, the national cesarean rate increased annually, culminating in a 50% increase in cesarean sections. The cesarean section method of delivery has since stabilized, showing no change in cesarean rates for singleton births from 2009 to 2011.<sup>64</sup> Compared with vaginal birth, cesarean section is costly and poses additional health risks for both mother and child.<sup>65</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>66</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>67</sup> The prevalence of multiple births among non-Medi-Cal mothers (4.0%) compared to Medi-Cal mothers (2.2%) suggests that non-Medi-Cal mothers would have a higher occurrence of cesarean delivery.

In 2007, cesarean section deliveries comprised 32% of all births in the U.S. Among all resident California births occurring in a hospital, cesarean section deliveries made up 32% of births, slightly above the national average (Figure 19). California's cesarean rates have increased by 41% in the last several years, from 23% in 2000 to 32% in 2007 (Figure 19).

The cesarean section rate was slightly lower than the state average among Medi-Cal births (31.3%). Among non-Medi-Cal financed births, the percentage of cesarean deliveries was highest among privately insured births at 33.5% (Figure 18).

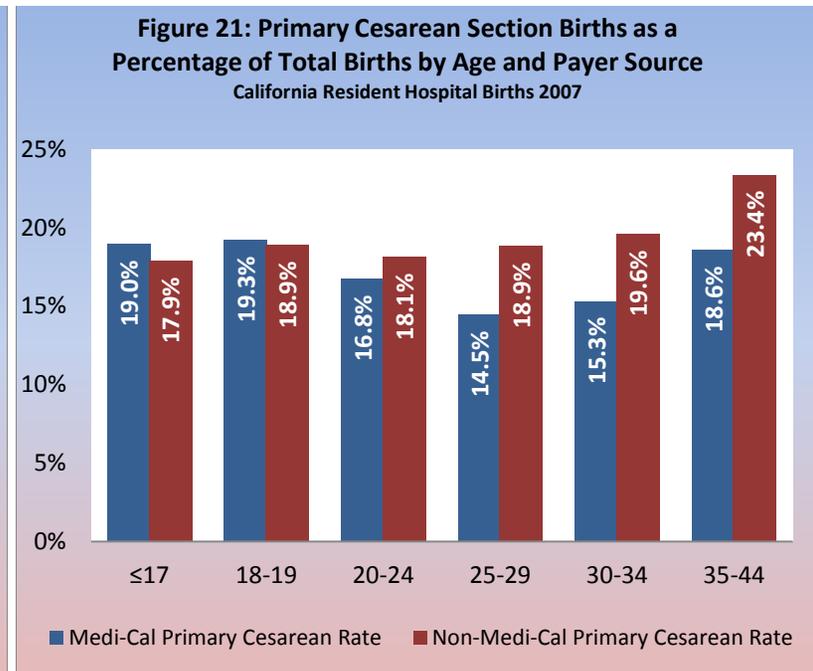
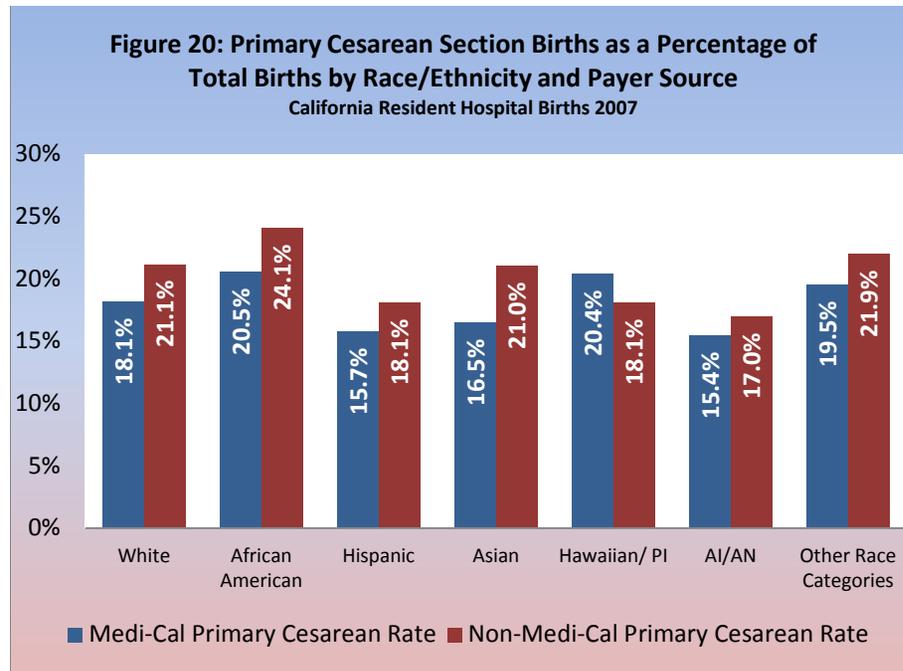


Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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>68</sup> The percentage of primary cesarean section births was lower among Medi-Cal (16.5%) than non-Medi-Cal births (20.2%)(Appendix H). Among Medi-Cal mothers, the primary cesarean section percentage was highest among mothers ages 18 to 19 (19.3%), women ages 17 and younger (19.0%), African-American women

(20.5%), Hawaiian/Pacific Islander women (20.4%), and women in other race categories (19.5%) (Figure 20 and Figure 21). Medi-Cal mothers with a college degree also delivered via primary cesarean sections at percentages higher than the program average (20.9% and 16.5, 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 (23.4%) and African-American women (24.1%) experienced the highest rates of primary cesarean section delivery (Figure 20).

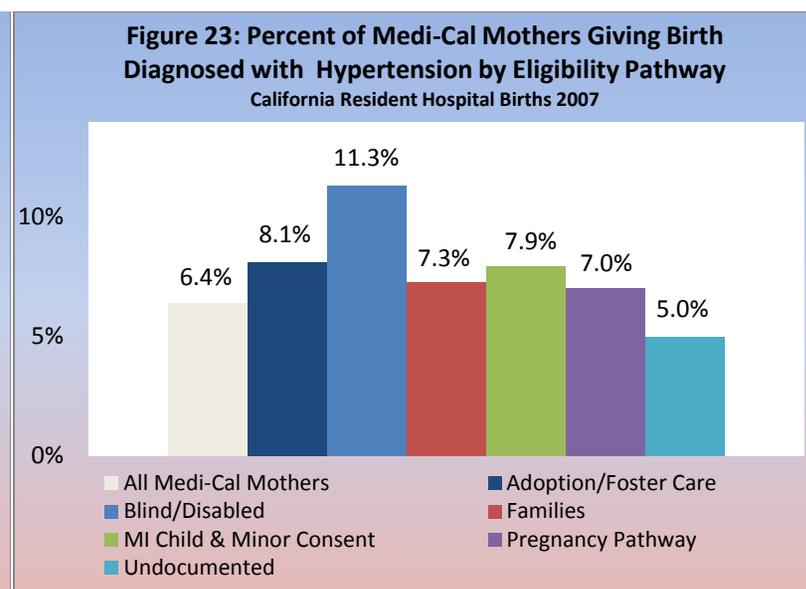
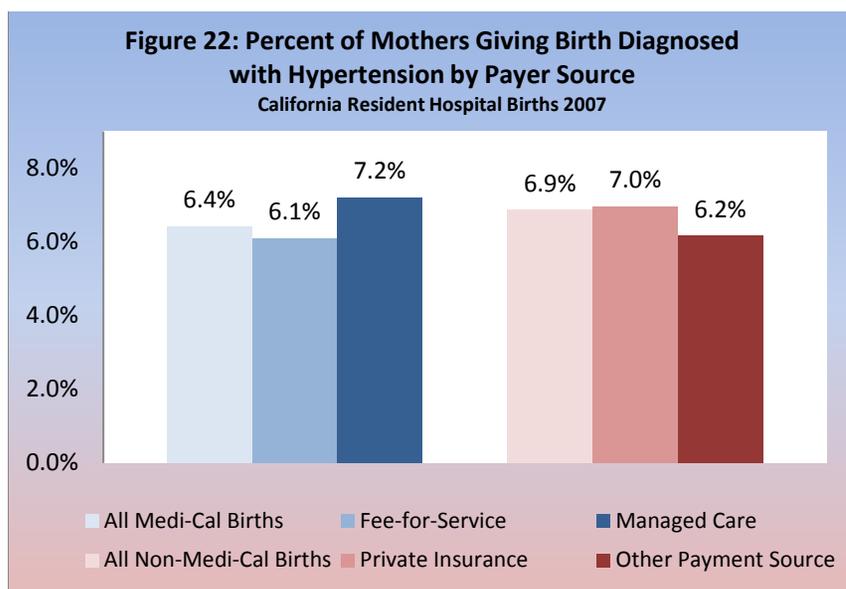


Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2011 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2011 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF 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>69</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>70</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>71</sup>

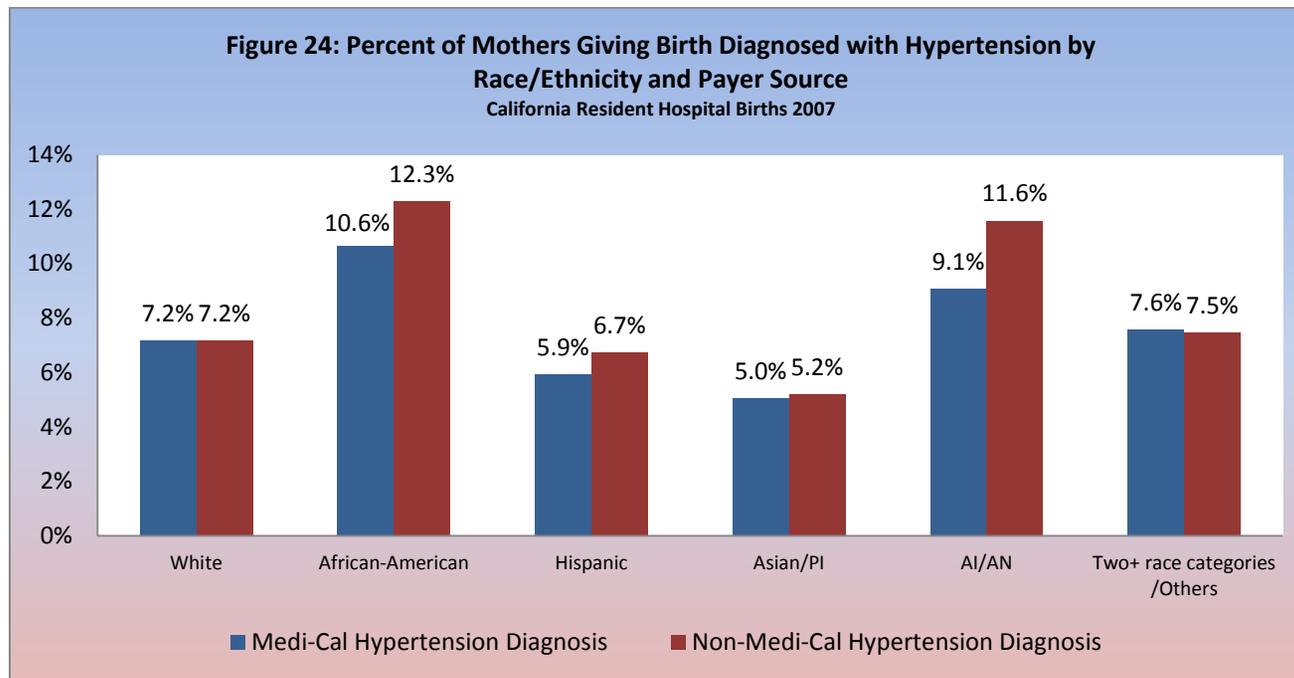
In 2007, 6.4% of Medi-Cal mothers had a hypertension diagnosis (either gestational or chronic hypertension), compared to 6.9% of non-Medi-Cal mothers (Figure 22). Hypertension was most prevalent among mothers participating in Medi-Cal managed care (7.2%) and least prevalent among women whose births were financed by Medi-Cal FFS (6.1%) or other funding sources (6.2%) (Figure 22). Hypertension was most prevalent among mothers enrolled in the Blind/Disabled aid codes (11.3%) and those enrolled in Adoption/Foster Care aid codes (8.1%) (Figure 23).



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

In 2007, hypertension diagnoses in the study population fluctuated between a low of 6.1% (Medi-Cal FFS) and a high of 7.2% (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>72</sup>

Similar to the national population, the Medi-Cal (10.6%) and non-Medi-Cal (12.3%) 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 (5.0%) and non-Medi-Cal (5.2%) groups (Figure 24).



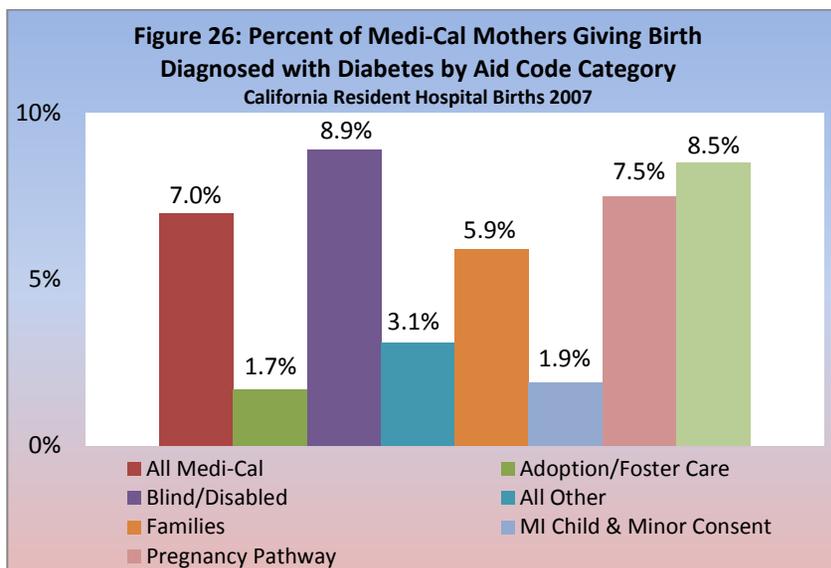
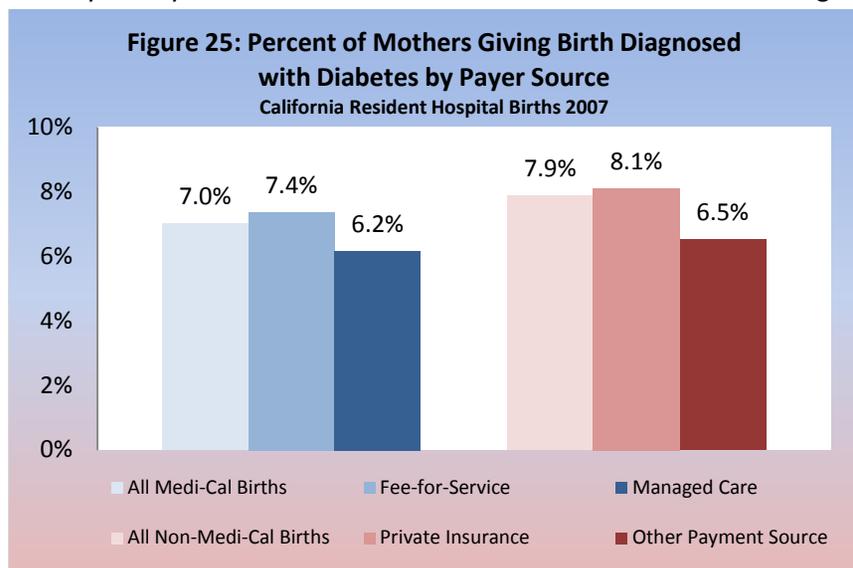
Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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>73</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>74</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>75</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>76</sup> These factors may result in studies underreporting diabetes, especially in vulnerable populations.

The incidence of gestational or pre-pregnancy diabetes was 7.0% among mothers enrolled in the Medi-Cal program and 7.9% among all non-Medi-Cal mothers (Figure 25). Mothers who were privately insured and those that participated in the Medi-Cal FFS delivery system had higher percentages of any diabetes diagnosis (8.1% and 7.4%, respectively) than mothers with other coverage (6.5%) and mothers participating in Medi-Cal managed care (6.2%) (Figure 25). Diabetes was most prevalent among mothers in Blind/Disabled aid codes (8.9%), among mothers without SIS (8.5%), and in Pregnancy Pathway aid codes (7.5%) (Figure 26).



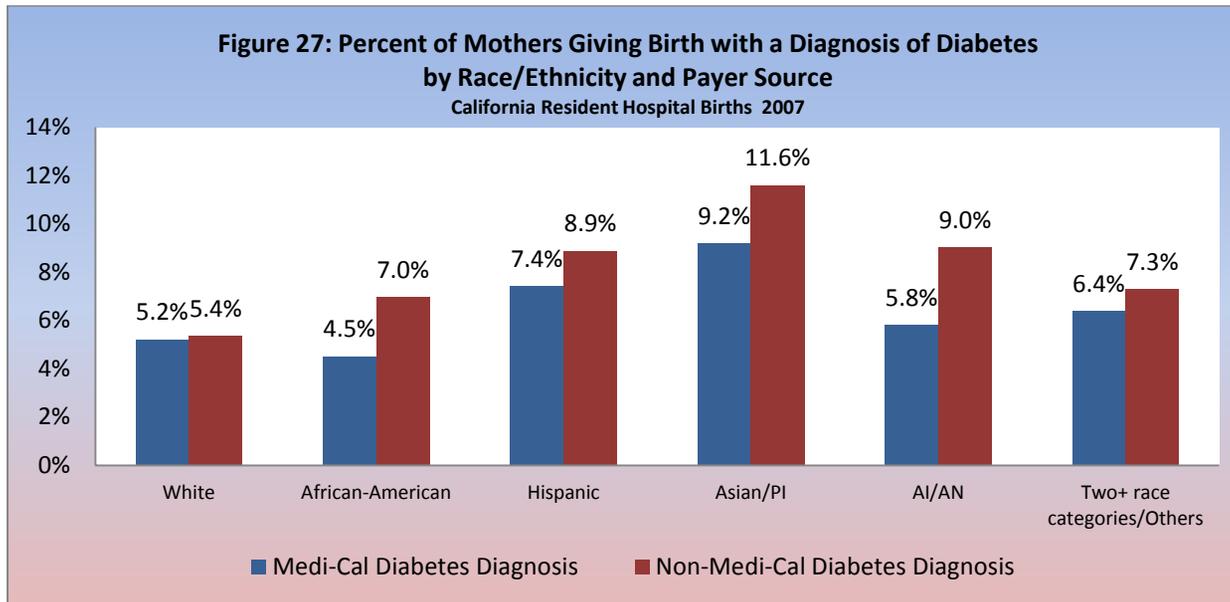
Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

Race is the greatest risk indicator for both gestational and non-gestational diabetes.<sup>77</sup> The CDC considers non-white mothers to be at high risk for developing gestational diabetes.<sup>78</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>79</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 (11.6%) and Asian/Pacific Islander mothers enrolled in Medi-Cal (9.2%). 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>80</sup> Hispanics were also among the highest percentages, as 7.4% of Medi-Cal mothers and 8.9% of non-Medi-Cal mothers had a diabetes diagnosis. White mothers (5.4%) had the lowest percentage of diabetes diagnoses among non-Medi-Cal mothers.



