

# Birth Data Workshop

2014



# How Birth Certificate Data is Used in Public Health

Maternal, Child and Adolescent Health Program  
Center for Family Health  
California Department of Public Health

## Birth Data Quality: It's so Important Tips for Success

Regional Perinatal Programs of California

# Why is it so important to be accurate?

- Provides source of data
- Identifies and targets:
  - Underserved communities
  - Areas of need for programs
  - Need for services
  - Where dollars should be spent
- Aids in:
  - Developing new programs
  - Improving health among high risk populations
  - Prevents maternal and newborn deaths, prematurity, birth defects
  - Improving health in underserved communities

*Perinatal Profiles*  
*2011 California Data*  
**2011 Live Birth: 502,446**

PERINATAL CHARACTERISTICS (%)

- Low birthweight (<2,500 g) 6.7
- Very low birthweight (<1,500 g) 1.0
- Multiple births 3.2
  
- Medi-Cal delivery 46.8
- Mothers under 18 2.4
- Mothers over 34 18.6
- Incomplete high school 22.1
  
- First trimester prenatal care 81.8
- Third trimester prenatal care 2.7
- No prenatal care 0.5
- Unknown prenatal care 2.1
  
- Primary C-section 18.2
- Repeat C-section 15.1

MATERNAL RACE/ETHNICITY &  
 BIRTHPLACE (%)

- White 29.3
- Hispanic 50.7
- Black 6.0
- Asian/Pacific Islander 13.5
- Other 0.5
- Foreign born 39.8

*Data Source: California Department of Health Services, Birth Public Use File, 2011*

RECORDS WITH MISSING DATA: 7.6 (%)

38,186 births with  
missing data (2011)

**This is why YOU are SO  
important.**



*Data Source: California Department of Health Services, Birth Public Use File, 2011*

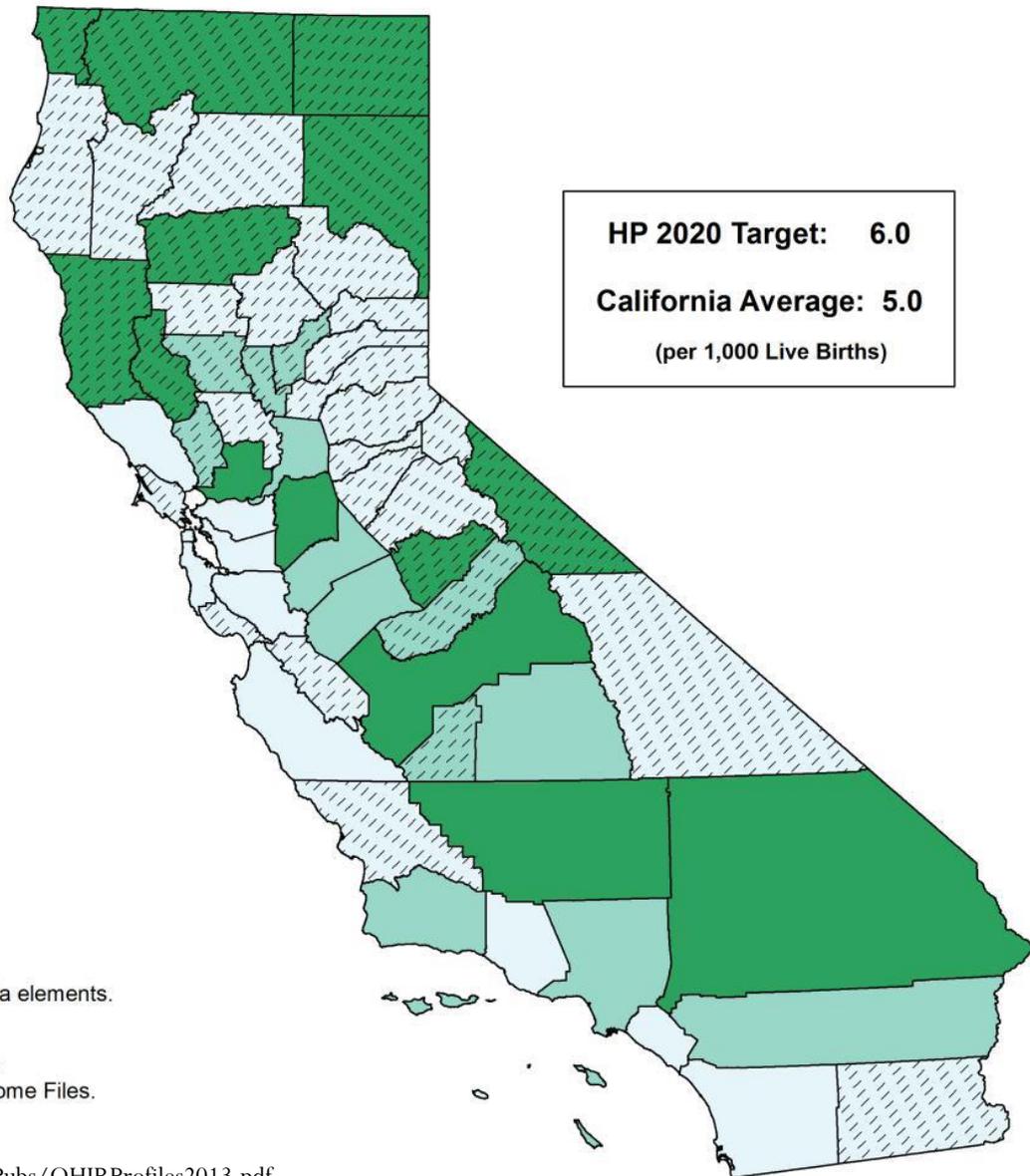
- Improving the well-being of mothers, infants, and children is an important public health goal for the United States. Their well-being determines the health of the next generation and can help predict future public health challenges for families, communities, and the health care system.



