LA Health

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SPECIAL REPORT

HEALTHY WOMEN, HEALTHY CHILDREN

PRECONCEPTION HEALTH IN LA COUNTY

WOMEN'S HEALTH IN THE REPRODUCTIVE YEARS

PHFE WIC

LA BEST BABIES NETWORK
Healthy Babies. Our Future.
Presented by First 5 LA

March of Dimes

County of Los Angeles Public Health

pac-Lac
Perinatal Advisory Council: Leadership, Advocacy and Consultation

California Family Health Council, Inc.

Introduction

For several decades, medical research has linked birth weight, birth defects, and the overall health of newborns to their mothers' health and behaviors during pregnancy. In the last 20 years, studies have also established a clear link between babies' health and their mothers' health *before and between* pregnancies.[1,2] An increased focus on helping women stay well throughout their lives not only improves women's health, but the health of their children.

What is Preconception Health?

Preconception health refers to the health of all women of reproductive age, which is generally considered 15-44 years. Through a systematic approach of disease screening, prevention, and health promotion, women can become and stay healthier, whether or not they plan to bear children. Since nearly half of all pregnancies in the U.S. and in California are unplanned, efforts to improve maternal and child health must address the health of all women of reproductive age.

Although Los Angeles County's infant mortality, low birth weight, and preterm birth rates are lower than U.S. averages, we have not yet reached national Healthy People 2010 goals for reproductive health (www.healthypeople.gov). Substantial gains in the expansion of early prenatal care in the County and reductions in low birth weight and infant mortality have not eliminated disparities in birth outcomes, which still persist for different racial/ethnic groups and for women living in different geographic regions of LA County. To further improve birth outcomes, we must address health inequities and improve women's health throughout the lifespan.

The periods of women's lives before and between pregnancies provide important opportunities for women and their health care providers to identify and manage any health problems. Doing so reduces risk factors that can impact potential pregnancies while also promoting good health throughout a woman's lifespan. The duration of pregnancy itself is too brief to optimally manage chronic health conditions, such as diabetes and obesity, and may be insufficient time to eliminate risky behaviors, such as smoking and alcohol use, which can adversely affect pregnancy outcomes and children's health.

Preconception health care also aims to reduce exposure to harmful environmental factors that affect women's health and impact fetal development during the early stages of pregnancy, when the organs of

Los Angeles County Preconception Health Collaborative

The LA County Preconception Health Collaborative, formed in 2006, strives to improve the preconception health of LA County women by integrating the efforts of multiple local agencies concerned with maternal and child health. The Collaborative works to incorporate preconception health promotion and health care into public health and clinical practice, to educate the public about preconception health, to reduce disparities in maternal and infant morbidity and mortality, and to monitor the progress of LA County in achieving improved preconception health for all women of reproductive age.

http://publichealth.lacounty.gov/mch/ReproductiveHealth/PreconceptionHealth/PreconceptionHealth_rev.htm

1. *Atrash, H. K., Johnson, K., Adams, M., Cordero, J. F., and Howse, J. Preconception care for improving perinatal outcomes: The time to act. Maternal and Child Health Journal 2006; 10:S3-S11.*
2. *Centers for Disease Control and Prevention. Recommendations to improve preconception health and health care—United States: a report of the CDC/ATSDR Preconception Care Workgroup and the Select Panel on Preconception Care. MMWR 2006;55(No. RR-6).*

a developing embryo are forming. Pollutants, prescribed medications, alcohol use, and infectious agents (such as viruses) often have the greatest negative impact during this critical period, before many women even realize they are pregnant.

Preconception Health Measures

Evidence suggests that health care access, health behaviors, and chronic health conditions all affect pregnancy outcomes for both mother and child. By examining and tracking the indicators presented in this preconception health brief, LA County health care providers and organizations can better identify problems, develop targeted interventions, and monitor progress toward improving the preconception health of LA County women.

The data presented here come from three different surveys conducted by the Los Angeles County Department of Public Health: the Los Angeles County Health Survey (LACHS), the Los Angeles Mommy and Baby (LAMB) Project, and the Los Angeles Health Overview of a Pregnancy Event (LA HOPE). All data are weighted to accurately reflect the populations they describe. Where possible, Los Angeles County data are compared to national Healthy People 2010 targets. Benchmarks such as these are useful for measuring progress toward national goals and assuring that our efforts are effective.