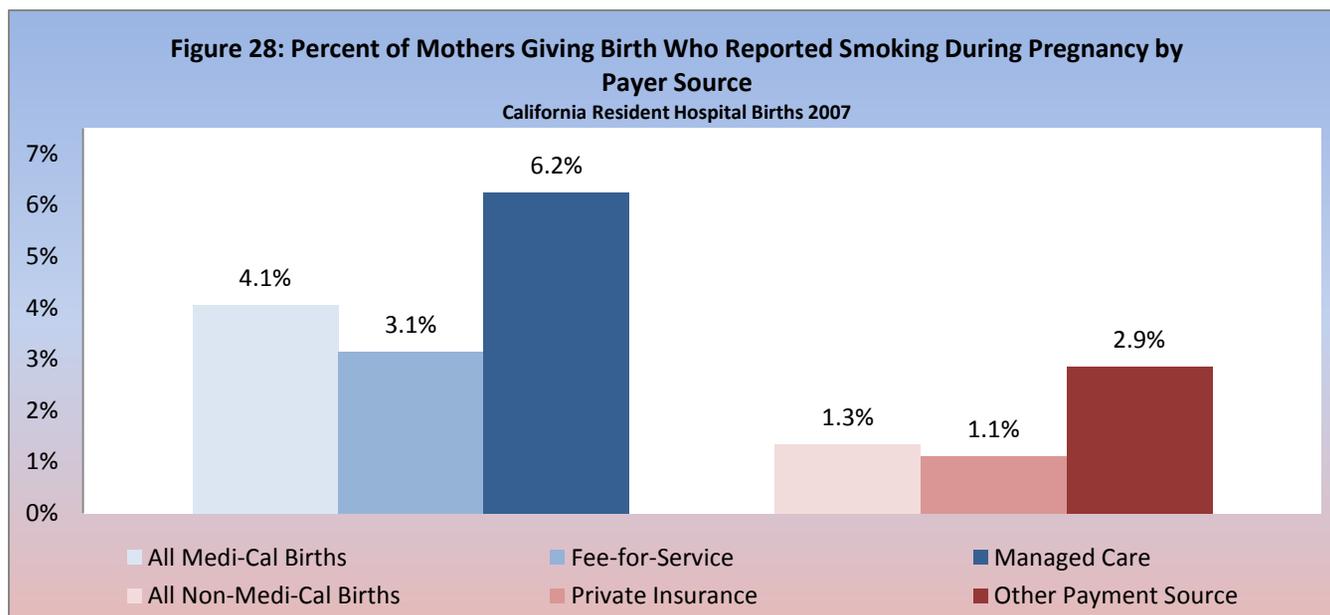
Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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>81</sup>

According to the CDC, 15.6% of U.S. mothers smoked during their last three months of pregnancy in 2010.<sup>82,83</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>84</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>85</sup>

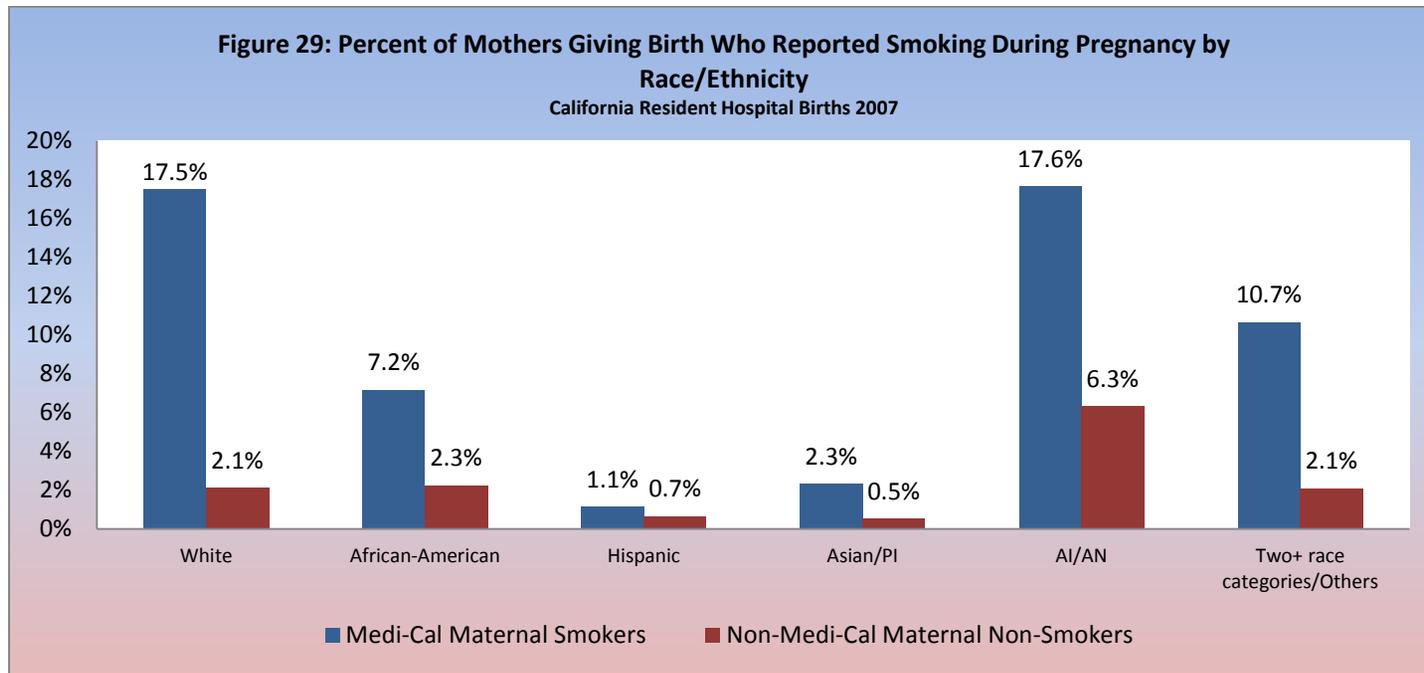
A higher percentage of Medi-Cal mothers reported smoking (4.1%) than non-Medi-Cal mothers (1.3%). Among Medi-Cal managed care mothers, 6.2% smoked during pregnancy, compared to 3.1% among mothers who participated in Medi-Cal’s FFS delivery system (Figure 28). Mothers with private insurance had the lowest percentage of smoking during pregnancy (1.1%). 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 Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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>86</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>87</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>88</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 (17.5% and 17.6% 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).



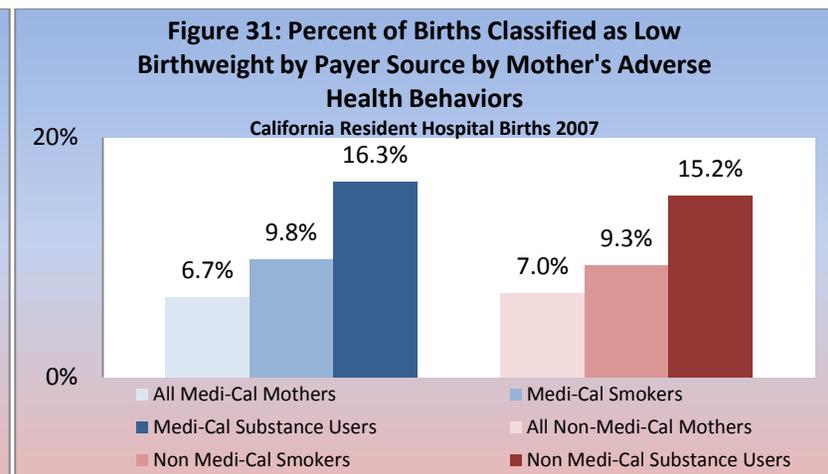
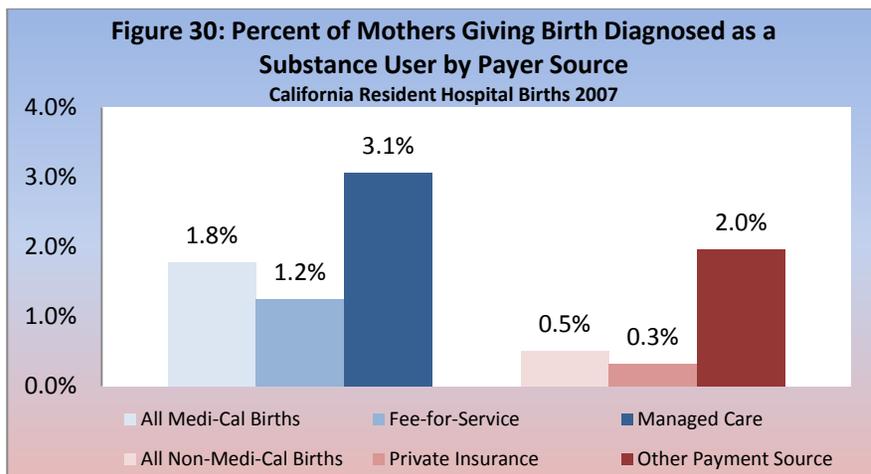
Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

**Substance Use:** An estimated 4% of pregnant women in the U.S. are substance users.<sup>89</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>90,91</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 (1.8% 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 (3.1% and 1.2%, respectively) (Figure 30). Mothers with private insurance had the lowest prevalence of these negative health behaviors; just 1.1% smoked and 0.3% used substances during pregnancy.

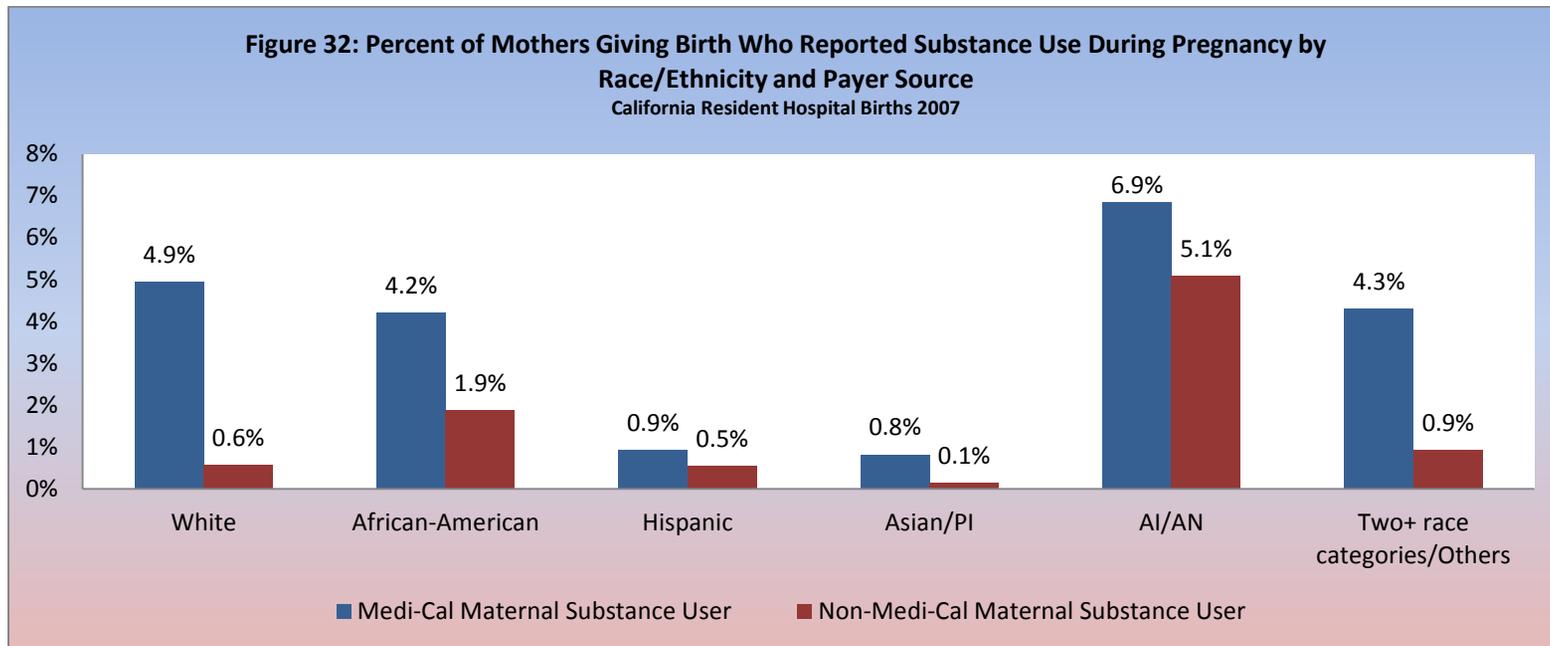
Adverse health behaviors such as smoking and substance use during pregnancy were significantly associated with an increased incidence of low birthweight. Regardless of payer source, the incidence of low birthweight increased for each of the adverse health behaviors. Substance use was associated with the greatest percentage of low birthweight between the two studied adverse behaviors. The incidence of low birthweight increased 46% in Medi-Cal mothers who smoked. Medi-Cal mothers who used substances during their pregnancy increased percentages of low birthweight by 143% (Figure 31).



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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>92</sup> Nationally, Hispanic mothers have the lowest percentage of both alcohol and illicit drug use.<sup>93</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>94</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 (6.9%) and white mothers (4.9%). Non-Medi-Cal mothers reported high percentages of substance users in American Indian/Alaskan Native (5.1%) and African-American (1.9%) mothers. Similar to national trends, Hispanic and Asian/Pacific Islander mothers had the lowest percentages reported in both categories.



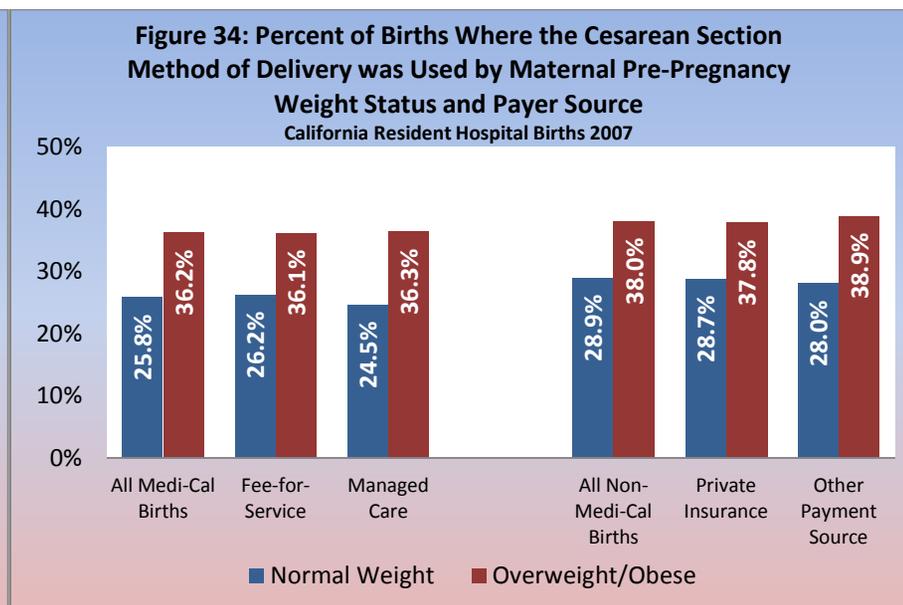
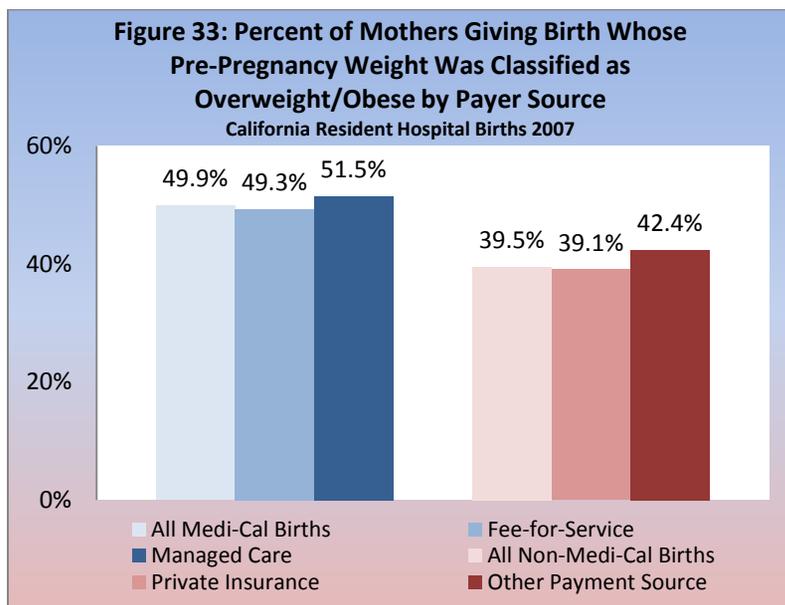
Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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>95</sup> Newborns who are born large-for-gestational-age or affected by macrosomia also have an increased risk of future obesity and diabetes.<sup>96,97</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>98</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=95,097, or 17% of all observations).

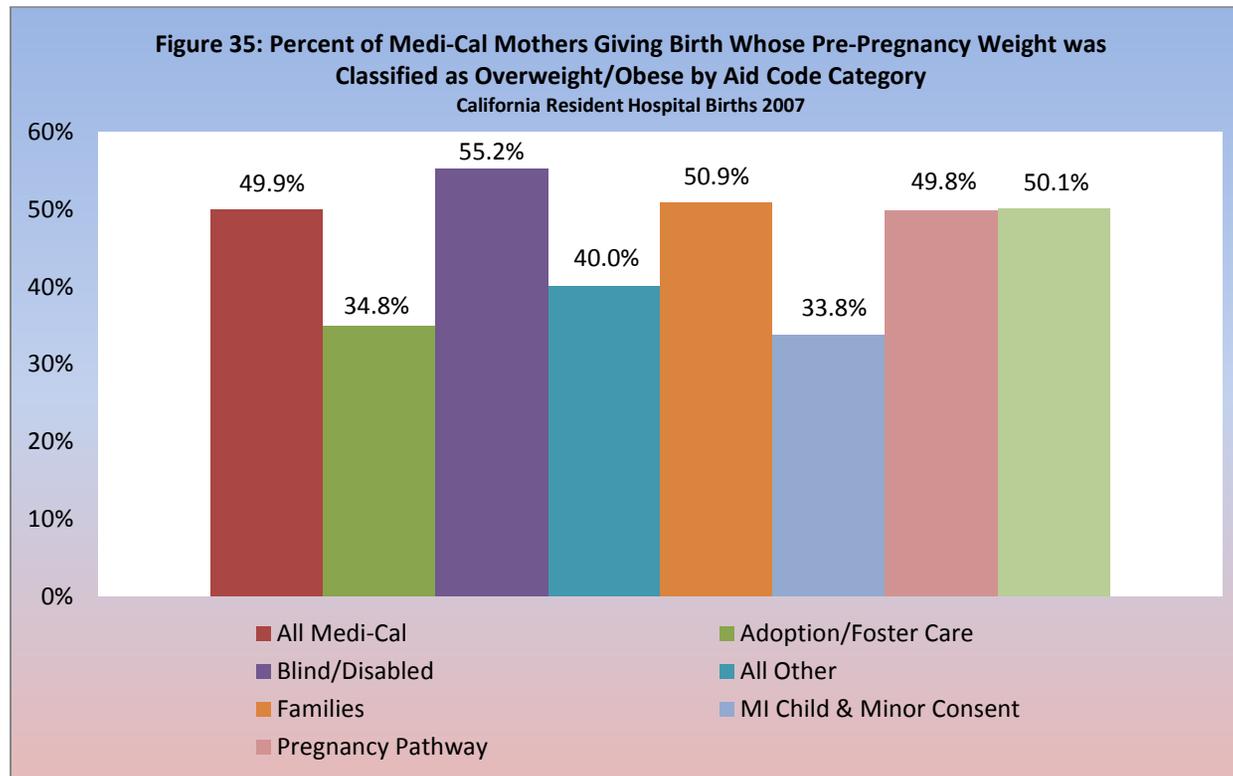
The association between pre-pregnancy weight and the incidence of cesarean section delivery was consistent among payer sources. Among Medi-Cal births, the incidence of cesarean section delivery was higher among women with pre-pregnancy weights considered overweight or obese than those with pre-pregnancy weights considered normal (Figure 34). Non-Medi-Cal mothers with pre-pregnancy weights considered overweight/obese were more likely (38.0%) than non-Medi-Cal mothers with pre-pregnancy weights considered normal (28.9%) to give birth using the cesarean section method.



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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, 49.9% entered their pregnancy as overweight/obese, compared to 39.5% 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 55.2%, and 50.9% of women enrolled in Families aid codes had a pre-pregnancy weight considered overweight or obese (Figure 35).