- “Healthy citizens are the greatest asset any country can have.”  
— Winston Churchill
- “Underreporting was most common in the case of women at high risk for poor perinatal outcomes and infants dying within the first day. Increasing numbers of unreported items were shown to be associated with corresponding increases in neonatal and postneonatal mortality rates.”

• January 2002, Vol 92, No. 1 , American Journal of Public Health *Gould et al.*





**Infant Death Rate  
per 1,000 Live Births  
by County of Residence**

-  Less than or equal to 5.0
-  Within 5.1 to 6.0
-  Greater than 6.0
-  No Event or Unreliable\*

\* Rates and percentages are deemed unreliable based on fewer than 20 data elements.

**Data Source:**  
California Department of Public Health:  
2008-2010 Birth Cohort-Perinatal Outcome Files.

<http://www.cdph.ca.gov/pubsforms/Pubs/OHIRProfiles2013.pdf>

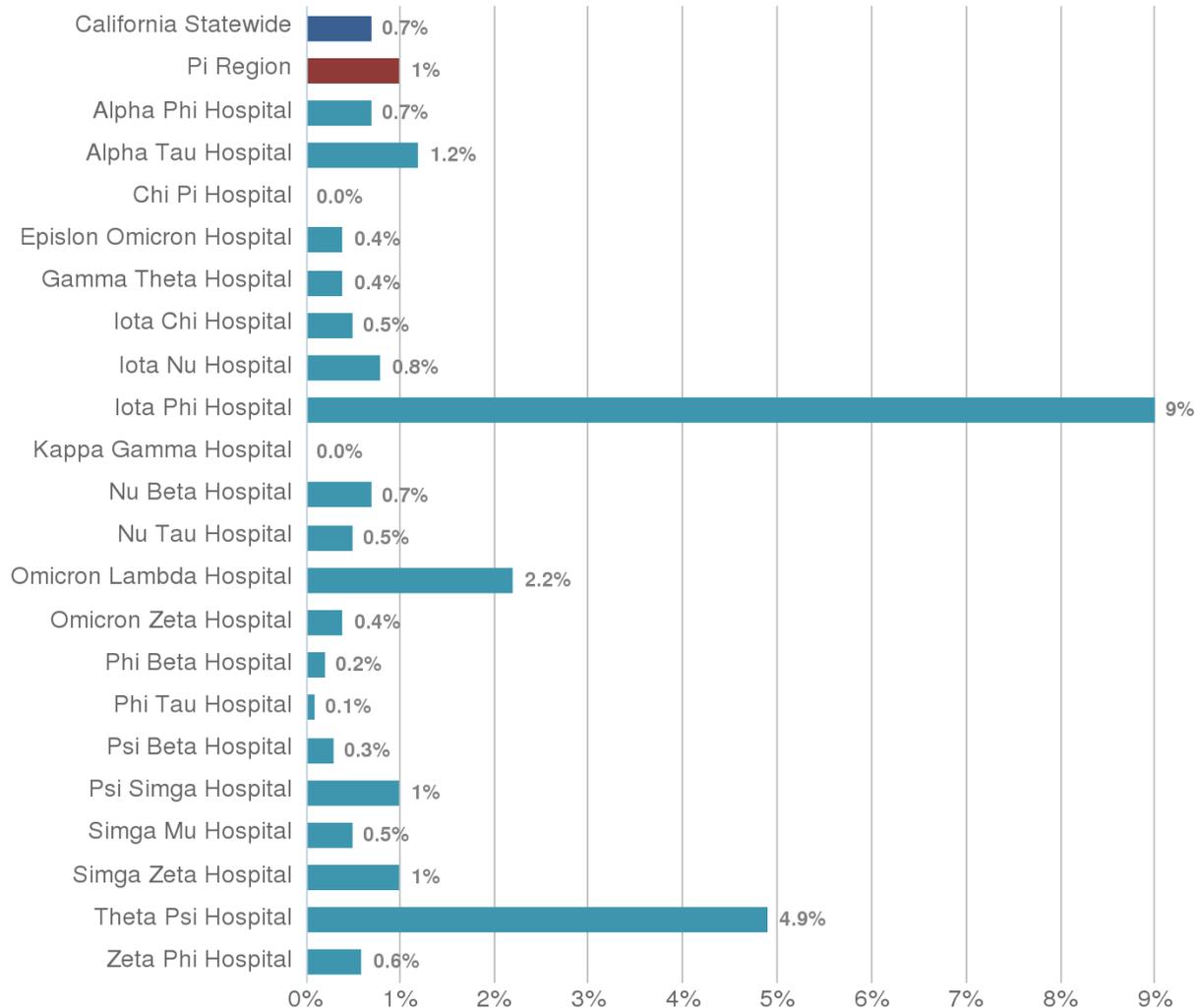
# California Maternal Data Center

## Measuring Hospital Performance

Based on Office of Statewide Health Planning and Development (OSHPD) discharge and Birth Data

- Assess extent to which providers are meeting standards of good clinical practice
- If standards not being met, measures serve as tool for motivating QI:
  - ❑ Internal tracking on progress towards standard
  - ❑ Public reporting (to inform consumer decision-making and create public pressure)
  - ❑ “Pay for performance” (P4P) incentive payments for meeting defined standards
  - ❑ Component of meeting accreditation standards

# Missing Data and Inconsistent Data



Missing / Inconsistent  