DATA SOURCES: LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH

- The **Los Angeles County Health Survey (LACHS)** is a periodic, population-based random digit dial telephone survey that collects information on demographic characteristics, health conditions, health behaviors, and access to health services among adults and children in the county. The LACHS data presented here are for the subset of 1,357 women 18-44 years old (with no history of hysterectomy and not currently pregnant), drawn from a sample of 7,200 adults interviewed in 2007. In this brief, these women are referred to as "women of childbearing age" or "women of reproductive age". Data on preconception health knowledge pertain to 1,707 biological mothers of children 0-5, interviewed in the 2007 child survey. Data are prepared and disseminated by the Office of Health Assessment and Epidemiology. **www.publichealth.lacounty.gov/ha**

- The **Los Angeles Mommy and Baby (LAMB)** Project is a biennial survey, one of the largest population-based studies of factors associated with poor birth outcomes. The Project is conducted by the Maternal, Child, and Adolescent Health Program. The 2005-06 project surveyed 5,211 LA County mothers ages 13-56 who had recently delivered a baby, asking them about their access to health care, medical history, risky behaviors, and psychosocial factors from the period before, during, and shortly after the most recent pregnancy. **www.publichealth.lacounty.gov/mch/LAMB/LAMB.html**

- The **Los Angeles Health Overview of a Pregnancy Event (LA HOPE)** is an annual, population-based survey of mothers who experienced a recent loss of an infant or a fetus of at least 20 weeks gestational age. The LA HOPE survey, part of the State-mandated Los Angeles County Fetal and Infant Mortality Review (FIMR) Program, collects information similar to LAMB about events from the period before, during, and shortly after pregnancy. The 2006-07 project surveyed 281 women between the ages of 14 and 48. **www.publichealth.lacounty.gov/mch/LAHOPE/LAHOPE.html**

Demographics

The LACHS found that 24% of the overall LA County adult population (or 1,796,000 individuals) were women 18-44 years old who had a uterus and did not report current pregnancy. About half (51%) of childbearing age women in LA County were Latina, over a quarter (26%) were white, 13% were Asian/Pacific Islander, and 10% were African American (see Table 1).

1 TABLE

Demographic Information for LA County Women 18-44 Years Old (LACHS), Women 13-56 Years Old Who Recently Delivered a Baby (LAMB) and Women 14-48 Years Old Who Recently Lost an Infant or Fetus (LA HOPE)

Age Group	LACHS[1] 2007 (%)	LAMB 2005-06 (%)	LA HOPE 2006-07 (%)
< 18	N/A	3.2	1.1
18-24	21.2	23.1	29.0
25-29	21.0	25.0	16.6
30-34	17.3	23.1	25.5
35-39	22.8	14.4	15.6
40-44	17.7	3.2	6.2
45-49	N/A	0.1	6.0
Race/Ethnicity			
White	25.9	20.5	14.1
Latina	51.1	62.2	61.6
African American	9.6	6.1	14.7
Asian/Pacific Islander	13.2	11.1	8.6
Native American	-	0.1	0.9
Education			
High School or Less	43.0	53.5	62.2
More Than High School	57.0	46.4	37.8
Marital Status			
Married	44.8	61.9	52.1
Domestic Partners	2.9	N/A	N/A
Not Married, Living Together	8.7	21.1	33.1
Widowed	0.6*	0.2	0.0
Divorced/Separated	8.6	2.9	1.9
Never Married	34.5	13.8	12.9

[1]The LACHS data are reported only for women with no history of hysterectomy and no current pregnancy
* Estimate is statistically unstable and should be viewed with caution
- Not reported for purposes of confidentiality
N/A = Not Available

Over 150,000 babies are born in LA County each year. The demographic breakdowns of the LAMB and LA HOPE surveys revealed disparities in birth outcomes. For example, African American women represented 6% of women with newborns, but they comprised 15% of those who experienced an infant or fetal loss. In contrast, white women comprised 21% of new mothers, and only 14% of those who recently experienced an infant or fetal death.

Access to Health Care

- Among women of childbearing age in LA County, 23% reported not having health insurance coverage.
- However, among mothers who had recently delivered a baby, 36% reported they were uninsured prior to pregnancy, compared to 38% of women who had recently experienced the loss of a fetus or infant.
- One-fifth (20%) of women of reproductive age in LA County reported that they did not have a regular source of care.
- However, for mothers who had recently delivered a baby or who had recently experienced the loss of a fetus or infant, 33% and 37%, respectively, lacked a regular source of care.