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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 Resident Hospital Births	Medi-Cal Hospital Resident Births	Non-Medi-Cal Hospital Resident Births	Healthy People 2020 Goal
Low Birthweight	8.2%	6.8%	6.7%	7.0%	7.8%
Very Low Birthweight	1.5%	1.2%	1.1%	1.2%	1.4%
Preterm Delivery	12.7%	11.1%	11.6%	10.7%	11.4%
Very Preterm Delivery	2.0%	1.6%	1.7%	1.5%	1.8%
<b>Populations shaded in green represent those that meet the Healthy People 2020 goal in 2007. Populations in red did not meet the Healthy People 2020 Goal in 2007.</b>					

*Source: Prepared by DHCS Research and Analytic Studies Division using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; Centers for Disease Control and Prevention, National Vital Statistics Reports for 2007; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007–December 2007 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>99</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>100</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 2007 was 8.2%,<sup>101</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 country.<sup>102</sup> These mothers, regardless of other factors (income, insurance coverage, race, etc.) tend to experience better birth outcomes than U.S.-born mothers.<sup>103,104</sup>

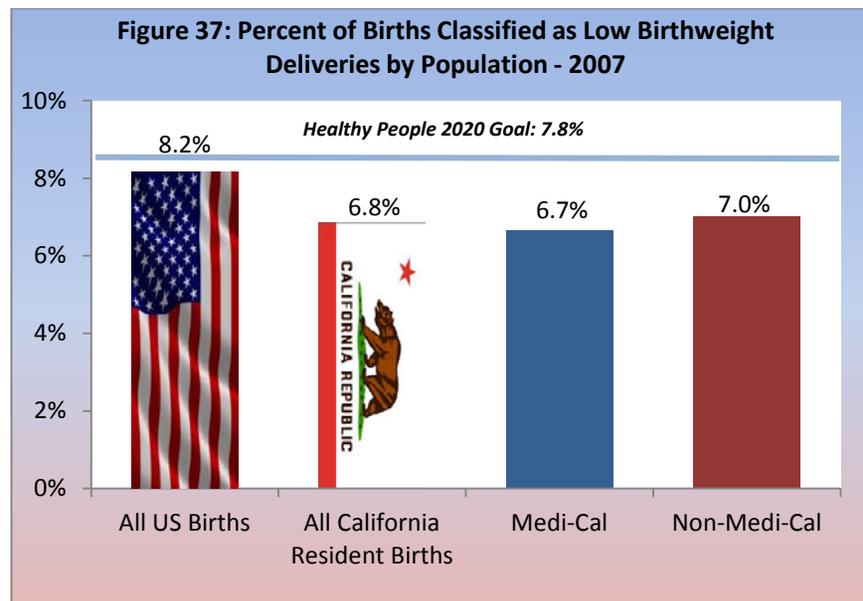
RASD found that the following factors were associated with higher percentages of low birthweight among Medi-Cal mothers:

- Hypertension
- Substance Use

- Blind/Disabled Aid Category
- Age 45 or Older
- African-American Mothers
- 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
- Foreign-Born Mothers
- Singleton Birth
- Hispanic Mothers
- Age 20-24, or 25-29



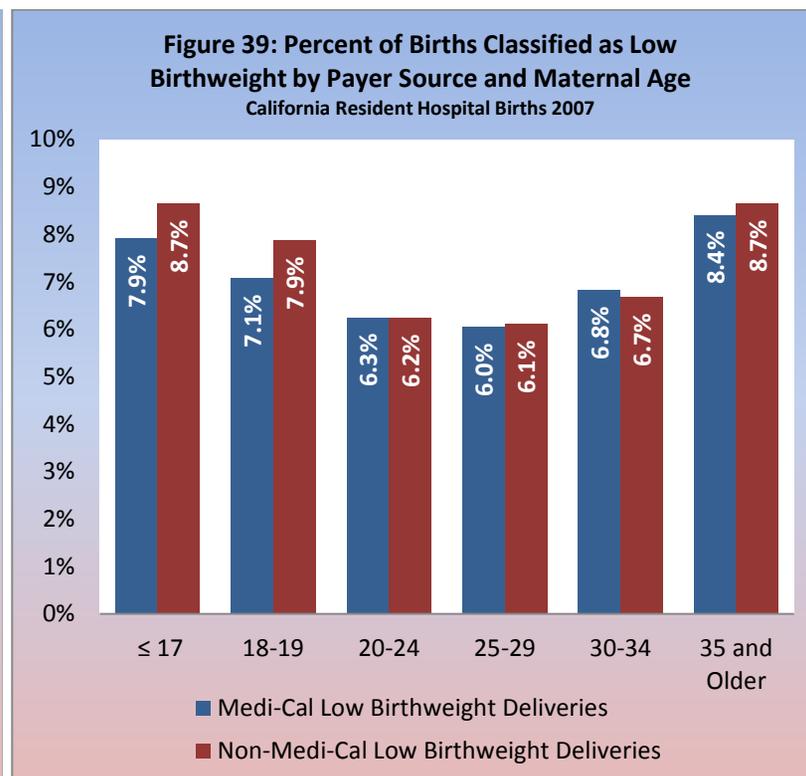
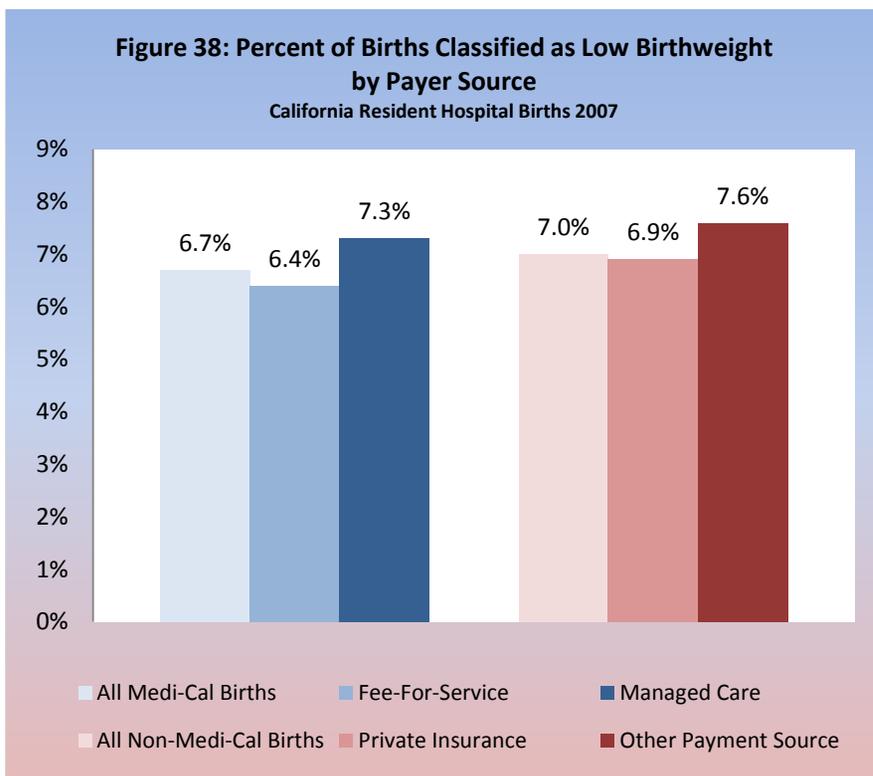
Martin, J.A., Hamilton, B.E., Sutton, P.D., Ventura, S.J., Mathews, T.J., Kirmeyer, S., Osterman, M.J.K. (2010, August 9). Births: Final Data for 2007. *Centers for Disease Control and Prevention, National Vital Statistics Report, 58(24)*. Retrieved from [http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58\\_24.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_24.pdf)

Low birthweight percentages were slightly higher among births to mothers who participated in Medi-Cal managed care (7.3%) 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 (7.6%).

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>105,106</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 8.7%.

Younger mothers also displayed higher percentages of low birthweight. For Medi-Cal mothers age 17 and younger, the percent of low birthweight deliveries was 7.9%, and 8.7% for non-Medi-Cal mothers age 17 and younger (Figure 39).

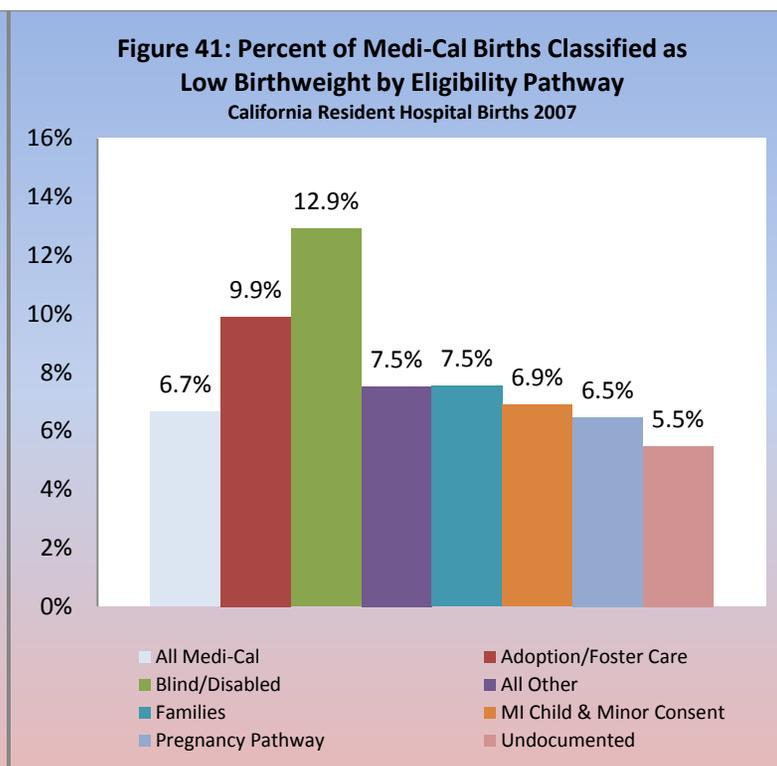
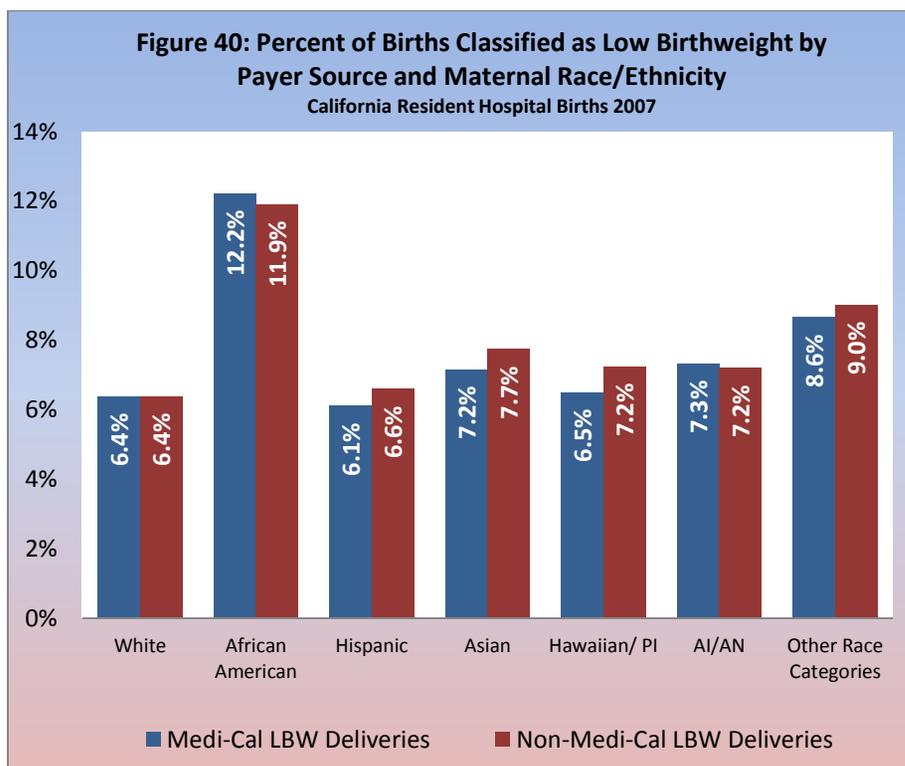


Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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 percentage of low birthweight for Medi-Cal (12.2%) and non-Medi-Cal births (11.9%) (Figure 40). Mothers in the Hispanic cohort had the lowest percentage of low birthweight deliveries for Medi-Cal (6.1%). Among non-Medi-Cal

mothers, white mothers had the lowest percentage of low birthweight (6.4%).

Among Medi-Cal mothers, the highest percentage of low birthweight was found among mothers enrolled in the Blind/Disabled aid codes (12.9%) and the lowest percentage was found among mothers without SIS (Undocumented, 5.5%) (Figure 41).

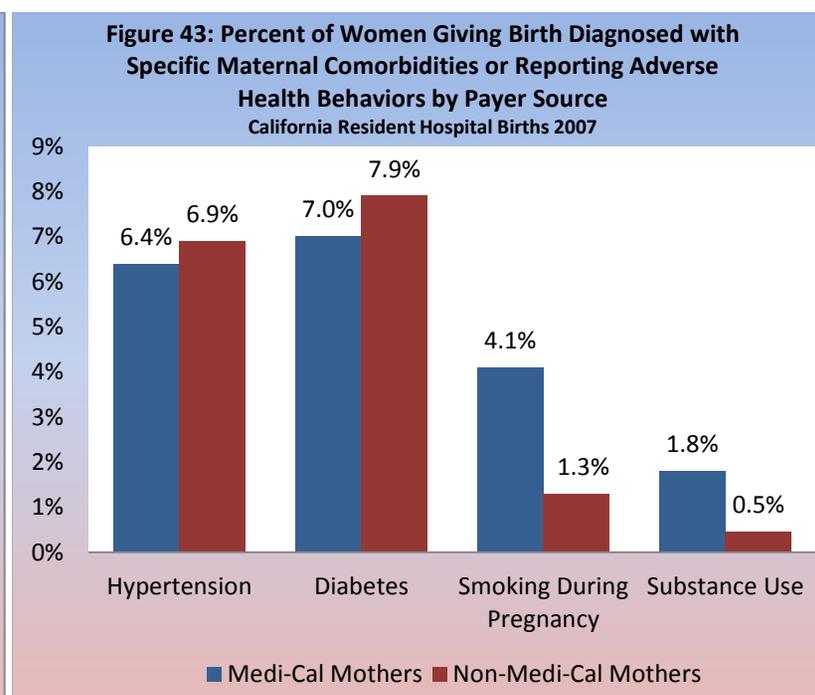
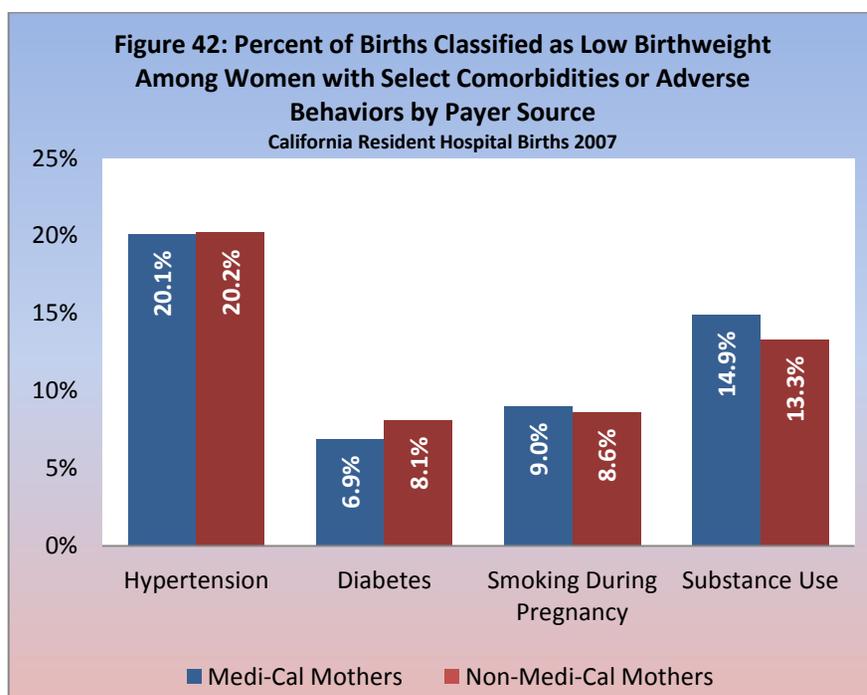


Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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 mothers was 6.7%, low birthweight was substantially higher among mothers with hypertension (20.1%), smokers (9.0%), and mothers diagnosed with substance use at the time of delivery (14.9%). Among non-Medi-Cal mothers the percentage of low birthweight was also elevated for those with

hypertension (20.2%), smokers (8.6%), diabetes (8.1%) and mothers diagnosed with substance use (13.3%) (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 (49.9%) (not shown), smoking during pregnancy (4.1%), and substance use (1.8%).



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

**Very Low Birthweight:** Newborns delivered at a very low birthweight (<1,500 grams) account for over half (54.6%) of all infant deaths in the U.S.<sup>107</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 births to 1.4% or below.

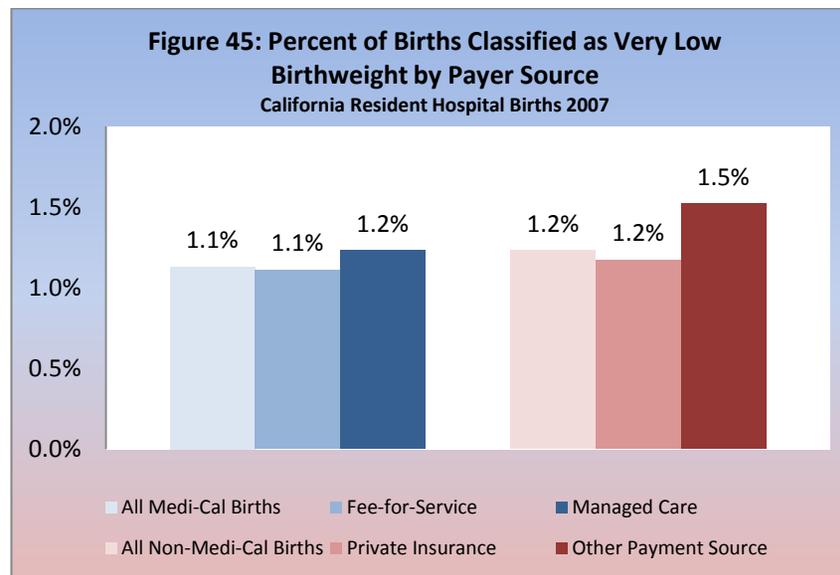
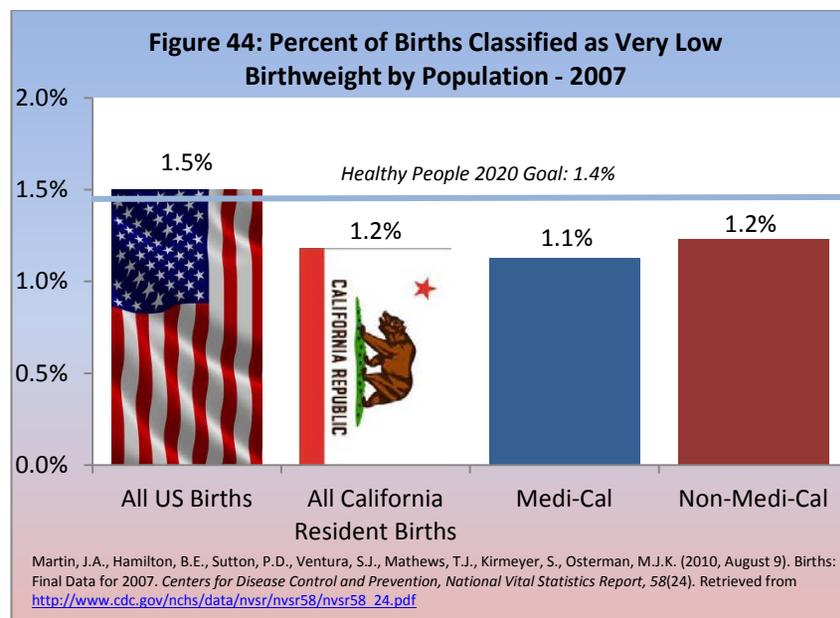
The percentages of very low birthweight were similar for births to Medi-Cal managed care beneficiaries (1.2%), Medi-Cal FFS beneficiaries (1.1%), and mothers with private insurance (1.2%).