Delivery Method (%) 2012

Blinded site data from The California Maternal Data Center 2012

# Public Health Indicators Based on Birth Certificate Data

- Gestational Age



- Fetal Presentation



- Month Prenatal Care Began



# Public Health Indicators Based on Birth Certificate Data

- Number of Prenatal Care Visits



- Maternal complications

- Diabetes
- Hypertension



# Gestational age matters

- **Completed** weeks of gestation

Not rounded up-For example:

$37 \frac{5}{7} = 37$  weeks completed, not 38

- Enter all known parts of the date
- If no parts of the date are known enter “Unknown

## Best data sources:

- Primary: Prenatal care record under menstrual history or triage form
- Secondary: Admission H&P under Medical History

# OB Estimate of Gestational Age

## Tips for Filling In #26A:

- The OB estimate of gestational age is based on the due date estimated from an ultrasound performed between 16-20 weeks and the date of the last menstrual period (LMP).
- Completed weeks means number of weeks fully completed. For example:

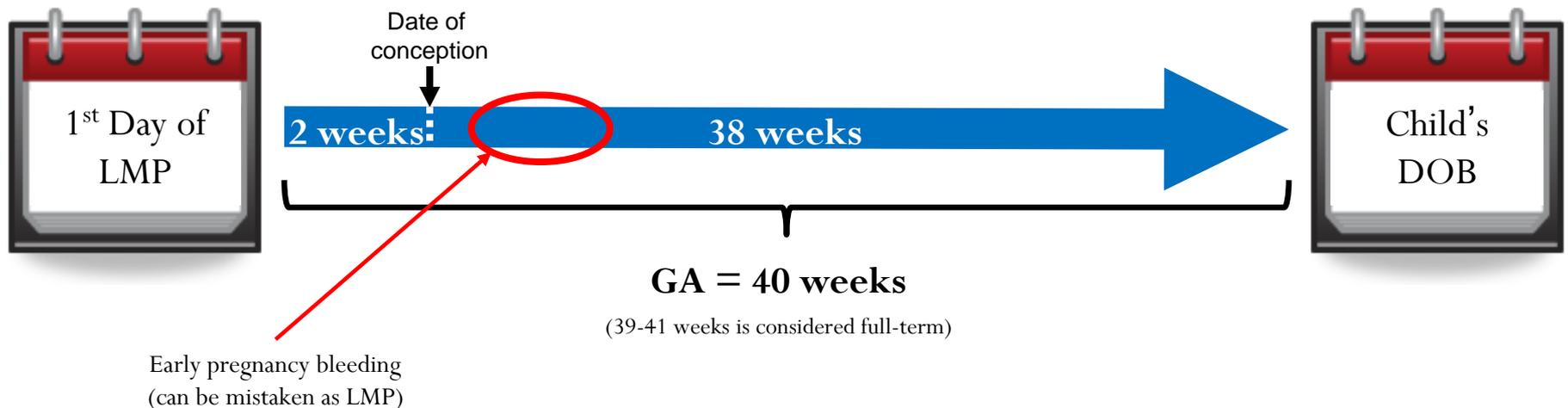
If chart says:	You enter:
36/0, 36/1, 36/2, 36/3, 36/4, 36/5, 36/6	36
36	36
36w0d, 36w1d, 36w2d, 36w3d, 36w4d, 36w5d, 36w6d	36

# Gestational age based on LMP

- Last menstrual period (LMP) is the only time-based gestational age measure.
- It is the most widely used estimate with a long history of use.
- The LMP has been collected on the U.S. standard certificate of live birth since 1968.
- LMP assumes a 28-day cycle with ovulation occurring mid-cycle.