Many health conditions can be prevented or controlled through medical care and self-management. The key to early diagnosis of health problems and their effective management is having health insurance and a regular source of care – a place people visit for routine medical care and when they need advice about their health. Without these, women are at heightened risk for problems that can compromise their health.

Family Planning

- Among women who had recently delivered a baby and those who had experienced the recent loss of a fetus or infant, about 40% reported that their pregnancy was unintended.
- Most women in the County at risk for pregnancy[3] reported using an effective method of birth control[4] the last time they had sex (80%). A lower percent of African Americans (67%) reported using effective contraception compared to whites (87%), Asians/Pacific Islanders (81%), and Latinas (80%).

Unintended pregnancy is associated with numerous adverse consequences for women and children, including delayed entry into prenatal care and an increased risk of harmful prenatal behaviors, such as smoking and drinking.[5] Studies have also shown that an interconception interval of less than six months between pregnancies increases the risk of poor birth outcomes, such as premature births and low birth weight.[6]

Having a plan for when to become pregnant enables women to prepare themselves for pregnancy, to optimize health outcomes for themselves and their children. When potential risks are identified, a fundamental role of preconception care is to provide the necessary counseling to delay pregnancy until the risks for a poor pregnancy outcome are minimized. To achieve healthy pregnancies, women should consistently use an effective method of birth control, or refrain from intercourse, until they are ready to have a child.

Previous Birth Outcomes

- Mothers who had recently experienced the loss of a fetus or an infant reported higher rates of previous miscarriage than those who had recently delivered a baby (23% and 17%, respectively) (see Table 2).
- Previous stillbirth rates were also higher among mothers who had recently experienced a loss of an infant/fetus than those who had recently given birth (8% and 2%, respectively).
- Among mothers who had recently delivered a baby, 9% reported having delivered a preterm or low birth weight baby previously.

Previous adverse birth outcomes, such as miscarriage, stillbirth, or preterm/low birth weight delivery, increase the risk of poor birth outcomes in future pregnancies.[7,8] Optimizing physical and mental health before becoming pregnant can enable women to reduce their risk of poor birth outcomes in future pregnancies.

TABLE 2 Obstetric History Among LA County Women 13-56 Years Old Who Recently Delivered a Baby (LAMB) and Women 14-48 Years Old Who Recently Lost an Infant or Fetus (LA HOPE)

	LAMB 2005-06 (%)	LA HOPE 2006-07 (%)	HP2010† Targets (%)
Previous Preterm/Low Birth Weight	9.4	**	5.0
Previous Preterm Birth	N/A	16.2	N/A
Previous Low Birth Weight	N/A	12.4	N/A
Previous Miscarriage	16.6	23.1	N/A
Previous Stillbirth	1.8	7.8	N/A

† http://www.healthypeople.gov
** LA HOPE data for previous preterm & low birth weight are reported separately
N/A = Not Available

3. *Women considered at risk for pregnancy include women ages 18-44 who: 1. had at least one male sex partner in the past year, 2. have not had a hysterectomy, 3. were not currently pregnant, 4. were not trying to get pregnant, 5. were not infertile or menopausal.*
4. *Effective methods of birth control include birth control pills/patch/ring, vasectomy, tubal ligation, IUD, Depo-Provera shot, diaphragm or cervical cap, contraceptive implant, or condoms. Women who used withdrawal, rhythm, foam/jelly/sponge or unclassified methods were not considered to have used effective birth control.*
5. *Brown S and Eisenberg L, eds. The Best Intentions: Unintended Pregnancy and the Well-being of Children and Families, Washington DC: National Academy Press, 1995.*
6. *Conde-Agudelo A, Rosas-Bermudez A, Kafury-Goeta A. Birth spacing and risk of adverse perinatal outcomes. Journal of the American Medical Association 2006; 295: 1809-1823.*
7. *Ickovics JR, Kershaw TS, Westdahl C, Rising SS, Klima C, Reynolds H, Magriples U.Group prenatal care and preterm birth weight: results from a matched cohort study at public clinics. Obstetrics and Gynecology 2003; 102(5, Part 1): 1051-1057.*
8. *Surkan PJ, Stephansson O, Dickman PW, Cnattingius, S. Previous preterm and small-forgestational-age births and the subsequent risk of stillbirth. New England Journal of Medicine 2004; 350: 777-785.*

Chronic Health Conditions

Chronic health conditions such as obesity, diabetes, and depression are a growing public health concern. Chronic medical conditions should be well-managed before a woman becomes pregnant, as these conditions can impact the health of the mother and infant. Women with chronic health conditions who use medication must also be aware that medicines that are normally safe and helpful to them may not be safe to use during pregnancy.