RASD found that these factors led to higher percentages of very low birthweight deliveries among Medi-Cal mothers:

- Hypertension
- Substance Use
- Age 35 or Older
- Blind/Disabled Aid Category
- African-American Mothers

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

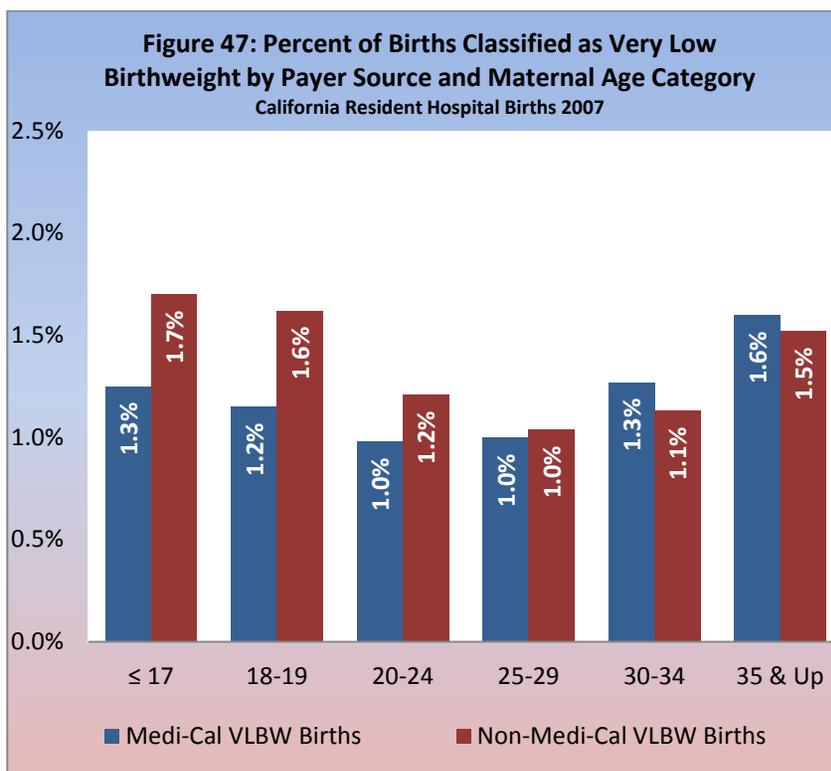
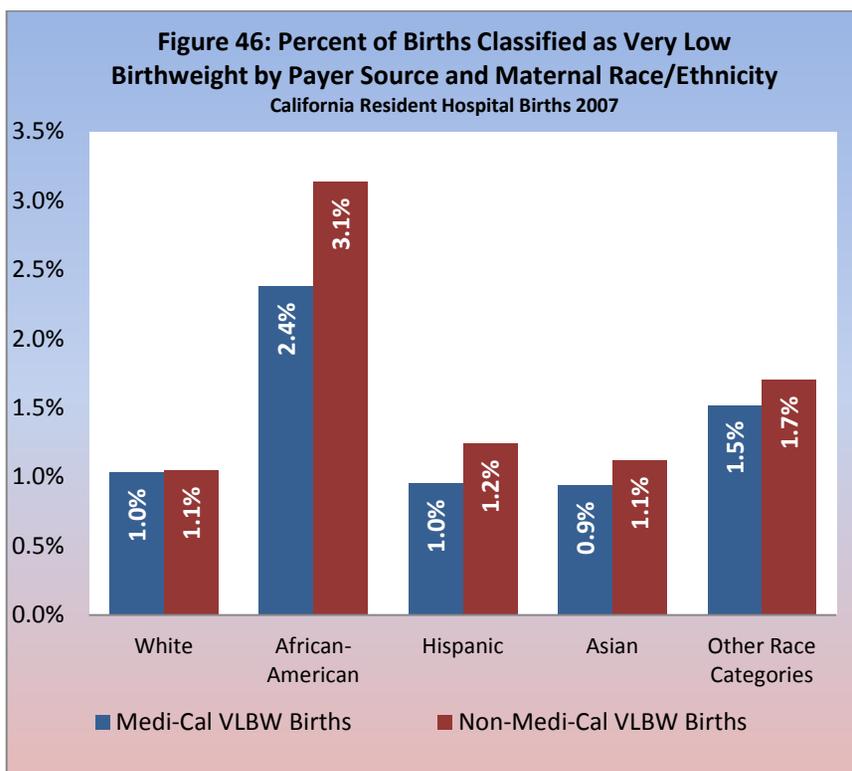
- Mothers Without SIS
- Asian, Hispanic, or White Mothers
- Age 20-24, or 25-29
- One Previous Birth



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

Among maternal racial cohorts, African-American mothers had the highest percent of very low birthweight at 2.4% for Medi-Cal births and 3.1% for non-Medi-Cal births (Figure 46). The lowest percentages of very low birthweight births occurred among white, Asian, and Hispanic mothers.

Very low birthweight was lowest among Medi-Cal mothers ages 20-29, (1.0%). Percentages of very low birthweight within Medi-Cal were somewhat higher among women age 17 and younger at 1.3%. The highest percent was among this same age group for non-Medi-Cal births at 1.7%. 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).

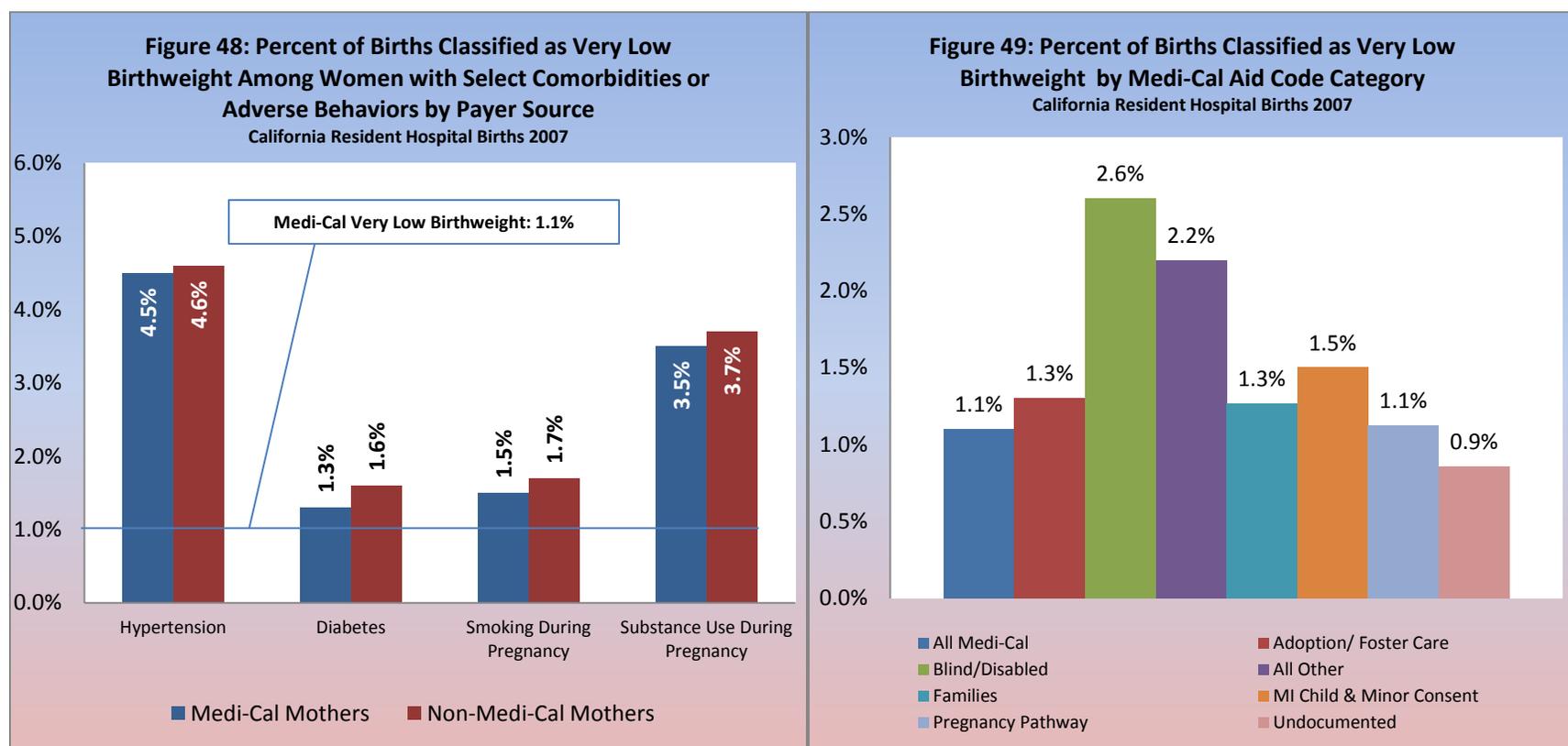


Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

The prevalence of very low birthweight was highest among mothers with negative health behaviors and for those diagnosed with select comorbidities. For example, very low birthweight was four times higher for mothers diagnosed with hypertension and three times higher 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 (2.6%), and the lowest was found among mothers without SIS (Undocumented, 0.9%) (Figure 49).



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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>108</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>109</sup> The Healthy People 2020 goal is to reduce the percent of preterm births to 11.4%.

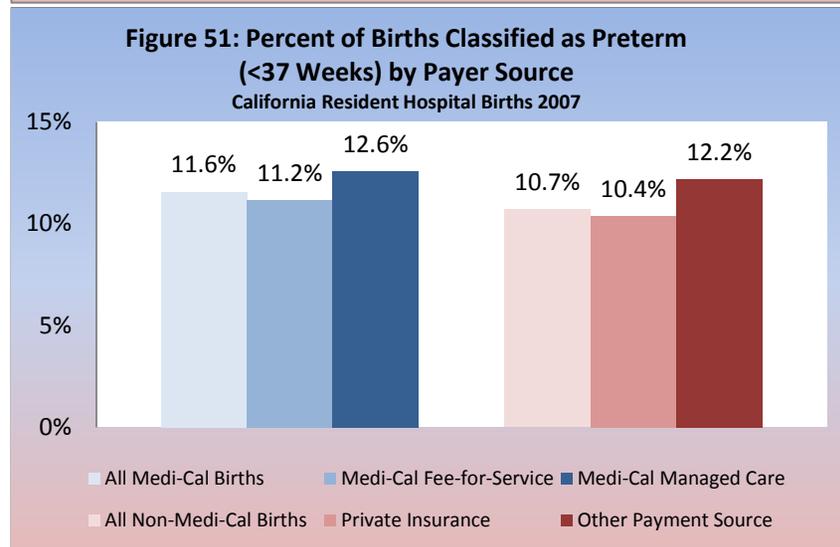
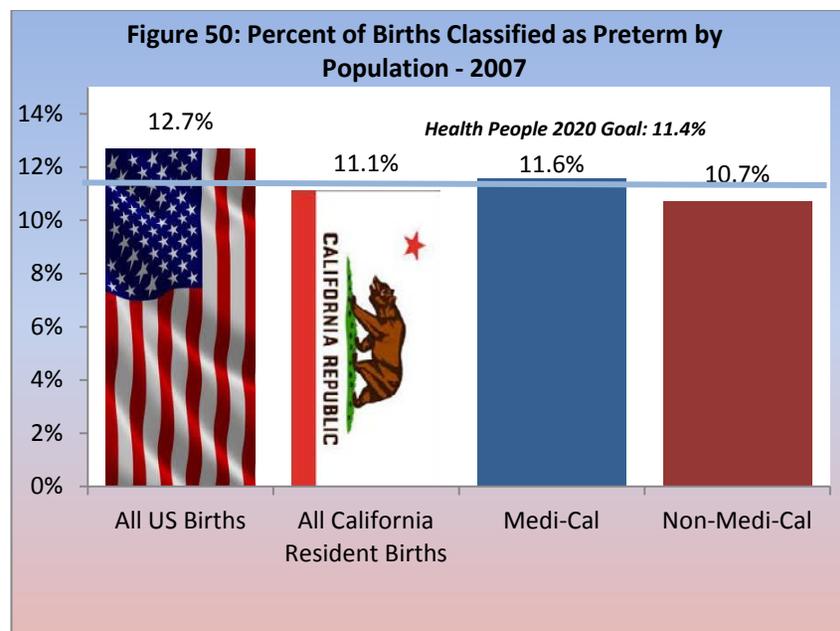
In 2007, 11.1% of hospital births to all California resident mothers were premature. Preterm births were more common among Medi-Cal-financed births (11.6%) than non-Medi-Cal financed births (10.7%) (Figure 50). Preterm percentages were slightly higher among Medi-Cal FFS beneficiaries (11.2%) than births financed by private insurance (10.4%), and more prevalent among Medi-Cal managed care beneficiaries (12.6%) and births financed by other funding sources (12.2%) (Figure 51).

Medi-Cal categories with higher percentages of preterm births:

- Hypertension
- Age 45 and Older
- Substance Use
- Blind/Disabled Aid Category
- African-American Mothers
- Smoking During Pregnancy

Medi-Cal categories with lower percentages of preterm births:

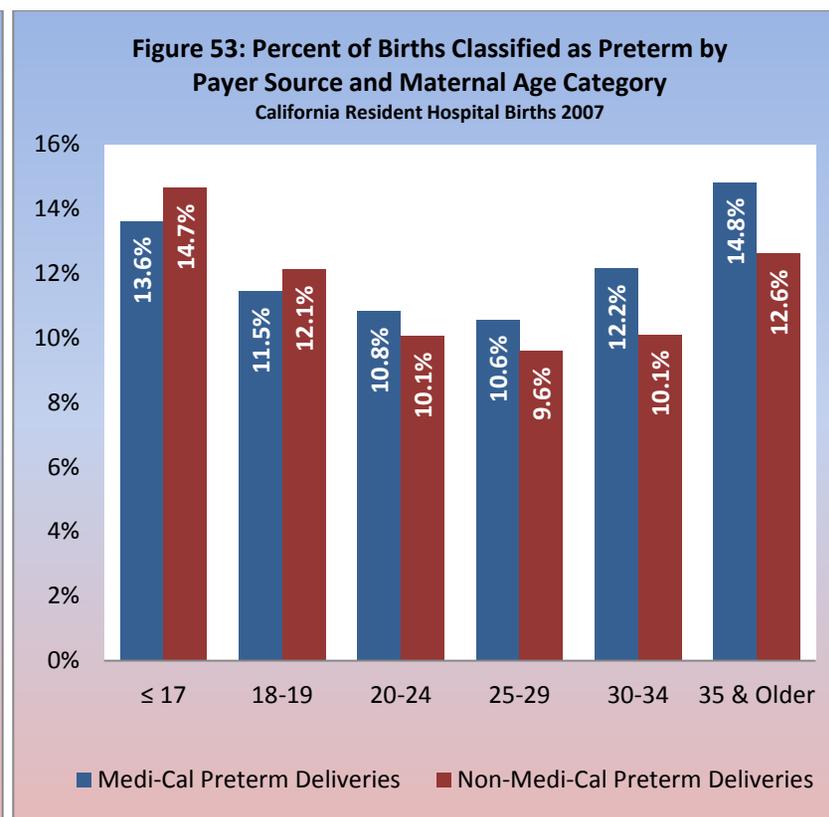
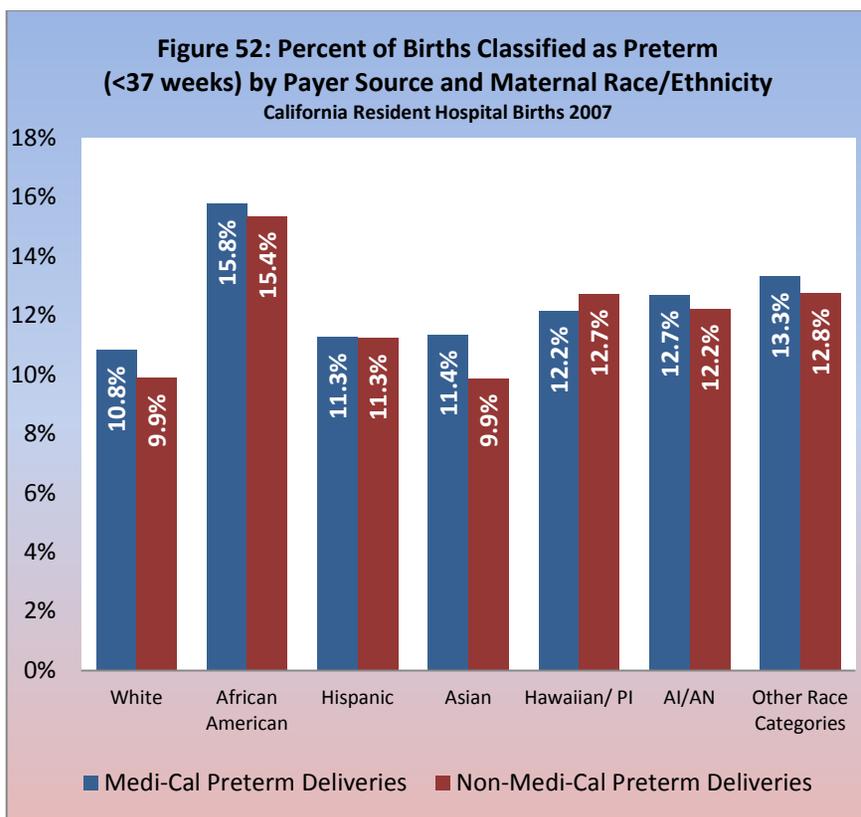
- Bachelor's Degree or Higher
- Mothers Without SIS
- Ages 25-29
- White Mothers



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

Similar to low birthweight deliveries, African-American mothers had the highest percentages of preterm deliveries among racial cohorts (15.8% for Medi-Cal financed births and 15.4% 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 10.8% and 9.9%, respectively (Figure 52).