How LMP is used to estimate gestational age:



# Fetal Presentation



Cephalic presentation  
(head first; most common  
is vertex)

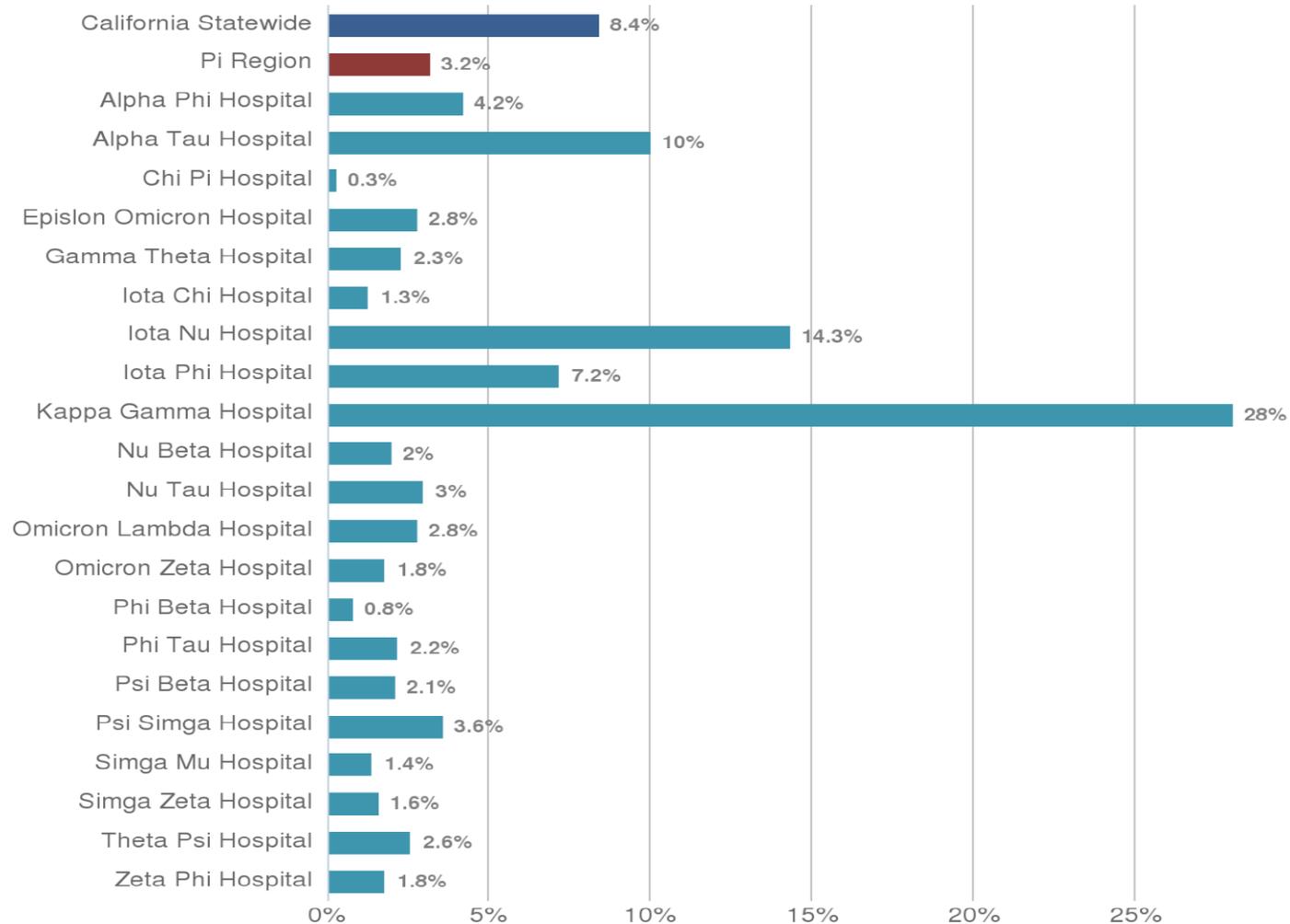


Breech  
(buttocks or feet first)