Prescription Medication

- One-fifth (20%) of women ages 18-44 in LA County reported using a daily prescription medication other than birth control pills.
- Use of prescription medication also varied by race/ethnicity, with 26% of white women reporting daily use, compared to 25% of African Americans, 17% of Latinas, and 14% of Asians/Pacific Islanders.

For some women, medication is an essential part of improving their health and managing chronic conditions. However, certain medications, including prescription medicines, over-the-counter drugs, and herbal remedies, can be harmful to a developing fetus. Women should talk to their health care providers about the effects of their medicines on potential pregnancy, and providers should ensure that women taking drugs that are teratogenic (can cause birth defects) are protected from pregnancy with appropriate contraception.

Depression

- Among women of childbearing age, 15% reported having ever been diagnosed with depression.
- Among mothers who had recently delivered a baby, 34% reported "feeling sad, empty, or depressed" for most of the day, for 2 weeks or longer, during pregnancy. Higher rates of depressive symptoms were reported by Latinas and African Americans (40% and 38%, respectively), as compared to whites and Asians/Pacific Islanders (18% and 21%, respectively).

Pregnancy can be a particularly stressful time for women. Moreover, women with mental health issues prior to pregnancy are more likely to experience problems during and after pregnancy. A number of studies have reported an association between maternal anxiety/stress during pregnancy and negative pregnancy outcomes, such as pregnancy-induced high blood pressure, preterm labor, and low birth weight infants.[9,10] Health care providers should assess women's mental health when discussing plans for pregnancy and advise women that emotional well-being before, during, and after pregnancy is important for maternal and child health.

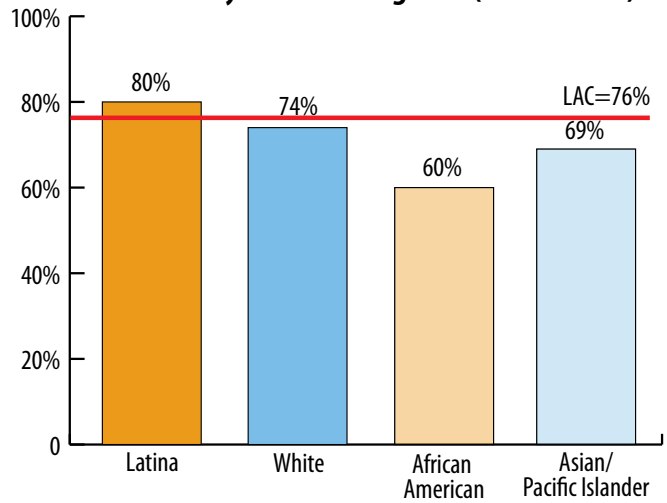
9. *Livingston IL, Otado JA, Warren C. Stress, adverse pregnancy outcomes, and African-American females. Journal of the National Medical Association 2003; 95: 1103-1109.*
10. *Wadhwa PD, Sandman CA, Porto M, Dunkel-Schetter C, Garite TJ. The association between prenatal stress and infant birth weight and gestational age at birth: a prospective investigation. Am J Obstet Gynecol 1993; 169: 858–865.*

Obesity

- Among women of childbearing age in LA County, 20% were obese. Obesity rates among African Americans and Latinas were higher (29% and 28%, respectively) than those for Asians/Pacific Islanders and whites (3%* and 12%, respectively).
- Among women who had recently experienced the loss of a fetus or infant, the pre-pregnancy obesity rate was higher (26%) than that for women who had recently delivered a baby (19%).

Although 76% of biological mothers reported receiving information on healthy weight for pregnancy before they became pregnant (Figure 1), obesity remains a health risk for women of childbearing age. Obesity has been shown to increase the risk of gestational diabetes, pregnancy-induced hypertension, and the need for a cesarean section. Obesity can also cause infertility, making it more difficult for a woman to become pregnant when she wants to.[11,12] To avoid complications, women should attain and maintain a healthy weight before, during, and after pregnancy.