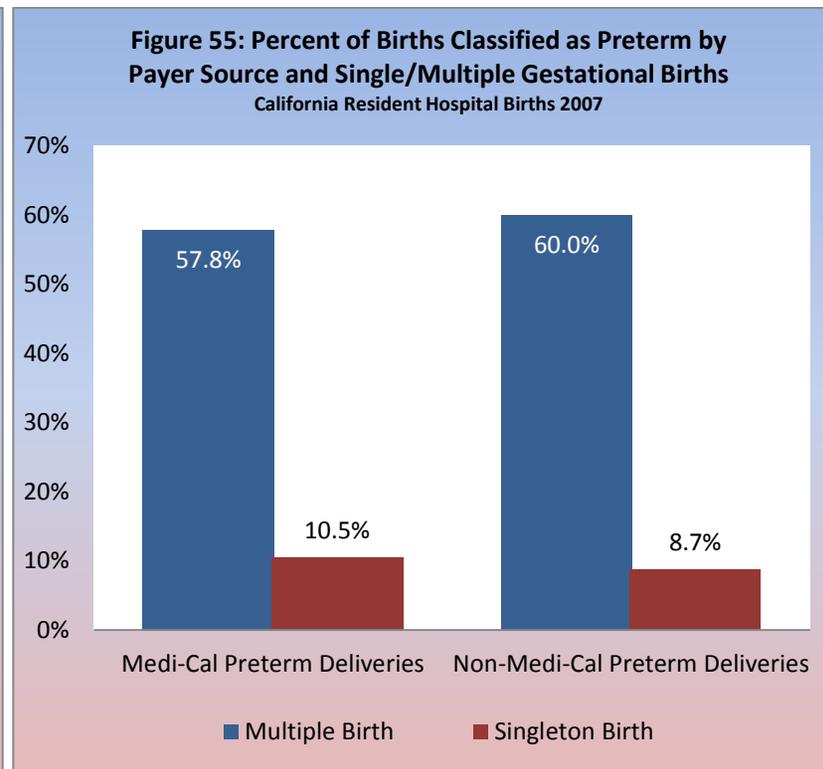
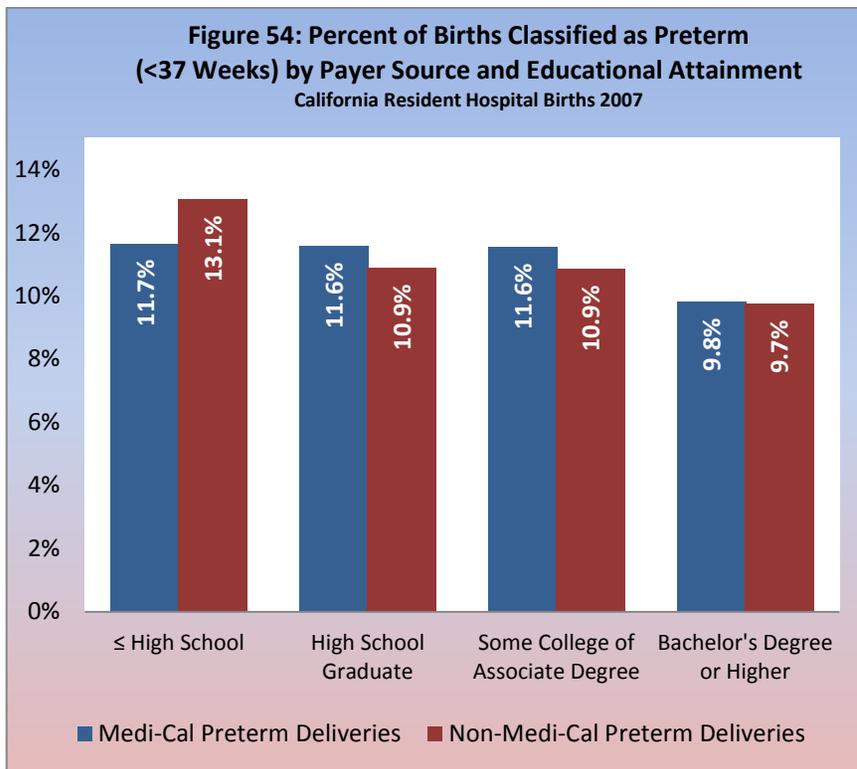
The incidence of preterm births was lowest among mothers 20-29 years of age, whereas the youngest and oldest age cohorts had the highest percentages of preterm births. Percentages for mothers ages 19 and younger, and over 34 years of age, were above the Healthy People 2020 goal of 11.4% (Figure 53).



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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 (11.7% for Medi-Cal financed births and 13.1% for non-Medi-Cal financed births), and those with a bachelor's degree or higher experienced the lowest percentage of preterm birth (9.8% for Medi-Cal financed births and 9.7% 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).

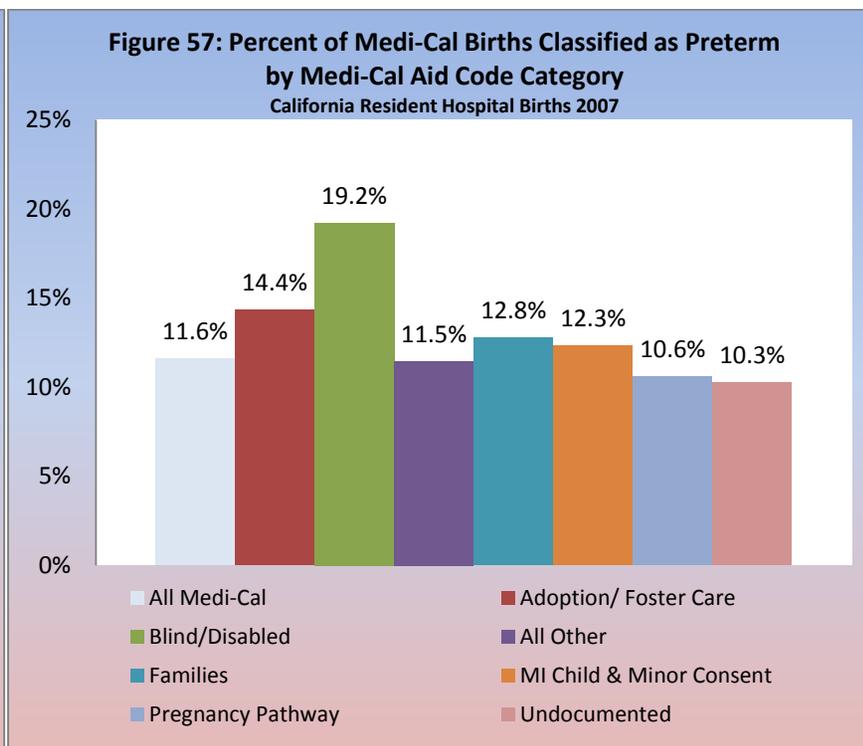
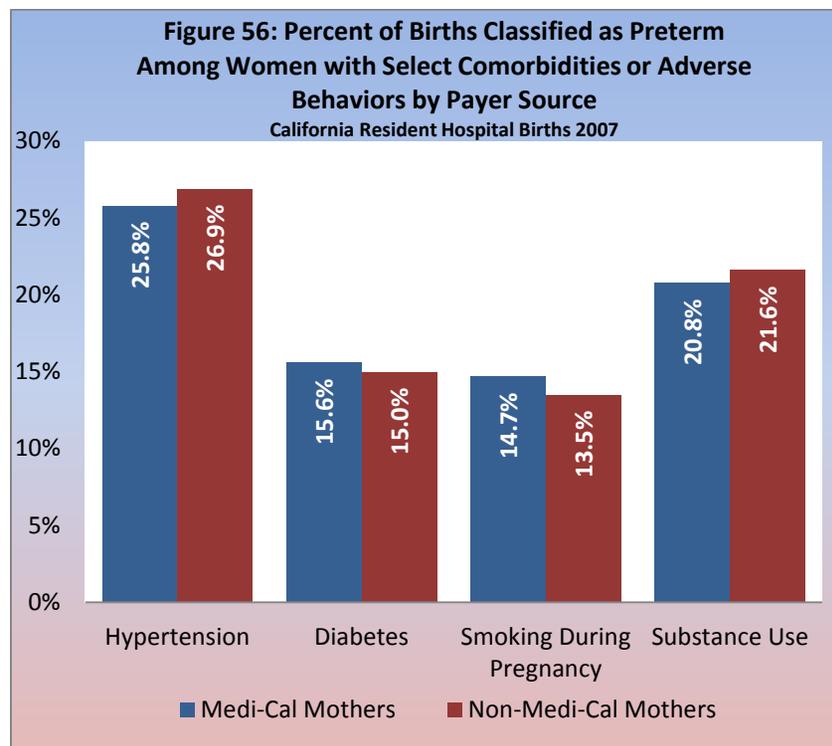


Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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 25.8% for Medi-Cal financed births and 26.9% for non-Medi-Cal financed births. Mothers with diabetes also exhibited elevated incidence of preterm delivery, with percentages of 15.6% and 15.0% 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, 20.8% for Medi-Cal financed births and 21.6% for non-Medi-Cal financed births (Figure 56).

Medi-Cal mothers enrolled in the Blind/Disabled aid category experienced a much higher percentage of preterm delivery (19.2%) compared to Medi-Cal mothers enrolled in other aid codes. Women without SIS (Undocumented, 10.3%) and women enrolled in Pregnancy aid codes (10.6%) had the lowest percentages of preterm deliveries (Figure 57).



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 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, 10.7% of infants were born preterm in 2007.<sup>110</sup> Of those, 8.7% of babies were born at 34 to 36 weeks of gestation, 1.6% of babies were born at 32 to 33 weeks, and 2.0% were “very preterm” (less than 32 weeks).

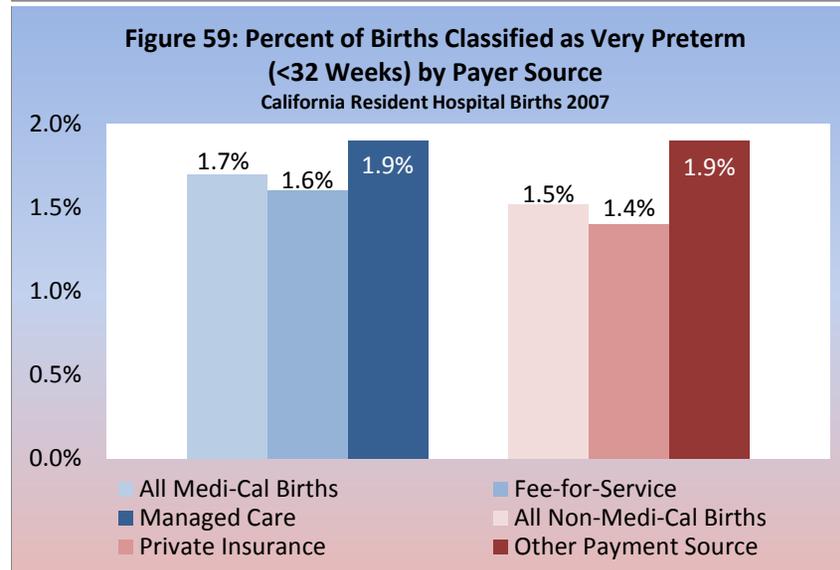
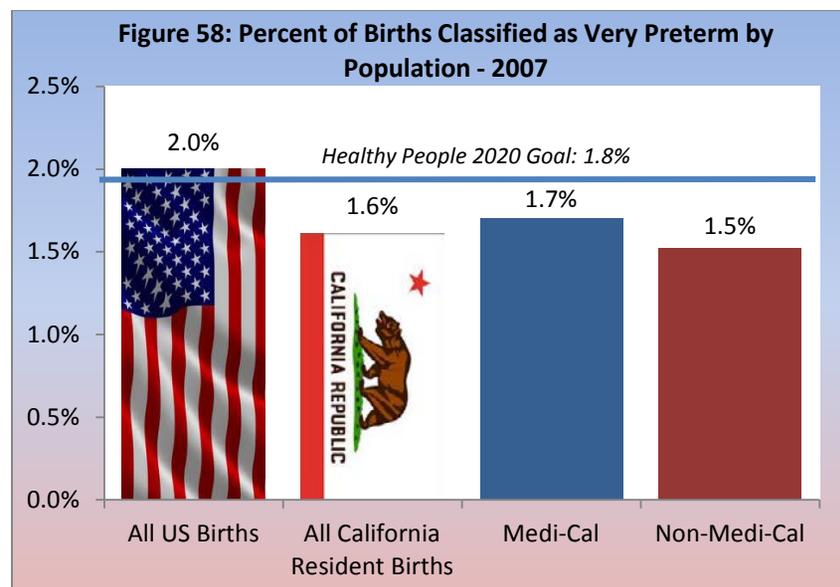
In California, the percentage of very preterm births (1.6%) was lower than the national average. Very preterm births were slightly higher for Medi-Cal births (1.7%) than non-Medi-Cal births (1.5%). Among Medi-Cal financed births, very preterm delivery percentages were similar among births financed by the FFS delivery system (1.6%) and births to mothers participating in Medi-Cal managed care (1.9%).

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

- Multiple-Gestation Births
- Substance Use
- Hypertension
- African-American Mothers
- Smoking During Pregnancy
- Age 17 or Younger and Age 35 and Older

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

- Asian Mothers
- Mothers Without SIS
- Age 25-29 Years Old
- One Previous Birth
- Singleton Birth
- Foreign Born Mothers

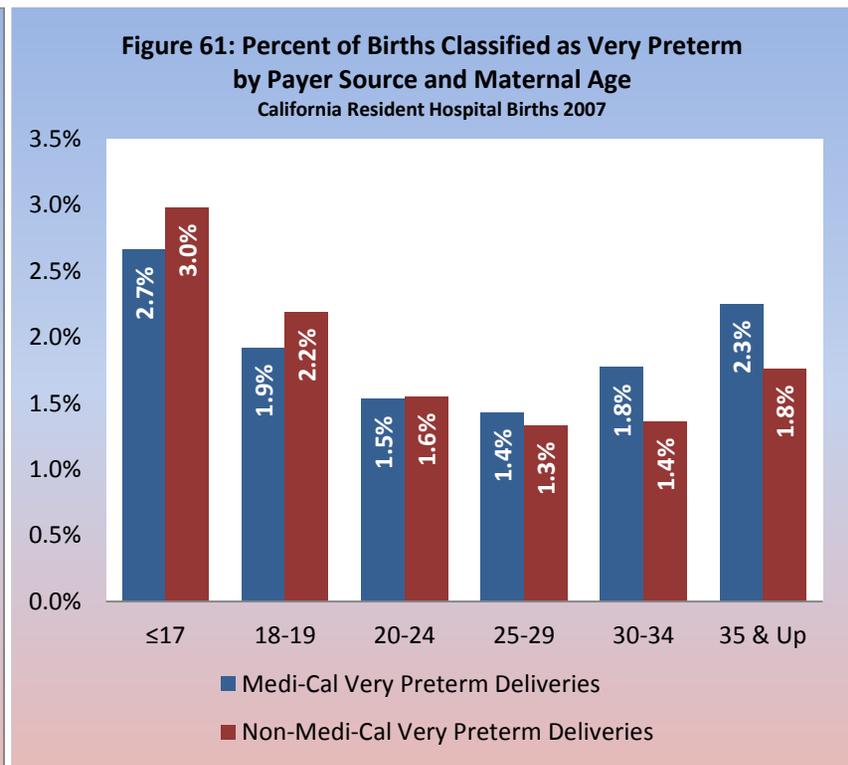
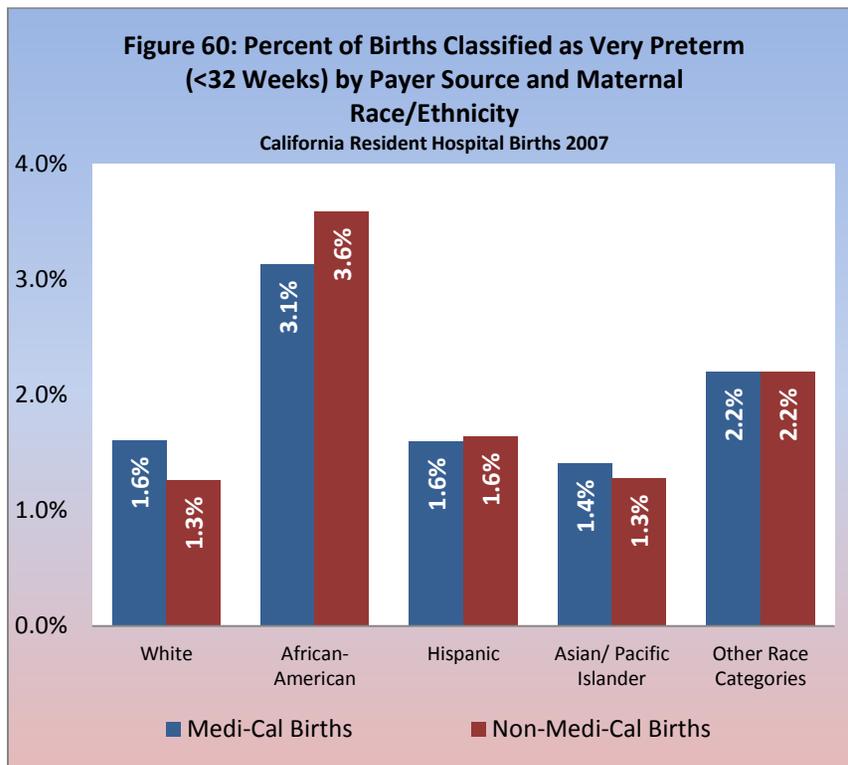


Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

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

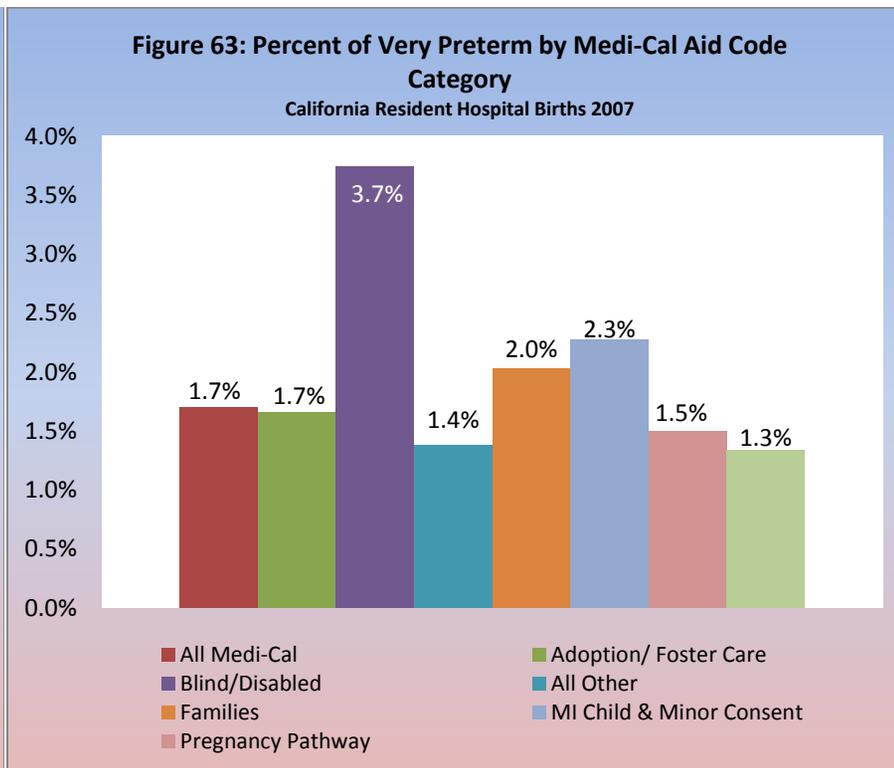
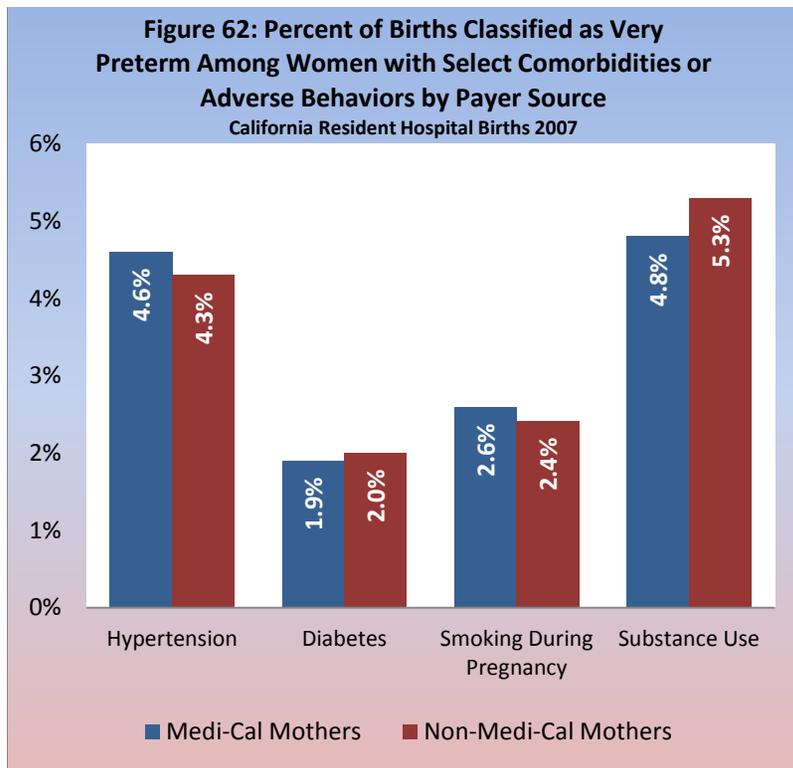
(2.7%), as well as mothers age 35 and older (2.3%). Non-Medi-Cal mothers age 17 and younger had a very preterm percent of 3.0%, while non-Medi-Cal mothers age 35 and older had a percent of 1.8%.