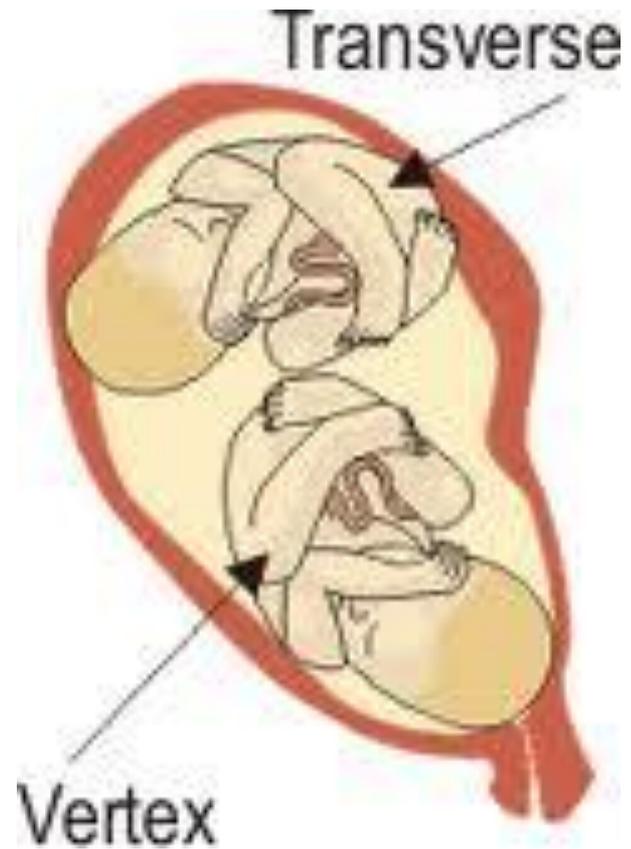
Other

# Missing or Inconsistent Fetal Presentation



Inconsistent Fetal Presentation 2012

# Don't forget twins!



# Or triplets!

# Presentation

- **Item 28A (32A)**
  - **Code 20** Cephalic (head is presenting. ) May also see: vertex, face, occiput, brow
  - **Code 30** Breech-(Bottom end is presenting.) May also see: frank, footling, complete, kneeling.
  - **Code 40** Other (Not cephalic or breech) May see: transverse, shoulder, arm, funic (cord), compound
  - **Code 90** Unknown
- **Best data sources:**
  - Delivery record
  - Provider note
  - Nursing note
  - Discharge summary

# Month Prenatal Care Began

- Not the calendar month, but



- Month of her pregnancy



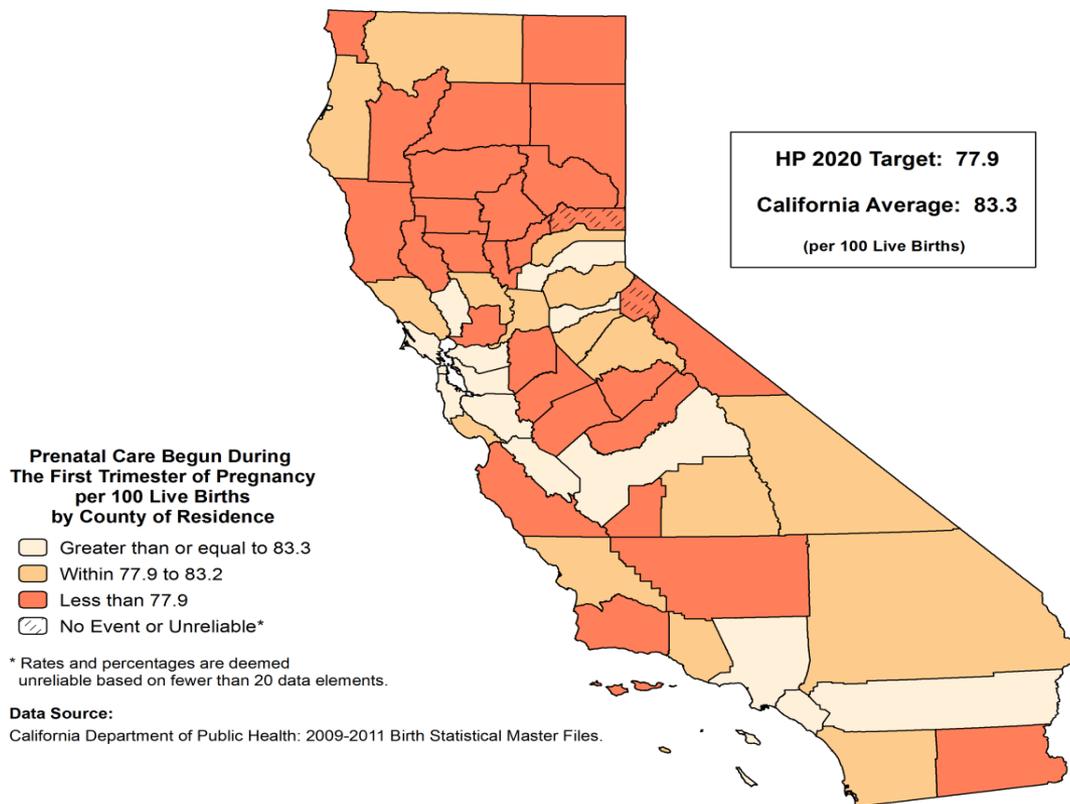
# Month Prenatal Care Began

- **Tips**
  - Enter the **month of the pregnancy** in which prenatal care started (e.g., 1 for first month of pregnancy, 4 for fourth month of pregnancy, etc.)
  - Do **NOT** enter the name of the month (e.g., January, etc.)
- **Best data sources:**
  - Primary: Prenatal Care Record *under*
    - Intake information
    - Initial physical exam
    - Prenatal visits flow sheet
    - Current pregnancy
  - Secondary: Initial Physical Examination