FIGURE 1 **Percent of Biological Mothers (of Children 0-5 Years Old) Who Reported Receiving Information on Healthy Weight for Pregnancy Before They Became Pregnant (LACHS 2007)‡**



‡ Data on preconception health knowledge pertain to 1,707 biological mothers of children 0-5, interviewed in the 2007 LACHS child survey

Physical Activity

- Over one-third (35%) of childbearing age women 18-44 years old in LA County reported minimal to no physical activity (sedentary lifestyle) in a typical week.
- Asian/Pacific Islander women reported the highest rates of a sedentary lifestyle (42%), followed by Latinas (37%), African Americans (37%), and whites (27%).
- Women with less than a high school education reported higher rates of sedentary behavior (44%), as compared to women with a college or post-graduate degree (28%). Among high school graduates and those with some college or trade school, the rates of physical inactivity were comparable (34% and 35%, respectively).

Benefits of regular physical activity include the prevention or management of obesity, diabetes, and heart disease.[13,14] Physical exercise also promotes psychological well-being by reducing feelings of anxiety and depression. Health care providers, community organizations, and policymakers can work together to promote physical activity among all women and create healthy environments that foster physical activity.

** The estimates are based on a small sample size and should be interpreted with caution.*

11. Cnattingius S, Bergstrom R, Lipworth L, Kramer MS. Prepregnancy weight and the risk of adverse pregnancy outcomes. New England Journal of Medicine 1998; 338: 147-152.

12. Siega-Riz AM, Laraia B. The implications of maternal overweight and obesity on the course of pregnancy and birth outcomes. Maternal and Child Health 2006; 10(Suppl 7):S153-S156.

13. Monda KL, Ballantyne CM, North KE. Longitudinal impact of physical activity on lipid profiles in middle-aged adults: the Atherosclerosis Risk in Communities Study. Journal of Lipid Research 2009; 50: 1685-1691.

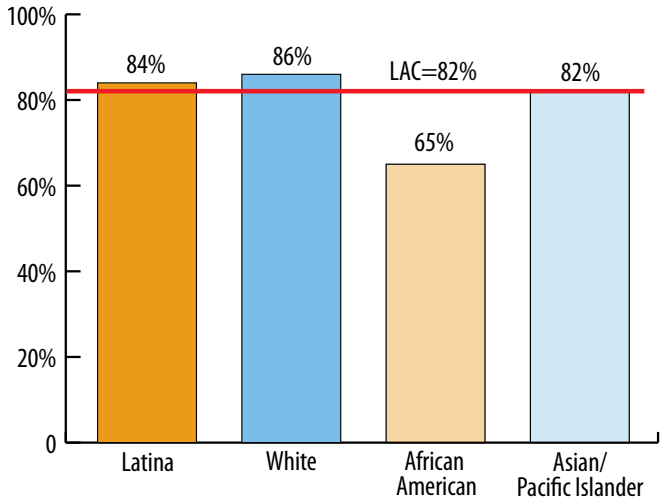
14. Zoeller, RF. Physical activity: The role of physical activity and fitness in the prevention and management of Type 2 Diabetes Mellitus. American Journal of Lifestyle Medicine 2007; 1 (5): 344-350.

Healthy Diet

Folic Acid and Multivitamins

- Fifty-seven percent of LA County mothers who recently delivered a baby reported that they did not take multivitamin supplements containing folic acid before becoming pregnant.
- Among women who had recently experienced a loss of an infant or fetus, 62% reported not taking any folic acid supplements before becoming pregnant.
- Among biological mothers of children 0 to 5 years old in LA County, 82% reported receiving information about the importance of taking folic acid supplements before becoming pregnant. However, only 65% of African Americans reported receiving this information (see Figure 2).
- Although 82% of Asian/Pacific Islander mothers of children 0-5 years old reported receiving information on folic acid supplementation, foreign-born Asian/Pacific Islander mothers reported lower rates of having received this information (80%) than those born in the U.S. (93%).
- However, among foreign-born and U.S.-born Latinas, the reported pre-pregnancy knowledge of folic acid supplementation was more comparable (84% and 82%, respectively).