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

Very preterm births among Medi-Cal mothers with hypertension (4.6%) and substance use (4.8%) diagnoses were more than twice the Healthy People 2020 goal of 1.8% or less. Medi-Cal mothers who smoked during pregnancy (2.6%) or had a diagnosis for diabetes (1.9%) 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 (3.7%), while mothers enrolled in Pregnancy Pathway (1.5%) and Undocumented (1.3%) aid codes were the least likely to have a preterm birth (Figure 63).



Source: Prepared by DHCS Research and Analytic Studies Branch using data from the California Department of Public Health, 2007 Birth Statistical Master File; Office of Statewide Health Planning and Development, 2007 Patient Discharge Data; and Medi-Cal eligibility data obtained from the MEDS System MMEF files, January 2007 – December 2007 reflecting a 12-month reporting lag.

## CONCLUSION

Medi-Cal continues to finance a growing proportion of births in California, accounting for over 47% of resident hospital births in 2007. 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, nearly 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 nearly 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 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; 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 pregnancies a woman has during her reproductive years.

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

**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.

**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 2007 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.

**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><i>Reduce the Rate of Low Birthweight</i></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><i>Reduce the Rate of Preterm Births</i></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><i>Increase the Rate of Prenatal Care</i></b>	
First Trimester Initiation	
<b>77.9%</b>	70.8% (2007)
	10% Improvement
<b><i>Increase the Rate of Abstaining From Cigarette Use During Pregnancy</i></b>	
<b>98.6%</b>	89.6% (2007)*
	10% Improvement
<b><i>Increase the Rate of Abstaining From Illicit Drug Use During Pregnancy (women ages 15-44 in the last 30 days)</i></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  
Subtractions**

<b>Totals</b>	<b>Subtractions</b>	<b>Vital Statistics</b>
Birth Records on File		658,340
	Out-of State Resident	(2,203)
California Resident Births		566,137
	Non-Hospital Birth or Birth in Transit	(2,829)
	Out-of-State Hospital	(813)
	Location Not Classifiable	(1,433)
	Maternity Hospital Code Could Not be Confirmed	(178)
California Resident In-Hospital Births		560,884

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## Appendix G – End Notes and References

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- <sup>8</sup> W&I CODE § 14007.5 : California Code - Section 14007.5
- <sup>9</sup> Medi-Cal Eligibility Procedures Manual, 5N-F
- <sup>10</sup> Medi-Cal Eligibility Procedures Manual, 5N-F
- <sup>11</sup> W&I CODE § 14007.5 : California Code - Section 14007.5
- <sup>12</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>13</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>14</sup> 42 U.S.C. Section 1396r-1(b) (1) (B).
- <sup>15</sup> Medi-Cal Eligibility Procedures Manual, 5M-4, 5M-6
- <sup>16</sup> 42 U.S.C. Section 1396r-1 (a)

- <sup>17</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.
- <sup>18</sup> Medi-Cal Eligibility Procedures Manual 5M-4
- <sup>19</sup> Introduced as the 185 percent program under the Omnibus Budget Reconciliation Act (OBRA) of 1987 [Public Law (PL) 100-203], federal funding was provided to states for Medicaid benefits to eligible pregnant women with family incomes not exceeding 185% of the FPL. On June 30, 1993, Senate Bill (SB) 35 provided an income deduction for eligible pregnant women, based on the families' size, by disregarding the income which is the difference between the 185% and 200% FPL [Welfare and Institutions Code (W&I) §14148]. Under this program, assets are disregarded. This extended no SOC Medi-Cal to eligible pregnant women and infants whose income does not exceed 200% of the FPL.
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- <sup>21</sup> 42 U.S.C. Section 1396o(a) (2) (B); 42 C.F.R. Section 447.53(b) (2).
- <sup>22</sup> Medi-Cal Medical Services Provider Manual at 100-31-2
- <sup>23</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 Births and Non-Medi-Cal Births by Select Maternal Characteristics  
California Resident Hospital Births, 2007

MATERNAL CHARACTERISTICS	Medi-Cal Births			Non Medi-Cal Birth		
	Total	Fee-for-Service	Managed Care	Total	Other	Private Insurance
<b>AGE OF MOTHER</b>						
Age ≤17	12,976	8,048	4,928	5,119	2,665	2,454
18-19	28,233	17,949	10,284	7,300	3,422	3,878
20-24	87,771	60,523	27,248	39,176	12,472	26,704
25-29	70,213	51,062	19,151	78,950	14,138	64,812
30-34	42,946	33,190	9,756	91,161	12,024	79,137
35 and Older	26,203	19,691	6,512	70,804	8,159	62,645
<i>Invalid/Out-of-Range</i>	0	0	0	32	19	13
<b>RACE/ETHNICITY OF MOTHER</b>						
White	35,314	21,769	13,545	113,045	12,330	100,715
African American	18,155	6,396	11,759	10,976	2,866	8,110
Hispanic	192,620	149,027	43,593	102,662	28,155	74,507
Asian	14,083	8,511	5,572	51,860	7,075	44,785
Hawaiian/Pacific Islanders	1,263	678	585	1,327	339	988
American Indian/Alaskan Native	1,136	761	375	836	236	600
Two or more Race Categories	3,467	1,800	1,667	5,856	864	4,992
<i>Others/Unknown</i>	2,304	1,521	783	5,980	1,034	4,946
<b>MOTHER'S NATIVITY</b>						
Foreign Born	146,049	129,306	16,743	112,214	25,766	86,448
US Born	122,142	61,070	61,072	180,112	27,056	153,056
<i>Unknown</i>	151	87	64	216	77	139
<b>MOTHER'S EDUCATION STATUS</b>						
<High School	120,841	94,265	26,576	30,170	15,011	15,159
High School Graduate	86,855	55,984	30,871	61,241	14,869	46,372
Some College or Associate Degree	43,276	26,944	16,332	74,780	11,001	63,779
Bachelor's Degree or Higher	8,665	6,694	1,971	116,114	9,799	106,315
<i>Unknown</i>	8,705	6,576	2,129	10,237	2,219	8,018
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>190,463</b>	<b>77,879</b>	<b>292,542</b>	<b>52,899</b>	<b>239,643</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

Table 2. Medi-Cal and Non-Medi-Cal Births by Select Birth Characteristics  
California Resident Hospital Births, 2007

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	96,423	71,439	24,984	122,244	21,195	101,049
One Previous Birth	76,218	53,631	22,587	97,946	15,550	82,396
Two+ Previous Births	95,441	65,212	30,229	71,956	16,042	55,914
<i>Unknown or Unreported</i>	260	181	79	396	112	284
<b>SINGLE/MULTIPLE BIRTH</b>						
Multiple Birth	5,836	3,798	2,038	11,554	1,545	10,009
Singleton	262,506	186,665	75,841	280,988	51,354	229,634
<b>PRENATAL CARE INITIATION</b>						
No Prenatal Care	1,772	1,176	596	1,169	916	251
First Trimester	200,140	143,174	56,966	255,701	41,023	214,678
Second Trimester	49,594	34,284	15,310	26,456	7,683	18,773
Third Trimester	10,430	7,803	2,627	3,895	1,805	2,090
<i>Unknown or Unreported</i>	6,406	4,026	2,380	5,321	1,470	3,851
<b>METHOD OF DELIVERY</b>						
Cesarean-Primary	44,306	31,811	12,495	58,965	9,669	49,296
Cesarean-Repeat	39,638	27,813	11,825	37,977	6,987	30,990
Vaginal	182,887	129,786	53,101	193,385	35,952	157,433
Vaginal After Previous Cesarean	1,511	1,053	458	2,215	291	1,924
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>190,463</b>	<b>77,879</b>	<b>292,542</b>	<b>52,899</b>	<b>239,643</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

Table 3a. **Medi-Cal** Delivery Methods by Select Maternal Characteristics  
California Resident Hospital Hospital Births, 2007

MATERNAL CHARACTERISTICS	Total	Method of Delivery			
		Cesarean-Primary	Cesarean-Repeat	Vaginal	Vaginal After Previous Cesarean
<b>AGE OF MOTHER</b>					
Age ≤ 17	12,976	2,472	184	10,314	6
18-19	28,233	5,437	1,199	21,551	46
20-24	87,771	14,727	9,712	63,008	324
25-29	70,213	10,177	12,324	47,230	482
30-34	42,946	6,584	9,518	26,442	402
35 and Older	26,203	4,909	6,701	14,342	251
<b>RACE/ETHNICITY OF MOTHER</b>					
White	35,314	6,400	4,444	24,313	157
African American	18,155	3,725	2,716	11,580	134
Hispanic	192,620	30,305	29,925	131,339	1,051
Asian	14,083	2,317	1,493	10,167	106
Hawaiian/Pacific Islanders	1,263	257	191	802	13
American Indian/Alaskan Native	1,136	175	148	803	10
Two or more Race Categories	3,467	693	406	2,347	21
<i>Others/Unknown</i>	2,304	434	315	1,536	19
<b>MOTHER'S NATIVITY</b>					
Foreign Born	146,049	22,466	23,884	98,729	970
US Born	122,142	21,809	15,734	84,059	540
<i>Unknown</i>	151	31	20	99	1
<b>MOTHER'S EDUCATION STATUS</b>					
<High School	120,841	17,877	19,443	82,775	746
High School Graduate	86,855	15,045	11,967	59,423	420
Some College or Associate Degree	43,276	8,168	5,850	29,047	211
Bachelor's Degree or Higher	8,665	1,809	1,222	5,579	55
<i>Unknown</i>	8,705	1,407	1,156	6,063	79
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>44,306</b>	<b>39,638</b>	<b>182,887</b>	<b>1,511</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

Table 3b. **Non-Medi-Cal** Delivery Methods by Select Maternal Characteristics  
California Resident Hospital Births, 2007

MATERNAL CHARACTERISTICS	Total	Method of Delivery			
		Cesarean-Primary	Cesarean-Repeat	Vaginal	Vaginal After Previous Cesarean
<b>AGE OF MOTHER</b>					
Age ≤ 17	5,119	917	54	4,143	5
18-19	7,300	1,380	183	5,725	12
20-24	39,176	7,104	2,641	29,265	166
25-29	78,950	14,900	8,038	55,512	500
30-34	91,161	17,892	13,141	59,325	803
35 and Older	70,804	16,766	13,915	39,395	728
<i>Invalid/Out-of-Range</i>	32	6	5	20	1
<b>RACE/ETHNICITY OF MOTHER</b>					
White	113,045	23,899	14,017	74,314	815
African American	10,976	2,640	1,483	6,745	108
Hispanic	102,662	18,553	14,625	68,649	835
Asian	51,860	10,893	6,150	34,464	353
Hawaiian/Pacific Islanders	1,327	240	174	895	18
American Indian/Alaskan Native	836	142	117	574	3
Two or more Race Categories	5,856	1,184	666	3,955	51
<i>Others/Unknown</i>	5,980	1,414	745	3,789	32
<b>MOTHER'S NATIVITY</b>					
Foreign Born	112,214	22,016	15,675	73,595	928
US Born	180,112	36,907	22,279	119,641	1,285
<i>Unknown</i>	216	42	23	149	2
<b>MOTHER'S EDUCATION STATUS</b>					
<High School	30,170	4,667	4,288	20,935	280
High School Graduate	61,241	10,728	7,948	42,112	453
Some College or Associate Degree	74,780	15,032	9,881	49,331	536
Bachelor's Degree or Higher	116,114	26,264	14,594	74,382	874
<i>Unknown</i>	10,237	2,274	1,266	6,625	72
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>292,542</b>	<b>58,965</b>	<b>37,977</b>	<b>193,385</b>	<b>2,215</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

Table 4. Medi-Cal and Non-Medi-Cal Births by Select Maternal Comorbidities  
California Resident Hospital Births, 2007

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	17,216	11,607	5,609	18,479	2,262	16,217
No Hypertension Diagnosis	251,126	178,856	72,270	250,855	34,436	216,419
<i>Unknown</i>	0	0	0	23,208	16,201	7,007
<b>DIABETES<sup>1</sup></b>						
Diabetes	18,842	14,040	4,802	21,249	2,392	18,857
No Diabetes Diagnosis	249,500	176,423	73,077	248,085	34,306	213,779
<i>Unknown</i>	0	0	0	23,208	16,201	7,007
<b>SMOKING DURING PREGNANCY<sup>4</sup></b>						
Maternal Smoker	10,504	5,780	4,724	3,573	1,015	2,558
Maternal Non-Smoker	249,034	178,004	71,030	262,588	34,542	228,046
<i>Unknown</i>	8,804	6,679	2,125	26,381	17,342	9,039
<b>SUBSTANCE USE<sup>1</sup></b>						
Maternal Substance User	4,737	2,357	2,380	1,470	718	752
Maternal Non-Substance User	263,605	188,106	75,499	267,864	35,980	231,884
<i>Unknown</i>	0	0	0	23,208	16,201	7,007
<b>PRE-PREGNANCY WEIGHT<sup>2</sup></b>						
Underweight	9,674	6,591	3,083	10,772	1,611	9,161
Normal Weight	103,695	73,904	29,791	134,000	16,088	117,912
Overweight	62,573	45,185	17,388	55,844	7,747	48,097
Obese/Extremely Obese	50,548	33,018	17,530	38,681	5,264	33,417
<i>Out of Range/Unknown</i>	41,852	31,765	10,087	53,245	22,189	31,056
<b>TOTAL BIRTHS<sup>3</sup></b>	<b>268,342</b>	<b>190,463</b>	<b>77,879</b>	<b>292,542</b>	<b>52,899</b>	<b>239,643</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 560,884 births to California mothers in 2007 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 from Other Payer Sources  
California Resident Hospital Births, 2007

BIRTH OUTCOMES	Medi-Cal Births			Non Medi-Cal Births		
	Total	Fee-for-Service	Managed Care	Total	Other	Private Insurance
<b>BIRTHWEIGHT</b>						
Low Birthweight	17,885	12,176	5,709	20,516	4,002	16,518
Normal Birth Weight	250,440	178,273	72,167	271,984	48,885	223,099
<i>Out-of-Range</i>	17	14	3	42	12	26
<b>VERY LOW BIRTHWEIGHT STATUS</b>						
Birthweight >= 1500g	265,305	188,343	76,962	288,899	52,081	236,818
Very Low Birthweight (<1500g)	3,020	2,106	914	3,605	806	2,799
<i>Out-of-Range</i>	17	14	3	38	12	26
<b>GESTATION<sup>1</sup></b>						
Preterm Delivery (<37 Weeks)	29,719	20,474	9,245	30,140	6,145	23,995
Normal Gestation (>= 37 weeks)	227,112	162,939	64,173	251,472	44,229	207,243
<i>Out-of-Range/Missing</i>	11,511	7,050	4,461	10,930	2,525	8,405
<b>VERY PRETERM STATUS<sup>1</sup></b>						
Very Preterm Delivery (<32 Weeks)	4,391	2,995	1,396	4,287	1,027	3,260
Gestation >=32 weeks	252,440	180,418	72,022	277,325	49,347	227,978
<i>Out-of-Range/Missing</i>	11,511	7,050	4,461	10,930	2,525	8,405
<b>TOTAL BIRTHS<sup>2</sup></b>	<b>268,342</b>	<b>190,463</b>	<b>77,879</b>	<b>292,542</b>	<b>52,899</b>	<b>239,643</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=22,441) are missing this data element.

<sup>2</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

Table 5b. Medi-Cal and Non-Medi-Cal **SINGLETON** Births, Medi-Cal vs. Births from Other Payer Sources  
California Resident Hospital Births, 2007

BIRTH OUTCOMES	Medi-Cal Births			Non Medi-Cal Births		
	Total	Fee-for-Service	Managed Care	Total	Other	Private Insurance
<b>BIRTHWEIGHT</b>						
Low Birthweight	14,543	9,987	4,556	14,005	3,093	10,915
Normal Birth Weight	247,948	176,665	71,283	266,951	48,249	218,702
<i>Out-of-Range</i>	15	13	2	32	12	17
<b>VERY LOW BIRTHWEIGHT STATUS</b>						
Birthweight >= 1500g	260,078	184,919	75,159	278,527	50,736	227,791
Very Low Birthweight (<1500g)	2,413	1,733	680	2,432	606	1,826
<i>Out-of-Range</i>	15	13	2	29	12	17
<b>GESTATION<sup>1</sup></b>						
Preterm Delivery (<37 Weeks)	26,483	18,361	8,122	23,520	5,247	18,273
Normal Gestation (>= 37 weeks)	224,747	161,398	63,349	247,061	43,659	203,402
<i>Out-of-Range/Missing</i>	11,276	6,906	4,370	10,407	2,448	7,959
<b>VERY PRETERM STATUS<sup>1</sup></b>						
Very Preterm Delivery (<32 Weeks)	3,746	2,588	1,158	3,067	812	2,255
Gestation >= 32 weeks	247,484	177,171	70,313	267,514	48,094	219,420
<i>Out-of-Range/Missing</i>	11,276	6,906	4,370	10,407	2,448	7,959
<b>TOTAL SINGLETON BIRTHS<sup>2</sup></b>	<b>262,506</b>	<b>186,665</b>	<b>75,841</b>	<b>280,988</b>	<b>51,354</b>	<b>229,634</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=21,683) are missing this data element.

<sup>2</sup>Total Singleton Births = Births in Hospital Only. DHCS identified a total of 543,494 singleton births to California mothers in 2007 occurring in a hospital setting.

Table 6a. Birthweight Among Medi-Cal Births, by Select Maternal and Birth Characteristics  
California Resident Hospital Births, 2007

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	12,976	0	12,976	1,027	11,949	12,814	162
18-19	28,233	4	28,229	2,000	26,229	27,903	326
20-24	87,771	6	87,765	5,483	82,282	86,902	863
25-29	70,213	5	70,208	4,240	65,968	69,503	705
30-34	42,946	1	42,945	2,931	40,014	42,400	545
35 and Older	26,203	1	26,202	2,204	23,998	25,783	419
<b>RACE/ETHNICITY OF MOTHER</b>							
White	35,314	3	35,311	2,250	33,061	34,949	362
African American	18,155	2	18,153	2,219	15,934	17,721	432
Hispanic	192,620	12	192,608	11,745	180,863	190,632	1,976
Asian	14,083	0	14,083	1,007	13,076	13,959	124
Hawaiian/Pacific Islanders	1,263	0	1,263	82	1,181	1,242	21
American Indian/Alaskan Native	1,136	0	1,136	83	1,053	1,128	8
Two or more Race Categories	3,467	0	3,467	278	3,189	3,422	45
Others/Unknown	2,304	0	2,304	221	2,083	2,252	52
<b>MOTHER'S NATIVITY</b>							
Foreign Born	146,049	9	146,040	8,485	137,555	144,656	1,384
US Born	122,142	7	122,135	9,385	112,750	120,506	1,629
Unknown	151	1	150	15	135	143	7
<b>MOTHER'S EDUCATION STATUS</b>							
<High School	120,841	3	120,838	7,626	113,212	119,604	1,234
High School Graduate	86,855	10	86,845	5,889	80,956	85,828	1,017
Some College or Associate Degree	43,276	2	43,274	3,161	40,113	42,719	555
Bachelor's Degree or Higher	8,665	0	8,665	564	8,101	8,593	72
Unknown	8,705	2	8,703	645	8,058	8,561	142
<b>PARITY STATUS</b>							
First Born	96,423	6	96,417	6,830	89,587	95,259	1,158
One Previous Birth	76,218	8	76,210	4,393	71,817	75,479	731
Two+ Previous Births	95,441	3	95,438	6,624	88,814	94,320	1,118
Unknown or Unreported	260	0	260	38	222	247	13
<b>SINGLE/MULTI BIRTH</b>							
Multiple Birth	5,836	2	5,834	3,342	2,492	5,227	607
Singleton	262,506	15	262,491	14,543	247,948	260,078	2,413
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>17</b>	<b>268,325</b>	<b>17,885</b>	<b>250,440</b>	<b>265,305</b>	<b>3,020</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

Table 6b. Birthweight Among **Medi-Cal** Births, by Select Comorbidities  
California Resident Hospital Births, 2007

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>HYPERTENSION*</b>							
Hypertension	17,216	1	17,215	3,762	13,453	16,439	776
No Hypertension Diagnosis	251,126	16	251,110	14,123	236,987	248,866	2,244
<b>DIABETES*</b>							
Diabetes	18,842	0	18,842	1,444	17,398	18,603	239
No Diabetes Diagnosis	249,500	17	249,483	16,441	233,042	246,702	2,781
<b>SUBSTANCE USE*</b>							
Maternal Substance User	4,737	1	4,736	773	3,963	4,570	166
Maternal Non-Substance User	263,605	16	263,589	17,112	246,477	260,735	2,854
<b>SMOKING DURING PREGNANCY<sup>2</sup></b>							
Maternal Smoker	10,504	1	10,503	1,031	9,472	10,341	162
Maternal Non-Smoker	249,034	14	249,020	16,243	232,777	246,268	2,752
Unknown	8,804	2	8,802	611	8,191	8,696	106
<b>PRE-PREGNANCY WEIGHT**</b>							
Underweight	9,674	0	9,674	887	8,787	9,563	111
Normal Weight	103,695	3	103,692	6,471	97,221	102,773	919
Overweight	62,573	1	62,572	3,419	59,153	61,993	579
Obese/Extremely Obese	50,548	2	50,546	2,893	47,653	49,971	575
Out of Range/Unknown	41,852	11	41,841	4,215	37,626	41,005	836
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>17</b>	<b>268,325</b>	<b>17,885</b>	<b>250,440</b>	<b>265,305</b>	<b>3,020</b>

\* 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).

