# A Promising Surveillance System to Monitor Perinatal/Infant Health: Los Angeles Mommy and Baby (LAMB) Project

Maternal, Child & Adolescent Health Programs, Los Angeles County Department of Public Health
Shin Margaret Chao, PhD, Chandra Higgins, MPH, Giannina Donatoni, PhD, Yvonne Lau, MPH, Cathleen Bemis, MS, Cynthia Harding, MPH

## Background

❖Poor birth outcomes are a continuing public health challenge in LAC.
❖The distributions of poor birth outcomes show significant racial/ethnic and geographic disparities.
❖The precise reasons for these persistent disparities are mostly unknown.
❖In 2005, MCAH Programs established the Los Angeles Mommy and Baby (LAMB) Project to provide timely data on factors associated with adverse birth outcomes In LAC.
❖This bi-annual countywide survey provides comprehensive and groundbreaking perinatal data for public health professionals and community stakeholders in addressing disparities in poor birth outcomes in LAC

## Objectives

- ❖ To identify factors that may relate to poor birth outcomes (low birth weight, preterm births), especially focuses on those factors that may be preventable and can be addressed through public health and system changes
- ❖ To establish a surveillance system in Los Angeles County to monitor maternal/infant health indicators related to poor birth outcomes
- ❖ To assist local health department, community-based organizations in designing evidence-based program and policy/planning process

## Methods

**Participants:** Women who recently gave birth in Los Angeles County in 2005

**Design:** Population-based stratified sampling; over sampling on low birth weight and pre-term births (LBW/PT) as well as African American, Asian/Pacific Islander, and Native American births

**Procedure:** LAMB Project followed CDC PRAMS procedures as described in figure 1. Surveys were mailed to participants with telephone follow-up. The survey was administered in English, Spanish, and Chinese with translators available for other languages. To enhance the response rate, all respondents were given a $20 gift certificate.

**Instrument:** The survey examined areas that are known to have an impact on birth outcomes, including

- Preconception health
- Prenatal care
- Maternal medical conditions
- Psychosocial risk factors
- Behavioral risk factors

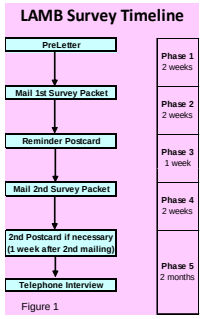


Figure 1

**Analysis:** Data were linked with information from birth and death certificates

## Selected 2005 LAMB Results and Participant Feedback

Close to 5,500 women responded to the survey. The adjusted response rate was close to 50%. Summary of selected indicators is included in the tables below.

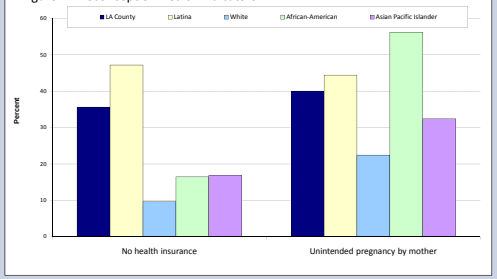
| Table 1. Preconception Health Indictors | Percent | 95 % CI | Estimated # pregnant women |
|---|---|---|---|
| Preconception Health | | | |
| Uninsured | 35.6% | 33.4 – 38.0 | 53,208 |
| Unintended pregnancy | 40.0% | 37.7 – 42.2 | 59,784 |
| Did not take multi-vitamin | 57.0% | 54.9 – 59.3 | 85,193 |
| Smoking six months prior to becoming pregnant | 9.2% | 8.0 – 10.4 | 13,750 |
| Obstetrical history | | | |
| Prior miscarriage | 16.6% | 14.9 – 18.1 | 24,810 |
| Prior preterm or low birth weight birth | 9.4% | 8.1 – 10.9 | 14,049 |
| Maternal medical condition prior to pregnancy | | | |
| Overweight | 38.1% | 35.8 – 40.3 | 58,238 |
| Anemia | 9.8% | 8.5 – 11.2 | 14,647 |
| Periodontal disease | 5.4% | 4.3 – 6.4 | 8,070 |
| High blood pressure | 2.6% | 1.9 – 3.4 | 3,886 |
| Diabetes | 3.0% | 2.2 – 3.9 | 4,483 |

| Table 2. Prenatal Care | Percent | 95 % CI | Estimated # pregnant women |
|---|---|---|---|
| Inadequate prenatal care | 11.6% | 9.9 – 13.4 | 17,337 |
| Late entry into prenatal care | 7.2% | 6.0 – 8.4 | 10,761 |