FIGURE 2 **Percent of Biological Mothers (of Children 0-5 Years Old) Who Reported Receiving Information Pertaining to Folic Acid/ Multivitamin Supplements Before They Became Pregnant (LACHS 2007)‡**



‡ Data on preconception health knowledge pertain to 1,707 biological mothers of children 0-5, interviewed in the 2007 LACHS child survey

A woman's diet and nutritional status before and during pregnancy can affect the health of her infant. Consumption of at least 400 micrograms of folic acid each day, or the use of daily vitamin supplements containing folic acid, reduces the rate of neural tube defects, such as spina bifida.[15] Multivitamins containing folic acid taken before and during pregnancy have also been shown to reduce the rate of premature births and pregnancy-induced hypertension (pre-eclampsia).[16,17,18] However, many reproductive age women in LA County remain uninformed about the importance of folic acid intake, highlighting the need for continued educational efforts about this important preventive intervention.

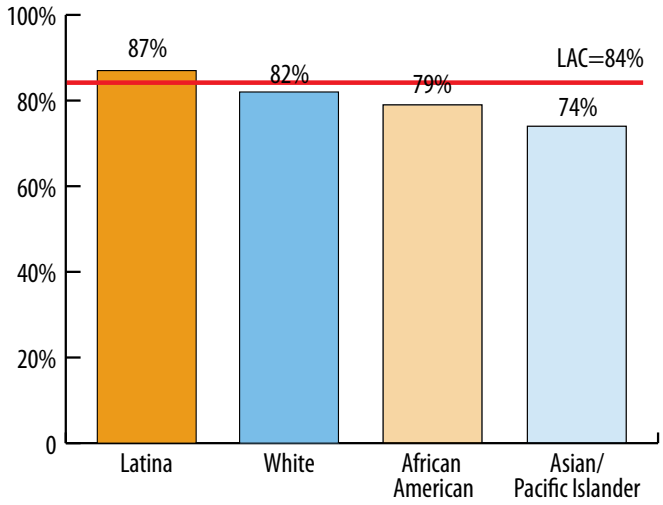
15. *Recommendations for the use of folic acid to reduce the number of cases of spina bifida and other neural tube defects. MMWR 1992; 41(RR-14): 1-7. Cited in Botto LD, Moore CA, Khoury MJ, Erickson JD. Neural-tube defects. New England Journal of Medicine 1999; 341: 1509-1519.*
16. *Vahratian A, Siega-Riz AM, Savitz DA, Thorp JM. Multivitamin use and the risk of preterm birth. American Journal of Epidemiology 2004; 160: 886-892.*
17. *Beil L. Folic acid may prevent preterm birth. Medscape Medical News January 2008. http://www.medscape.com/viewarticle/569590. Accessed May 6, 2008.*
18. *Wen SW, Chen X-K, Rodger M, White RR, Yang Q, Smith GN, Sigal RJ, Perkins SL, Walker MC. Folic acid supplementation in early second trimester and the risk of preeclampsia. American Journal of Obstetrics and Gynecology 2008; 198: 45.e1-45.3.7.*

Nutrition

- Eighteen percent of childbearing age women 18 to 44 years old reported eating five or more servings of fruits and vegetables the previous day, compared to only 15% of LA County adults overall.
- The majority of biological mothers of children 0 to 5 years old reported having received information about healthy nutrition from a healthcare provider before becoming pregnant (84%). Latina mothers reported the highest rate (87%) (see Figure 3).
- Although only 74% of Asian/Pacific Islander mothers of children 0 to 5 years old reported receiving information about nutrition before becoming pregnant, those born in the U.S. reported a higher rate (85%) than those who were foreign-born (72%).

A diet rich in whole grains, fruits, and vegetables is important for maintaining a healthy weight and a healthy body. In addition, a healthy diet can lower the risk of low birth weight in infants.[19] Low rates of fruit and vegetable consumption in LA County underscore the need for improved understanding about the importance of nutrition and improved nutritional intake, especially among women of reproductive age. Everyone, including women who might become pregnant, should consume at least five servings of fruits and vegetables and about 25 mg of fiber each day.