# Month Prenatal Care Began

IF	THEN ENTER
Prenatal care was received	The month of the pregnancy in which the mother first received prenatal care, e.g., 1st, 2nd, 3rd, etc.
No prenatal care was received	0 (zero)
The exact month of pregnancy in which prenatal care began is unknown	The best estimate
Absolutely no information is available	<i>Unknown</i>

# Prenatal Care Begun During the First Trimester of Pregnancy



<http://www.cdph.ca.gov/pubsforms/Pubs/OHIRProfiles2013.pdf>

# Number of Prenatal Visits

- **Goals of Prenatal Care (PNC)** are to ensure a healthy baby and minimize maternal risk. Early, accurate estimate of gestational age helps identify patients at risk
- **How often/how many**
  - About once each month for weeks 4 through 28 (7)
  - Twice a month for weeks 28 through 36 (5)
  - Weekly for weeks 36 to birth (5)

# Number of Prenatal Visits

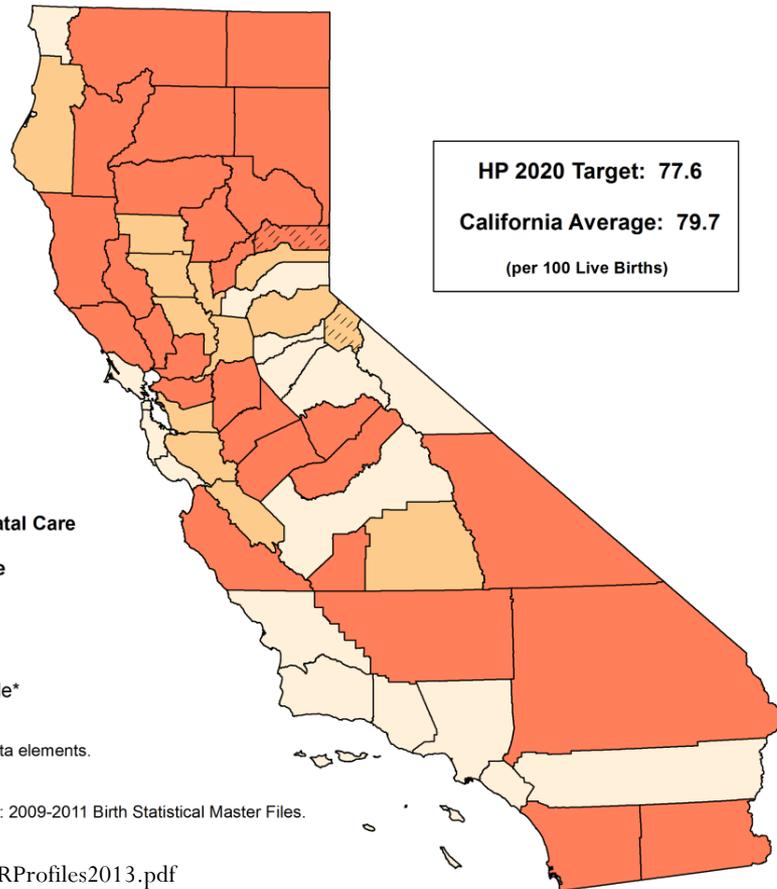
- **Tips**

- Count and enter the number of visits with a physician, certified nurse midwife (CNM), licensed midwife (LM), nurse practitioner (NP) or physician assistant (PA).
- “Unknown” if PNC is unknown and information is unavailable
- Zero if known not to have any PNC
- A visit to the hospital or clinic for an “OB check” or testing- (NST, ultrasound), does NOT count as a prenatal visit

- **Best data sources:**

- Prenatal Care Record (Hollister)
- Prenatal Care Flow sheet

# Adequate/Adequate Plus Prenatal Care



**Adequate/Adequate Plus Prenatal Care  
 per 100 Live Births  
 by County of Residence**

- Greater than 79.7
- Within 77.6 to 79.7
- Less than 77.6
- No Event or Unreliable\*

\* Rates and percentages are deemed unreliable based on fewer than 20 data elements.