\*\* 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>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

<sup>2</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, 2007

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	5,119	0	5,119	443	4,676	5,032	87
18-19	7,300	1	7,299	575	6,724	7,181	118
20-24	39,176	4	39,172	2,447	36,725	38,697	475
25-29	78,950	14	78,936	4,824	74,112	78,117	819
30-34	91,161	14	91,147	6,090	85,057	90,121	1,026
35 and Older	70,804	5	70,799	6,134	64,665	69,721	1,078
<i>Invalid/Out-of-Range</i>	32	0	32	7	25	30	2
<b>RACE/ETHNICITY OF MOTHER</b>							
White	113,045	10	113,035	7,212	105,823	111,853	1,182
African American	10,976	5	10,971	1,308	9,663	10,627	344
Hispanic	102,662	11	102,651	6,770	95,881	101,383	1,268
Asian	51,860	5	51,855	4,009	47,846	51,277	578
Hawaiian/Pacific Islanders	1,327	0	1,327	96	1,231	1,309	18
American Indian/Alaskan Native	836	2	834	60	774	826	8
Two or more Race Categories	5,856	1	5,855	445	5,410	5,777	78
<i>Others/Unknown</i>	5,980	4	5,976	620	5,356	5,847	129
<b>MOTHER'S NATIVITY</b>							
Foreign Born	112,214	13	112,201	7,899	104,302	110,905	1,296
US Born	180,112	23	180,089	12,590	167,499	177,789	2,300
<i>Unknown</i>	216	2	214	31	183	205	9
<b>MOTHER'S EDUCATION'S STATUS</b>							
<High School	30,170	4	30,166	2,237	27,929	29,729	437
High School Graduate	61,241	7	61,234	4,035	57,199	60,464	770
Some College or Associate Degree	74,780	10	74,770	5,073	69,697	73,843	927
Bachelor's Degree or Higher	116,114	11	116,103	8,204	107,899	114,825	1,278
<i>Unknown</i>	10,237	6	10,231	971	9,260	10,038	193
<b>PARITY STATUS</b>							
First Born	122,244	23	122,221	8,960	113,261	120,623	1,598
One Previous Birth	97,946	6	97,940	6,158	91,782	96,910	1,030
Two+ Previous Births	71,956	8	71,948	5,362	66,586	70,981	967
<i>Unknown or Unreported</i>	396	1	395	40	355	385	10
<b>SINGLE/MULTI BIRTH</b>							
Multiple Birth	11,554	9	11,545	6,512	5,033	10,372	1,173
Singleton	280,988	29	280,959	14,008	266,951	278,527	2,432
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>292,542</b>	<b>38</b>	<b>292,504</b>	<b>20,520</b>	<b>271,984</b>	<b>288,899</b>	<b>3,605</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

Table 6d. Birthweight Among **Non-Medi-Cal Births**, by Select Comorbidities  
California Resident Hospital Births, 2007

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>HYPERTENSION*</b>							
Hypertension	18,479	3	18,476	4,313	14,163	17,627	849
No Hypertension Diagnosis	250,855	17	250,838	13,803	237,035	248,675	2,163
Unknown	23,208	18	23,190	2,404	20,786	22,597	593
<b>DIABETES*</b>							
Diabetes	21,249	1	21,248	2,094	19,154	20,899	349
No Diabetes Diagnosis	248,085	19	248,066	16,022	232,044	245,403	2,663
Unknown	23,208	18	23,190	2,404	20,786	22,597	593
<b>SUBSTANCE USE*</b>							
Maternal Substance User	1,470	2	1,468	223	1,245	1,414	54
Maternal Non-Substance User	267,864	18	267,846	17,893	249,953	264,888	2,958
Unknown	23,208	18	23,190	2,404	20,786	22,597	593
<b>SMOKING DURING PREGNANCY<sup>2</sup></b>							
Maternal Smoker	3,573	1	3,572	333	3,239	3,510	62
Maternal Non-Smoker	262,588	16	262,572	17,507	245,065	259,678	2,894
Unknown	26,381	21	26,360	2,680	23,680	25,711	649
<b>PRE-PREGNANCY WEIGHT**</b>							
Underweight	10,772	0	10,772	881	9,891	10,683	89
Normal Weight	134,000	2	133,998	7,281	126,717	132,997	1,001
Overweight	55,844	1	55,843	2,938	52,905	55,315	528
Obese/Extremely Obese	38,681	8	38,673	2,246	36,427	38,166	507
Out of Range/Unknown	53,245	27	53,218	7,174	46,044	51,738	1,480
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>292,542</b>	<b>38</b>	<b>292,504</b>	<b>20,520</b>	<b>271,984</b>	<b>288,899</b>	<b>3,605</b>

\* 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).

\*\* 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>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

<sup>2</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, 2007

MATERNAL AND BIRTH CHARACTERISTICS	Total	Out of Range /Missing	Total (Excluding Out of Range)	Gestation* (Excluding Out of Range)		Very Preterm Status (<32 wks gestation)* (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	12,976	665	12,311	1,677	10,634	328	11,983
18-19	28,233	1,307	26,926	3,082	23,844	517	26,409
20-24	87,771	4,089	83,682	9,070	74,612	1,281	82,401
25-29	70,213	2,907	67,306	7,112	60,194	964	66,342
30-34	42,946	1,632	41,314	5,027	36,287	732	40,582
35 and Older	26,203	911	25,292	3,751	21,541	569	24,723
<b>RACE/ETHNICITY OF MOTHER</b>							
White	35,314	1,965	33,349	3,614	29,735	536	32,813
African American	18,155	996	17,159	2,709	14,450	537	16,622
Hispanic	192,620	7,629	184,991	20,841	164,150	2,964	182,027
Asian	14,083	437	13,646	1,551	12,095	180	13,466
Hawaiian/Pacific Islanders	1,263	63	1,200	146	1,054	29	1,171
American Indian/Alaskan Native	1,136	74	1,062	135	927	17	1,045
Two or more Race Categories	3,467	189	3,278	415	2,863	71	3,207
Others/Unknown	2,304	158	2,146	308	1,838	57	2,089
<b>MOTHER'S NATIVITY</b>							
Foreign Born	146,049	4,591	141,458	15,139	126,319	1,984	139,474
U.S. Born	122,142	6,892	115,250	14,563	100,687	2,402	112,848
Unknown	151	28	123	17	106	5	118
<b>MOTHER'S EDUCATION STATUS</b>							
<High School	120,841	4,797	116,044	13,531	102,513	1,951	114,093
High School Graduate	86,855	4,061	82,794	9,584	73,210	1,479	81,315
Some College or Associate Degree	43,276	1,810	41,466	4,791	36,675	715	40,751
Bachelor's Degree or Higher	8,665	189	8,476	832	7,644	95	8,381
Unknown	8,705	654	8,051	981	7,070	151	7,900
<b>PARITY STATUS</b>							
First Born	96,423	3,752	92,671	9,623	83,048	1,588	91,083
One Previous Birth	76,218	3,206	73,012	7,943	65,069	1,100	71,912
Two+ Previous Births	95,441	4,444	90,997	12,128	78,869	1,698	89,299
Unknown or Unreported	260	109	151	25	126	5	146
<b>SINGLE/MULTI BIRTH</b>							
Multiple Birth	5,836	235	5,601	3,236	2,365	645	4,956
Singleton	262,506	11,276	251,230	26,483	224,747	3,746	247,484
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>11,511</b>	<b>256,831</b>	<b>29,719</b>	<b>227,112</b>	<b>4,391</b>	<b>252,440</b>

\*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=11,511) are missing this data element.

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

Table 7b. Gestational Age Among **Medi-Cal** Births, by Select Comorbidities  
California Resident Hospital Births, 2007

MATERNAL AND BIRTH CHARACTERISTICS	Total	Out of Range /Missing	Total (Excluding Out of Range)	Gestation* (Excluding Out of Range)		Very Preterm Status (<32 wks gestation)* (Excluding Out of Range)	
				Preterm Delivery (<37 Weeks)	Normal Range	Very Preterm Delivery (<32 Weeks)	Gestation >=32 Weeks
<b>HYPERTENSION**</b>							
Hypertension	17,216	797	16,419	4,231	12,188	757	15,662
No Hypertension Diagnosis	251,126	10,714	240,412	25,488	214,924	3,634	236,778
<b>DIABETES**</b>							
Diabetes	18,842	717	18,125	2,835	15,290	349	17,776
No Diabetes Diagnosis	249,500	10,794	238,706	26,884	211,822	4,042	234,664
<b>SUBSTANCE USE**</b>							
Maternal Substance User	4,737	471	4,266	889	3,377	204	4,062
Maternal Non-Substance User	263,605	11,040	252,565	28,830	223,735	4,187	248,378
<b>SMOKING DURING PREGNANCY<sup>2</sup></b>							
Maternal Smoker	10,504	707	9,797	1,435	8,362	256	9,541
Maternal Non-Smoker	249,034	10,001	239,033	27,202	211,831	3,991	235,042
Unknown	8,804	803	8,001	1,082	6,919	144	7,857
<b>PRE-PREGNANCY WEIGHT***</b>							
Underweight	9,674	380	9,294	1,139	8,155	175	9,119
Normal Weight	103,695	3,422	100,273	10,735	89,538	1,506	98,767
Overweight	62,573	2,102	60,471	6,425	54,046	902	59,569
Obese/Extremely Obese	50,548	1,945	48,603	5,502	43,101	847	47,756
Out of Range/Unknown	41,852	3,662	38,190	5,918	32,272	961	37,229
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>11,511</b>	<b>256,831</b>	<b>29,719</b>	<b>227,112</b>	<b>4,391</b>	<b>252,440</b>

\* 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=11,511) are missing this data element.

\*\* 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).

\*\*\* 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>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

<sup>2</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, 2007

MATERNAL AND BIRTH CHARACTERISTICS	Total	Out of Range /Missing	Total (Excluding Out of Range)	Gestation* (Excluding Out of Range)		Very Preterm Status (<32 wks gestation)* (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	5,119	319	4,800	703	4,097	143	4,657
18-19	7,300	406	6,894	836	6,058	151	6,743
20-24	39,176	1,926	37,250	3,746	33,504	576	36,674
25-29	78,950	2,992	75,958	7,286	68,672	1,012	74,946
30-34	91,161	2,966	88,195	8,921	79,274	1,197	86,998
35 and Older	70,804	2,306	68,498	8,645	59,853	1,208	67,290
Invalid/Out-of-Range	32	15	17	3	14	-	17
<b>RACE/ETHNICITY OF MOTHER</b>							
White	113,045	4,057	108,988	10,786	98,202	1,374	107,614
African American	10,976	539	10,437	1,603	8,834	375	10,062
Hispanic	102,662	4,506	98,156	11,043	87,113	1,608	96,548
Asian	51,860	1,149	50,711	5,011	45,700	635	50,076
Hawaiian/Pacific Islanders	1,327	48	1,279	163	1,116	31	1,248
American Indian/Alaskan Native	836	35	801	98	703	19	782
Two or more Race Categories	5,856	233	5,623	651	4,972	91	5,532
Others/Unknown	5,980	363	5,617	785	4,832	154	5,463
<b>MOTHER'S NATIVITY</b>							
Foreign Born	112,214	3,590	108,624	11,311	97,313	1,497	107,127
U.S. Born	180,112	7,295	172,817	18,802	154,015	2,781	170,036
Unknown	216	45	171	27	144	9	162
<b>MOTHER'S EDUCATION STATUS</b>							
<High School	30,170	1,479	28,691	3,750	24,941	613	28,078
High School Graduate	61,241	2,891	58,350	6,359	51,991	950	57,400
Some College or Associate Degree	74,780	2,820	71,960	7,811	64,149	1,132	70,828
Bachelor's Degree or Higher	116,114	2,953	113,161	11,025	102,136	1,379	111,782
Unknown	10,237	787	9,450	1,195	8,255	213	9,237
<b>PARITY STATUS</b>							
First Born	122,244	3,835	118,409	11,410	106,999	1,776	116,633
One Previous Birth	97,946	3,526	94,420	9,696	84,724	1,251	93,169
Two+ Previous Births	71,956	3,353	68,603	9,012	59,591	1,257	67,346
Unknown or Unreported	396	216	180	22	158	3	177
<b>SINGLE/MULTI BIRTH</b>							
Multiple Birth	11,554	523	11,031	6,620	4,411	1,220	9,811
Singleton	280,988	10,407	270,581	23,520	247,061	3,067	267,514
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>292,542</b>	<b>10,930</b>	<b>281,612</b>	<b>30,140</b>	<b>251,472</b>	<b>4,287</b>	<b>277,325</b>

\*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=10,930) are missing this data element.

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

Table 7d. Gestational Age Among **Non-Medi-Cal** Births, by Select Comorbidities  
California Resident Hospital Births, 2007

MATERNAL AND BIRTH CHARACTERISTICS	Total	Out of Range /Missing	Total (Excluding Out of Range)	Gestation* (Excluding Out of Range)		Very Preterm Status (<32 wks gestation)* (Excluding Out of Range)	
				Preterm Delivery (<37 Weeks)	Normal Range	Very Preterm Delivery (<32 Weeks)	Gestation >=32 Weeks
<b>HYPERTENSION**</b>							
Hypertension	18,479	693	17,786	4,788	12,998	757	17,029
No Hypertension Diagnosis	250,855	9,132	241,723	22,077	219,646	2,862	238,861
Unknown	23,208	1,105	22,103	3,275	18,828	668	21,435
<b>DIABETES**</b>							
Diabetes	21,249	797	20,452	3,058	17,394	415	20,037
No Diabetes Diagnosis	248,085	9,028	239,057	23,807	215,250	3,204	235,853
Unknown	23,208	1,105	22,103	3,275	18,828	668	21,435
<b>SUBSTANCE USE**</b>							
Maternal Substance User	1,470	180	1,290	279	1,011	68	1,222
Maternal Non-Substance User	267,864	9,645	258,219	26,586	231,633	3,551	254,668
Unknown	23,208	1,105	22,103	3,275	18,828	668	21,435
<b>SMOKING DURING PREGNANCY<sup>2</sup></b>							
Maternal Smoker	3,573	225	3,348	452	2,896	79	3,269
Maternal Non-Smoker	262,588	9,085	253,503	26,044	227,459	3,480	250,023
Unknown	26,381	1,620	24,761	3,644	21,117	728	24,033
<b>PRE-PREGNANCY WEIGHT***</b>							
Underweight	10,772	311	10,461	1,019	9,442	110	10,351
Normal Weight	134,000	3,565	130,435	11,389	119,046	1,255	129,180
Overweight	55,844	1,705	54,139	5,028	49,111	712	53,427
Obese/Extremely Obese	38,681	1,420	37,261	3,952	33,309	611	36,650
Out of Range/Unknown	53,245	3,929	49,316	8,752	40,564	1,599	47,717
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>292,542</b>	<b>10,930</b>	<b>281,612</b>	<b>30,140</b>	<b>251,472</b>	<b>4,287</b>	<b>277,325</b>

\* 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=10,930) are missing this data element.

\*\* 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).

\*\*\* 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>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

<sup>2</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, 2007

COMORBIDITIES	Total	Medi-Cal Aid Category						
		Adoption/Foster Care	Blind/Disabled	All Other*	Families	MI Child & Minor Consent	Pregnancy Pathway, not Undocumented	Undocumented
<b>METHOD OF DELIVERY</b>								
Cesarean-Primary	44,306	189	933	44	19,018	1,491	6,799	15,832
Cesarean-Repeat	39,638	24	741	18	16,474	127	4,455	17,799
Vaginal	182,887	685	2,504	163	77,941	5,608	25,131	70,855
<i>Vaginal After Previous Cesarean</i>	<i>1,511</i>	<i>1</i>	<i>24</i>	<i>1</i>	<i>615</i>	<i>3</i>	<i>193</i>	<i>674</i>
<b>PRENATAL CARE INITIATION</b>								
No Prenatal Care	1,772	7	66	0	1,181	47	150	321
First Trimester	200,140	599	3,029	154	80,914	4,889	27,980	82,575
Second Trimester	49,594	219	745	54	23,684	1,771	6,502	16,619
Third Trimester	10,430	45	182	11	4,999	361	1,144	3,688
<i>Unknown or Unreported</i>	<i>6,406</i>	<i>29</i>	<i>180</i>	<i>7</i>	<i>3,270</i>	<i>161</i>	<i>802</i>	<i>1,957</i>
<b>BIRTHWEIGHT</b>								
Low Birthweight	17,885	89	543	17	8,597	499	2,364	5,776
Normal Birthweight	250,440	810	3,659	209	105,442	6,729	34,212	99,379
<i>Out of Range</i>	<i>17</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>9</i>	<i>1</i>	<i>2</i>	<i>5</i>
<b>VERY LOW BIRTHWEIGHT STATUS</b>								
Birthweight >=1500g	265,305	887	4,093	221	112,585	7,118	36,161	104,240
Very Low Birthweight (<1500g)	3,020	12	109	5	1,454	110	415	915
<i>Out of Range</i>	<i>17</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>9</i>	<i>1</i>	<i>2</i>	<i>5</i>
<b>GESTATION<sup>1</sup></b>								
Preterm Delivery (<37 Weeks)	29,719	121	740	25	13,774	853	3,717	10,489
Normal Gestation (>=37 Weeks)	227,112	722	3,109	193	94,094	6,063	31,391	91,540
<i>Out of Range/Missing</i>	<i>11,511</i>	<i>56</i>	<i>353</i>	<i>8</i>	<i>6,180</i>	<i>313</i>	<i>1,470</i>	<i>3,131</i>
<b>VERY PRETERM STATUS<sup>1</sup></b>								
Very Preterm Delivery (<32 Weeks)	4,391	14	144	3	2,185	157	525	1,363
Gestation >=32 Weeks	252,440	829	3,705	215	105,683	6,759	34,583	100,666
<i>Out of Range/Missing</i>	<i>11,511</i>	<i>56</i>	<i>353</i>	<i>8</i>	<i>6,180</i>	<i>313</i>	<i>1,470</i>	<i>3,131</i>
<b>TOTAL BIRTHS<sup>2</sup></b>	<b>268,342</b>	<b>899</b>	<b>4,202</b>	<b>226</b>	<b>114,048</b>	<b>7,229</b>	<b>36,578</b>	<b>105,160</b>

\*Of the 226 births contained in the "All Other" category, 108 had multiple Client Identification Numbers (CINs) and could not be definitively linked to an aid code grouping.

<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=11,511) are missing this data element.