| Table 3. Psychosocial and Behavior Risk Factors | Percent | 95 % CI | Estimated # pregnant women |
|---|---|---|---|
| Depressed during pregnancy | 34.0% | 31.7 – 36.2 | 50,817 |
| Reported pregnancy as a hard time of their life | 17.2% | 15.5 – 18.8 | 25,707 |
| Abused by partner during pregnancy | 2.4% | 1.7 – 3.1 | 3,587 |
| Smoked during pregnancy | 2.8% | 2.2 – 3.5 | 4,184 |
| Exposed to second hand smoke | 10.8% | 9.4 – 12.3 | 16,141 |

| Table 4. Infant Health and Postpartum Indicators | Percent | 95 % CI | Estimated # pregnant women |
|---|---|---|---|
| Ever breastfed | 77.6% | 75.6 – 79.6 | 115,982 |
| Baby slept on his/her back | 62.8% | 60.5 – 65.0 | 93,862 |
| Baby slept in bed with mother/other person | 76.4% | 74.5 – 78.3 | 114,188 |
| Depressed after baby was born | 51.8% | 49.1 – 54.5 | 77,421 |
| Had a postpartum checkup | 88.4% | 86.9 – 89.9 | 132,124 |

Figure 2. Preconception Health Indicators



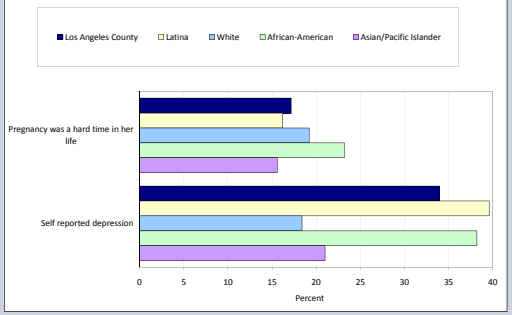

*Voices from LAMB Mothers*

*"I'm glad to participate and very blessed to have my baby boy And I can't wait for my new baby to arrive. I'm having a girl. Thank you."*

*"I just wanted to comment that I am very happy that we're being taken into account. Thank you for caring about the people especially the women because it is another option for those who do not dare to communicate their family problems such as domestic violence. I hope that with this survey they feel at liberty to communicate if they have some of these problems"*

*"Project is great. Keep doing it."*

Figure 3. Psychosocial Risk Factors during Pregnancy




## How are LAMB Data Used?

LAMB identified that only 43% of women were taking a multivitamin before pregnancy and 9% were smoking. Additionally, LAMB found that 40% of pregnancies were unplanned. These data highlight the need to promote healthy life styles for women of reproductive age. Consequently, the ***Los Angeles County Preconception Health Collaborative*** was developed to promote preconception health. This collaborative developed the Preconception Health Speakers' Bureau, which presented at 6 venues, hosted discussions with national MCAH leaders (CDC and CityMatCH), and are in the process of developing a preconception health data brief. Based on findings from LAMB, the ***March of Dimes, Greater Los Angeles Division***, is also in the process of developing a specific forum to promote preconception health among Hispanic/Latino communities.

LAMB demonstrated that only 35% of women achieved ideal weight gain while pregnant. Furthermore, 54% of African American and 43% of Latino women were overweight or obese prior to pregnancy. These data helped the ***Healthy Weight for Women of Reproductive Age Action Learning Collaborative*** to promote healthy weight before pregnancy among various communities in Los Angeles. In 2008, MCAH developed health messages specific to African American and Latino women and implemented 2 worksite wellness programs.

LAMB demonstrated that 34% of women reported depressed mood during pregnancy. Additional LAMB analyses found that Latino and African American women in Los Angeles are at increased risk for depression during pregnancy. There is evidence of a relationship between a mother's mental health status during pregnancy and poor birth outcomes. These critical findings supported the formation of the ***Los Angeles Perinatal Mental Health Task Force (LAC PMHTC)*** whose aim is to improve the mental health of women during the perinatal period. Furthermore, LAMB data were used to help LAC PMHTC to secure a grant that would address perinatal depression in LAC.

## Sustainability

2007 LAMB:
❖Funded by MCAH and UCLA/HRSA
❖Multilevel sampling design and expanded focus (Preconception health, stress & resilience, neighborhood environment, racism)
❖Academic-public health partnership, community support

2010 and 2012 LAMB Projects;
❖ Funded by first 5 LA
❖ Partnership with First 5 LA to evaluate effectiveness of its strategic partners