**Data Source:**  
 California Department of Public Health: 2009-2011 Birth Statistical Master Files.

<http://www.cdph.ca.gov/pubsforms/Pubs/OHIRProfiles2013.pdf>

# Maternal Complications and Procedures of Pregnancy - Item 29

## DIABETES

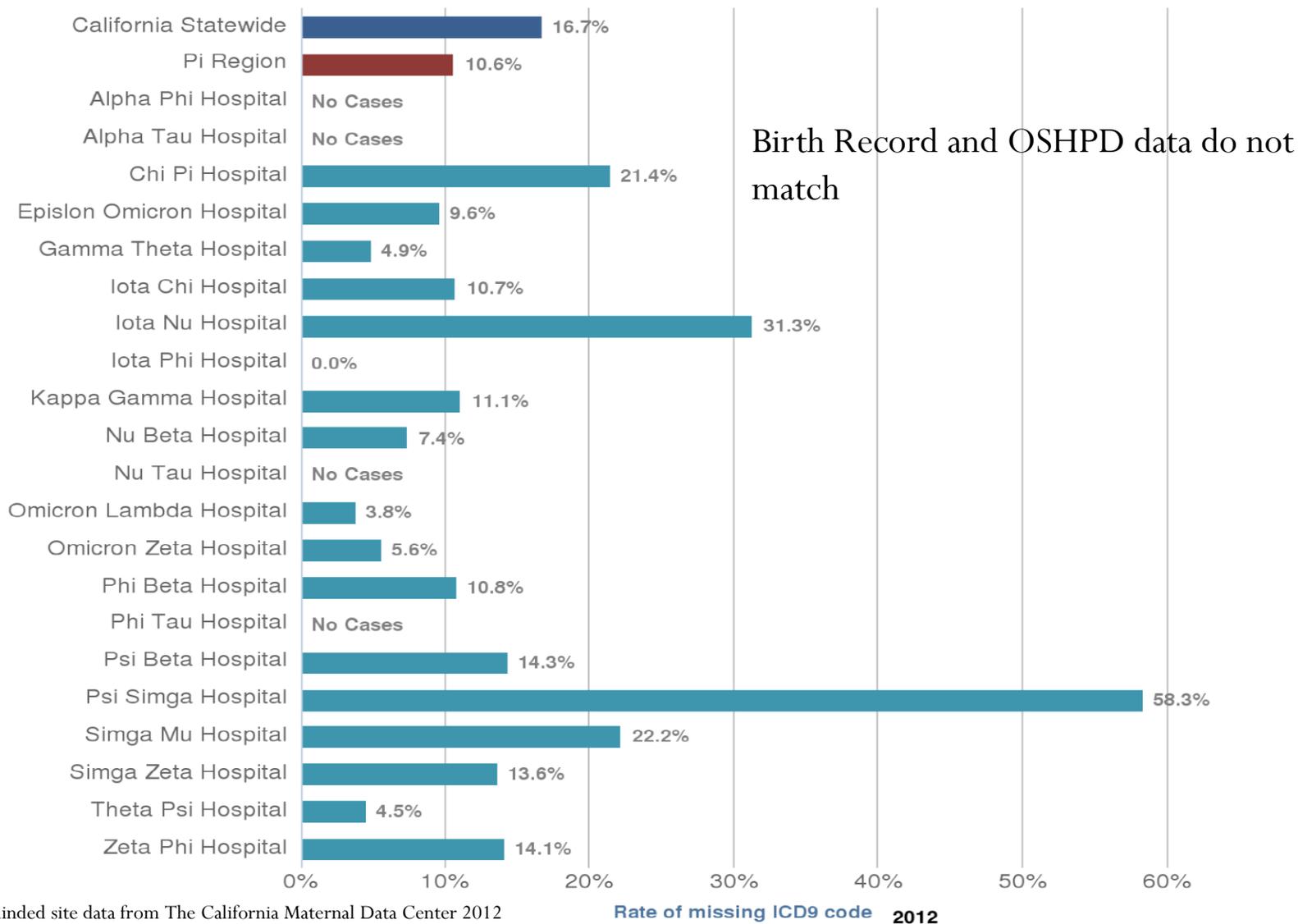
- **Code 09** - Diabetes. Diagnosed before pregnancy
- **Code 31** – Gestational Diabetes. Diagnosed during pregnancy

**Do not check both**

- Best data sources are:
  - Prenatal record
  - Labor and delivery record
  - Admission History and Physical



# Missing or inconsistent Diabetes



# Maternal Complications and Procedures of Pregnancy - Item 29      HYPERTENSION

**Code 03** – Pre-pregnancy or chronic hypertension.

Elevated blood pressure above normal. Diagnosed **before** the pregnancy.