<sup>2</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

Table 8b. **Medi-Cal** Births by Aid Category and Select Comorbidities  
California Resident Hospital Births, 2007

COMORBIDITIES	Total	Medi-Cal Aid Category						
		Adoption/ Foster Care	Blind/Disabled	All Other*	Families	MI Child & Minor Consent	Pregnancy Pathway, not Undocumented	Undocumented
<b>HYPERTENSION**</b>								
Hypertension	17,216	73	475	8	8,289	574	2,564	5,233
No Hypertension Diagnosis	251,126	826	3,727	218	105,759	6,655	34,014	99,927
<b>DIABETES**</b>								
Diabetes	18,842	15	374	7	6,681	140	2,742	8,883
No Diabetes Diagnosis	249,500	884	3,828	219	107,367	7,089	33,836	96,277
<b>SUBSTANCE USE**</b>								
Maternal Substance User	4,737	42	325	3	3,695	78	384	210
Maternal Non-Substance User	263,605	857	3,877	223	110,353	7,151	36,194	104,950
<b>SMOKING DURING PREGNANCY<sup>2</sup></b>								
Maternal Smoker	10,504	53	590	6	8,159	158	1,206	332
Maternal Non-Smoker	249,034	807	3,426	215	102,652	6,844	34,271	100,819
<i>Unknown</i>	8,804	39	186	5	3,237	227	1,101	4,009
<b>PRE-PREGNANCY WEIGHT***</b>								
Underweight	9,674	49	176	10	4,570	438	1,426	3,005
Normal Weight	103,695	469	1,416	107	44,041	3,764	14,701	39,197
Overweight	62,573	174	849	45	25,334	1,401	8,414	26,356
Obese/Extremely Obese	50,548	103	1,113	33	25,013	740	7,578	15,968
<i>Out of Range/Unknown</i>	41,852	104	648	31	15,090	886	4,459	20,634
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>899</b>	<b>4,202</b>	<b>226</b>	<b>114,048</b>	<b>7,229</b>	<b>36,578</b>	<b>105,160</b>

\*Of the 226 births contained in the "All Other" category, 108 had multiple Client Identification Numbers (CINs) and could not be definitively linked to an aid code grouping.

\*\* 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).

\*\*\* 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>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 occurring in a hospital setting.

<sup>2</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, 2007

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	7,515	786	1,578	3,907	909	109	30	128	68
Alpine	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Amador	125	81	Suppressed	35	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Butte	1,463	870	31	343	115	Suppressed	35	63	Suppressed
Calaveras	177	127	Suppressed	29	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Colusa	244	29	Suppressed	204	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Contra Costa	4,375	638	599	2,740	221	41	Suppressed	105	Suppressed
Del Norte	243	130	Suppressed	58	16	Suppressed	25	14	Suppressed
El Dorado	638	356	Suppressed	242	16	Suppressed	Suppressed	13	Suppressed
Fresno	10,647	1,326	685	7,392	1,031	Suppressed	77	100	Suppressed
Glenn	275	111	Suppressed	139	11	Suppressed	Suppressed	Suppressed	Suppressed
Humboldt	935	575	16	145	35	Suppressed	92	61	Suppressed
Imperial	1,826	111	22	1,665	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Inyo	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Kern	9,259	1,564	547	6,840	132	Suppressed	43	93	Suppressed
Kings	1,389	220	58	1,066	14	Suppressed	Suppressed	24	Suppressed
Lake	465	273	11	146	Suppressed	Suppressed	Suppressed	21	Suppressed
Lassen	153	112	Suppressed	30	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Los Angeles	82,113	4,672	6,887	65,782	3,657	251	102	553	209
Madera	1,801	236	28	1,502	12	Suppressed	13	Suppressed	Suppressed
Marin	783	122	29	594	27	Suppressed	Suppressed	Suppressed	Suppressed
Mariposa	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Mendocino	783	347	Suppressed	341	Suppressed	Suppressed	50	23	15
Merced	3,103	473	101	2,248	231	13	Suppressed	21	Suppressed
Modoc	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Mono	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Monterey	4,274	222	52	3,874	60	15	Suppressed	35	Suppressed
Napa	677	117	Suppressed	532	14	Suppressed	Suppressed	Suppressed	Suppressed
Nevada	322	220	Suppressed	84	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Orange	18,515	1,577	183	15,163	1,344	89	18	104	37
Placer	991	494	14	427	27	Suppressed	Suppressed	24	Suppressed
Plumas	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Riverside	17,009	2,479	939	12,829	309	51	62	231	109
Sacramento	10,402	2,637	1,530	4,307	1,267	148	69	420	24
San Benito	485	37	Suppressed	436	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
San Bernardino	17,578	2,775	1,716	12,370	352	71	44	231	19
San Diego	15,670	2,003	953	10,496	570	109	62	271	1,206
San Francisco	2,823	257	411	1,288	754	47	Suppressed	54	Suppressed
San Joaquin	6,303	972	532	3,896	695	20	18	159	11
San Luis Obispo	1,345	544	Suppressed	737	12	Suppressed	Suppressed	36	Suppressed
San Mateo	2,850	234	82	2,000	236	114	Suppressed	Suppressed	152
Santa Barbara	3,527	336	41	3,045	45	Suppressed	Suppressed	40	Suppressed
Santa Clara	8,456	638	258	6,278	979	59	17	77	150
Santa Cruz	1,759	265	Suppressed	1,426	22	Suppressed	Suppressed	15	21
Shasta	1,259	924	26	173	41	Suppressed	56	33	Suppressed
Sierra	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Siskiyou	296	199	Suppressed	49	Suppressed	Suppressed	21	16	Suppressed
Solano	2,253	425	419	1,098	155	23	Suppressed	106	Suppressed
Sonoma	2,418	553	36	1,661	54	Suppressed	35	43	Suppressed
Stanislaus	5,062	1,234	119	3,349	179	Suppressed	Suppressed	120	29
Sutter	622	253	11	251	93	Suppressed	Suppressed	12	Suppressed
Tehama	556	299	Suppressed	219	Suppressed	Suppressed	17	11	Suppressed
Trinity	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Tulare	6,213	862	84	4,991	179	Suppressed	47	41	Suppressed
Tuolumne	242	186	Suppressed	45	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Ventura	5,803	532	48	5,032	104	13	13	33	28
Yolo	1,014	294	30	600	59	Suppressed	Suppressed	12	Suppressed
Yuba	570	301	13	169	53	Suppressed	14	17	Suppressed
<i>Invalid County Code</i>	255	34	15	185	12	2	0	4	3
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>35,314</b>	<b>18,155</b>	<b>192,620</b>	<b>14,083</b>	<b>1,263</b>	<b>1,136</b>	<b>3,467</b>	<b>2,304</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 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, 2007

BENEFICIARY COUNTY	Total	Age of Mother					
		Age ≤ 17	18-19	20-24	25-29	30-34	35 and Older
Alameda	7,515	295	714	2,340	2,097	1,292	777
Alpine	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Amador	125	Suppressed	16	52	27	21	Suppressed
Butte	1,463	60	156	579	386	187	95
Calaveras	177	Suppressed	29	69	43	27	Suppressed
Colusa	244	Suppressed	26	74	75	42	Suppressed
Contra Costa	4,375	175	431	1,459	1,212	704	394
Del Norte	243	11	36	102	57	24	13
El Dorado	638	23	65	228	168	91	63
Fresno	10,647	628	1,257	3,644	2,715	1,464	939
Glenn	275	16	34	98	67	38	22
Humboldt	935	27	104	339	286	120	59
Imperial	1,826	128	222	674	456	215	131
Inyo	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Kern	9,259	589	1,188	3,287	2,162	1,264	769
Kings	1,389	86	174	538	335	162	94
Lake	465	21	63	156	117	74	34
Lassen	153	Suppressed	27	67	31	13	Suppressed
Los Angeles	82,113	3,722	7,906	25,158	21,682	14,505	9,140
Madera	1,801	94	224	611	430	279	163
Marin	783	17	64	231	235	151	85
Mariposa	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Mendocino	783	42	70	281	230	107	53
Merced	3,103	169	360	1,104	770	436	264
Modoc	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Mono	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Monterey	4,274	262	473	1,464	1,092	642	341
Napa	677	19	54	232	199	110	63
Nevada	322	17	38	113	94	38	22
Orange	18,515	707	1,680	5,587	5,024	3,337	2,180
Placer	991	35	95	367	273	130	91
Plumas	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Riverside	17,009	854	2,062	5,886	4,335	2,468	1,404
Sacramento	10,402	495	1,196	3,583	2,740	1,477	911
San Benito	485	39	48	180	125	64	29
San Bernardino	17,578	958	2,064	6,114	4,424	2,567	1,451
San Diego	15,670	812	1,694	5,139	4,078	2,437	1,510
San Francisco	2,823	89	197	679	847	588	423
San Joaquin	6,303	339	747	2,198	1,602	925	492
San Luis Obispo	1,345	65	147	485	343	194	111
San Mateo	2,850	93	254	866	779	532	326
Santa Barbara	3,527	214	412	1,131	923	546	301
Santa Clara	8,456	329	744	2,692	2,272	1,441	978
Santa Cruz	1,759	90	158	579	478	291	163
Shasta	1,259	73	155	507	317	147	60
Sierra	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Siskiyou	296	19	32	114	84	25	22
Solano	2,253	91	226	802	596	330	208
Sonoma	2,418	98	220	797	670	420	213
Stanislaus	5,062	281	611	1,744	1,344	716	366
Sutter	622	24	68	207	186	88	49
Tehama	556	25	68	219	144	59	41
Trinity	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Tulare	6,213	348	699	2,223	1,537	853	553
Tuolumne	242	Suppressed	42	89	54	40	Suppressed
Ventura	5,803	346	596	1,876	1,480	949	556
Yolo	1,014	36	107	312	286	162	111
Yuba	570	30	74	250	114	67	35
Invalid County Code	255	36	64	74	39	23	19
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>12,976</b>	<b>28,233</b>	<b>87,771</b>	<b>70,213</b>	<b>42,946</b>	<b>26,203</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 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, 2007

BENEFICIARY COUNTY	Total	Medi-Cal Aid Category					
		All Others	Blind/Disabled	Families	MI Child & Minor Consent	Pregnancy Pathway, not Undocumented	Undocumented
Alameda	7,515	31	189	3,516	144	728	2,907
Alpine	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Amador	125	Suppressed	Suppressed	69	Suppressed	30	17
Butte	1,463	Suppressed	77	901	Suppressed	317	117
Calaveras	177	Suppressed	Suppressed	100	Suppressed	52	Suppressed
Colusa	244	Suppressed	Suppressed	83	Suppressed	59	94
Contra Costa	4,375	22	99	1,772	74	528	1,880
Del Norte	243	Suppressed	Suppressed	168	Suppressed	34	23
El Dorado	638	Suppressed	Suppressed	284	28	159	152
Fresno	10,647	29	217	6,447	177	1,218	2,559
Glenn	275	Suppressed	Suppressed	114	17	66	68
Humboldt	935	Suppressed	31	571	Suppressed	241	60
Imperial	1,826	Suppressed	Suppressed	1,265	53	275	203
Inyo	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Kern	9,259	38	236	4,627	379	1,314	2,665
Kings	1,389	Suppressed	Suppressed	745	83	202	323
Lake	465	Suppressed	Suppressed	257	22	99	62
Lassen	153	Suppressed	Suppressed	106	Suppressed	26	Suppressed
Los Angeles	82,113	372	991	33,158	1,924	7,629	38,039
Madera	1,801	Suppressed	Suppressed	686	63	257	775
Marin	783	Suppressed	Suppressed	169	13	67	529
Mariposa	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Mendocino	783	Suppressed	Suppressed	417	24	138	183
Merced	3,103	Suppressed	Suppressed	1,558	79	466	926
Modoc	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Mono	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Monterey	4,274	Suppressed	Suppressed	1,093	202	554	2,380
Napa	677	Suppressed	Suppressed	172	29	128	331
Nevada	322	Suppressed	Suppressed	151	11	101	53
Orange	18,515	29	99	4,561	668	2,447	10,711
Placer	991	Suppressed	Suppressed	469	31	203	262
Plumas	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Riverside	17,009	53	232	6,361	518	3,928	5,917
Sacramento	10,402	68	310	6,210	138	1,333	2,343
San Benito	485	Suppressed	Suppressed	166	48	84	185
San Bernardino	17,578	61	355	8,652	581	2,592	5,337
San Diego	15,670	64	196	5,747	510	3,501	5,652
San Francisco	2,823	33	47	1,209	47	504	983
San Joaquin	6,303	16	154	3,217	179	868	1,869
San Luis Obispo	1,345	Suppressed	Suppressed	556	43	287	429
San Mateo	2,850	Suppressed	Suppressed	723	100	337	1,651
Santa Barbara	3,527	Suppressed	Suppressed	1,099	92	477	1,806
Santa Clara	8,456	33	82	3,146	134	949	4,112
Santa Cruz	1,759	Suppressed	Suppressed	612	69	281	781
Shasta	1,259	Suppressed	62	870	Suppressed	235	57
Sierra	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Siskiyou	296	Suppressed	14	176	Suppressed	88	Suppressed
Solano	2,253	Suppressed	59	1,332	Suppressed	214	619
Sonoma	2,418	11	29	707	59	418	1,194
Stanislaus	5,062	16	100	2,585	92	803	1,466
Sutter	622	Suppressed	Suppressed	384	12	187	27
Tehama	556	Suppressed	Suppressed	264	24	145	102
Trinity	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed	Suppressed
Tulare	6,213	11	77	3,227	150	735	2,013
Tuolumne	242	Suppressed	Suppressed	120	21	81	11
Ventura	5,803	11	45	2,002	161	759	2,825
Yolo	1,014	Suppressed	Suppressed	483	19	198	293
Yuba	570	Suppressed	18	407	Suppressed	101	25
Invalid County Code	255	106	0	114	13	11	11
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>1,125</b>	<b>4,202</b>	<b>114,048</b>	<b>7,229</b>	<b>36,578</b>	<b>105,160</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 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, 2007

BENEFICIARY REGION	Total	Race/Ethnicity of Mother							
		1-White	2-African American	3-Hispanic	4-Asian	5-Hawaiian/Pacific Islanders	6-American Indian/Alaskan Native	7-Two or More Race Categories	8-Others/Unknown
Bay Area	32,150	3,770	3,418	20,098	3,349	401	110	552	452
Central Coast	17,193	1,936	160	14,550	244	34	35	163	71
Central Valley	43,777	6,887	2,154	31,284	2,473	76	220	565	118
Far North	1,661	1,205	31	233	44	Suppressed	86	52	Suppressed
Los Angeles	82,113	4,672	6,887	65,782	3,657	251	102	553	209
North Coast	2,426	1,325	28	690	60	Suppressed	176	119	Suppressed
Sacramento Valley	15,146	4,794	1,624	6,232	1,603	163	158	539	33
Sierra Range/ Foothills	3,023	1,746	25	1,043	57	Suppressed	62	78	Suppressed
Southern California	70,598	8,945	3,813	52,523	2,584	323	187	842	1,381
invalid Code	255	34	15	185	12	2	0	4	3
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>35,314</b>	<b>18,155</b>	<b>192,620</b>	<b>14,083</b>	<b>1,250</b>	<b>1,136</b>	<b>3,467</b>	<b>2,267</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 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, Plumas, Sierra, Tuolumne

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

Table 9e. Medi-Cal Births by Beneficiary Region and Maternal Age  
California Resident Hospital Births, 2007

BENEFICIARY REGION	Total	Age of Mother					
		Age ≤ 17	18-19	20-24	25-29	30-34	35 and Older
Bay Area	32,150	1,206	2,904	10,098	8,907	5,568	3,467
Central Coast	17,193	1,016	1,834	5,715	4,441	2,686	1,501
Central Valley	43,777	2,534	5,260	15,349	10,895	6,099	3,640
Far North	1,661	97	199	659	436	187	83
Los Angeles	82,113	3,722	7,906	25,158	21,682	14,505	9,140
North Coast	2,426	101	273	878	690	325	159
Sacramento Valley	15,146	694	1,729	5,322	3,998	2,120	1,283
Sierra Range/ Foothills	3,023	111	342	1,118	808	409	235
Southern California	70,598	3,459	7,722	23,400	18,317	11,024	6,676
invalid Code	255	36	64	74	39	23	19
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>12,976</b>	<b>28,233</b>	<b>87,771</b>	<b>70,213</b>	<b>42,946</b>	<b>26,203</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 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 9f - **Medi-Cal** Births by Beneficiary Region and Aid Category  
California Resident Hospital Births, 2007

BENEFICIARY REGION	Total	Medi-Cal Aid Category					
		All Others	Blind/Disabled	Families	MI Child & Minor Consent	Pregnancy Pathway, not Undocumented	Undocumented
Bay Area	32,150	144	554	12,746	627	3,873	14,206
Central Coast	17,193	30	172	5,528	615	2,442	8,406
Central Valley	43,777	128	896	23,092	1,202	5,863	12,596
Far North	1,661	Suppressed	84	1,108	Suppressed	352	71
Los Angeles	82,113	372	991	33,158	1,924	7,629	38,039
North Coast	2,426	Suppressed	79	1,413	Suppressed	512	328
Sacramento Valley	15,146	89	461	8,846	275	2,406	3,069
Sierra Range/ Foothills	3,023	19	60	1,457	126	747	614
Southern California	70,598	214	905	26,586	2,330	12,743	27,820
Invalid Code	255	106	0	114	13	11	11
<b>TOTAL BIRTHS<sup>1</sup></b>	<b>268,342</b>	<b>1,125</b>	<b>4,202</b>	<b>114,048</b>	<b>7,229</b>	<b>36,578</b>	<b>105,160</b>

<sup>1</sup>Total Births = Births in Hospital Only. DHCS identified a total of 560,884 births to California mothers in 2007 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, Plumas, Sierra, Tuolumne

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

Table 10. Medi-Cal and Non-Medi-Cal Births by Select Comorbidities and Maternal Race/Ethnicity  
California Resident Hospital Births, 2007

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	17,216	2,534	1,931	11,437	774	103	437	18,479	7,619	1,160	6,207	2,643	82	768
No Hypertension Diagnosis	251,126	32,780	16,224	181,183	14,572	1,033	5,334	250,855	98,412	8,263	86,016	48,036	626	9,502
Unknown	0	0	0	0	0	0	0	23,208	7,014	1,553	10,439	2,508	128	1,566
<b>DIABETES<sup>1</sup></b>														
Diabetes	18,842	1,844	821	14,329	1,413	66	369	21,249	5,698	658	8,198	5,882	64	749
No Diabetes Diagnosis	249,500	33,470	17,334	178,291	13,933	1,070	5,402	248,085	100,333	8,765	84,025	44,797	644	9,521
Unknown	0	0	0	0	0	0	0	23,208	7,014	1,553	10,439	2,508	128	1,566
<b>SUBSTANCE USE<sup>1</sup></b>														
Maternal Substance User	4,737	1,745	762	1,777	126	78	249	1,470	596	176	499	67	36	96
Maternal Non-Substance User	263,605	33,569	17,393	190,843	15,220	1,058	5,522	267,864	105,435	9,247	91,724	50,612	672	10,174
Unknown	0	0	0	0	0	0	0	23,208	7,014	1,553	10,439	2,508	128	1,566
<b>SMOKING DURING PREGNANCY<sup>3</sup></b>														
Maternal Smoker	10,504	5,980	1,247	2,134	352	195	596	3,573	2,243	209	602	263	44	212
Maternal Non-Smoker	249,034	28,204	16,139	184,087	14,701	911	4,992	262,588	102,541	9,063	90,414	50,040	650	9,880
Unknown	8,804	1,130	769	6,399	293	30	183	26,381	8,261	1,704	11,646	2,884	142	1,744
<b>TOTAL BIRTHS<sup>2</sup></b>	<b>268,342</b>	<b>35,314</b>	<b>18,155</b>	<b>192,620</b>	<b>15,346</b>	<b>1,136</b>	<b>5,771</b>	<b>292,542</b>	<b>113,045</b>	<b>10,976</b>	<b>102,662</b>	<b>53,187</b>	<b>836</b>	<b>11,836</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 560,884 births to California mothers in 2007 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.