**Code 01** – Gestational hypertension. Elevation of blood pressure above normal, diagnosed **during** pregnancy.

**Code 02** – Eclampsia. Gestational hypertension with **seizures**. Occurs during and within 48 hours after childbirth.

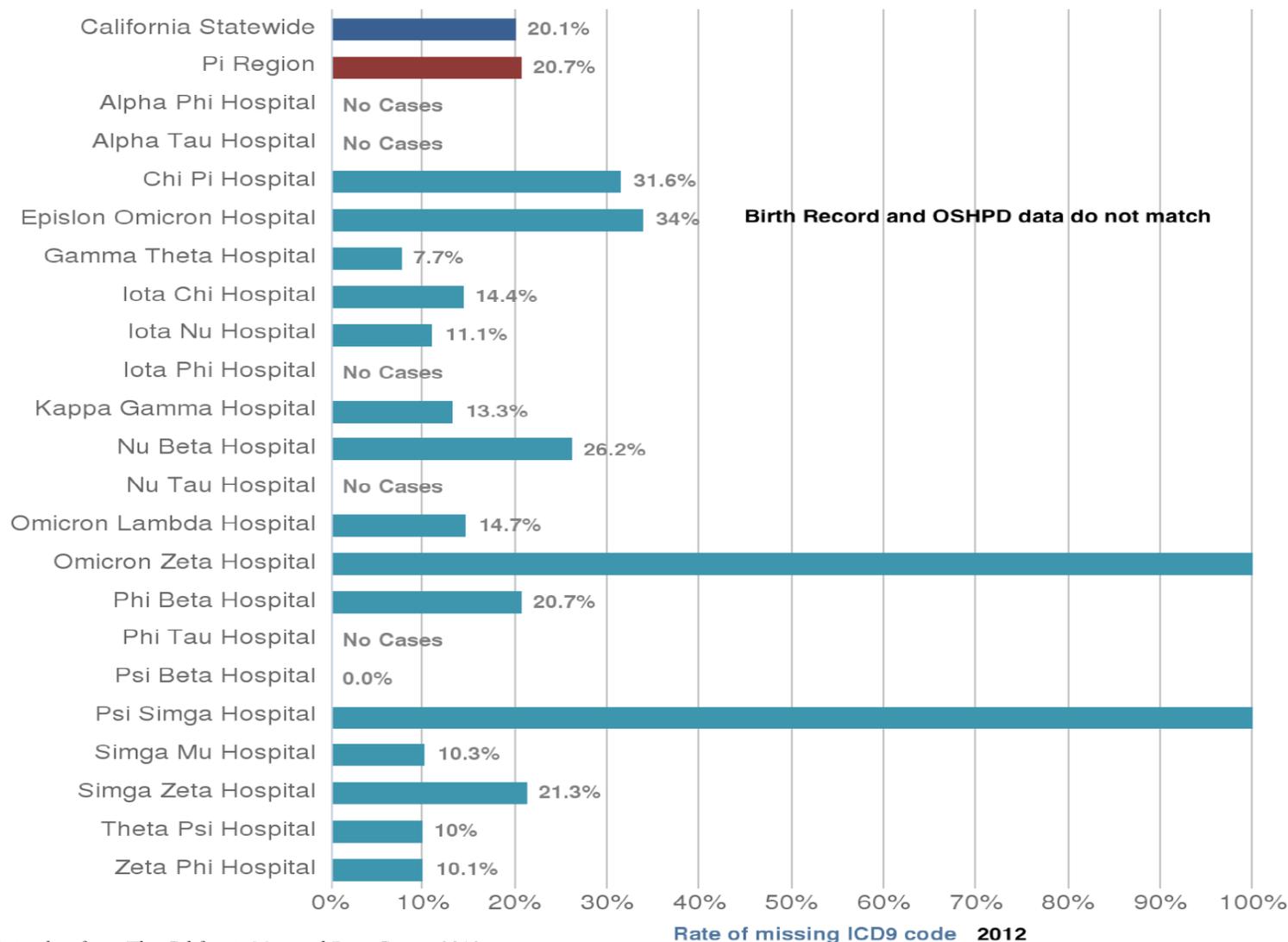
• **Best data sources:**

- Pregnancy record which include up to 48 hours postpartum
- Delivery record

**Only Check ONE**



# Missing or inconsistent hypertension data



# Item 30 (34)

## Induction or augmentation of labor

### •Code 11-Induction of labor:

- Stimulation of labor to begin labor for the purpose of delivery
- Before the onset of spontaneous labor
- Uses artificial rupture of membranes (AROM) or oxytocin (Pitocin)

### •Code 12-Augmentation of labor:

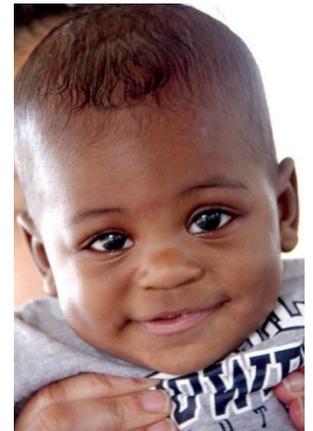
- Stimulation of labor that is not progressing or is progressing very slowly
- After the onset of spontaneous labor
- Uses artificial rupture of membranes or oxytocin (Pitocin)

### •Best data sources:

- Delivery record
- Nurse charting-flowsheet
- Physician note



# Why we do what we do





Thank-you for being such  
an important part of the  
health of mothers and  
babies in California.