FIGURE 3 Percent of Biological Mothers (of Children 0-5 Years Old) Who Reported Receiving Information Pertaining to Healthy Nutrition Before They Became Pregnant (LACHS 2007)‡



‡ Data on preconception health knowledge pertain to 1,707 biological mothers of children 0-5, interviewed in the 2007 LACHS child survey

19. *Wynn M, Wynn A. A fertility diet for planning pregnancy. Nutr Health 1995; 10: 219-238.*

Risky Behaviors

Smoking

- Among women of childbearing age, 9% reported being a current cigarette smoker.
- Among mothers who had recently delivered a baby and women who had recently experienced an infant or fetal loss, 9% and 12%, respectively, reported smoking cigarettes six months prior to becoming pregnant.
- Most biological mothers of children (0-5 years old) reported that a health professional had informed them about the dangers of tobacco smoke exposure during pregnancy (83%) (see Figure 4).
- As seen in Figure 4, about three quarters (76%) of Asian/Pacific Islander mothers of children 0-5 years old reported awareness, prior to pregnancy, of the harm posed by tobacco smoke exposure during pregnancy. Foreign-born Asian/Pacific Islander mothers reported less awareness of the dangers of tobacco smoke than did mothers born in the U.S. (75% and 85%, respectively).

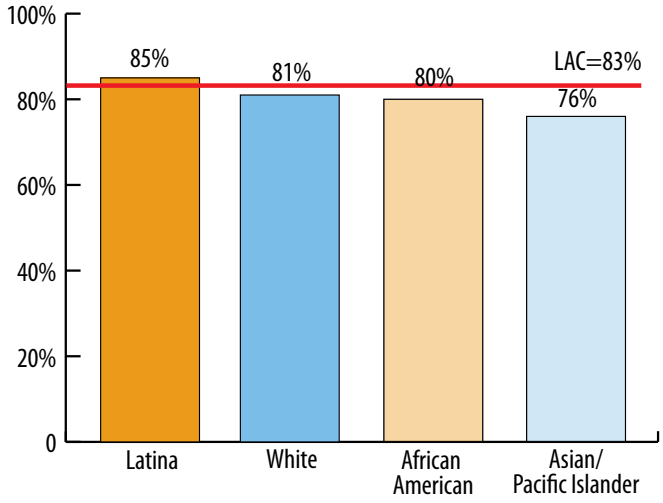
It is essential that women who smoke quit before they become pregnant. Women's smoking during pregnancy increases the risk for premature births, low birth weight, and other adverse birth outcomes.[20] These effects can usually be prevented if a woman stops smoking early in her pregnancy. However, research suggests that mothers who smoke any time from the month before pregnancy through the first trimester are more likely to have a baby with birth defects, particularly congenital heart defects.[21]

Alcohol Use

- Nearly half of childbearing age women (48%) reported drinking at least one alcoholic beverage during the previous month.
- Among women of childbearing age, 14% reported binge drinking (having four or more drinks on a single occasion) at least once in the past month.
- Mothers who had recently delivered a baby and mothers who had experienced a recent loss of an infant or fetus reported comparable rates of having consumed any alcohol during pregnancy (12% and 13%, respectively).

Alcohol use during pregnancy can cause fetal alcohol syndrome and other birth defects, and can contribute to mental retardation and behavioral problems in children.[22] Drinking alcohol has also been shown to increase women's risk for miscarriage. Therefore, women should plan ahead and stop drinking alcohol prior to becoming pregnant.

FIGURE 4 **Percent of Biological Mothers (of Children 0-5 Years Old) Who Reported Receiving Information, Before Becoming Pregnant, on the Dangers of Tobacco Smoke Exposure (LACHS 2007)‡**



‡ Data on preconception health knowledge pertain to 1,707 biological mothers of children 0-5, interviewed in the 2007 LACHS child survey

20. *Milberger S, Biederman J, Farone SV, Chen L, Jones J. Is maternal smoking during pregnancy a risk factor for attention deficit hyperactivity disorder in children? American Journal of Psychiatry 1996; 153: 1138-42.*
21. *Malik S, Cleves MA, Honein MA, Romitti PA, Botto LD, Yang S, Hobbs C. Maternal smoking and congenital heart defects. Pediatrics 2008; 121: e810-e816.*
22. *American College of Obstetricians and Gynecologists. Substance abuse in pregnancy. ACOG Technical bulletin Number 195, July 1994 (replaces No. 96, September 1986). International Journal of Gynaecology and Obstetrics 1994; 47: 73-80.*

What is Being Done?

California Family Health Council (CFHC)

The California Family Health Council (CFHC) distributes Title X (federal family planning) funds throughout the State of California and shares best practices and training opportunities with all Title X family planning clinics throughout the state. Funding received from the March of Dimes in 2007 has enabled CFHC to assess the level of preconception care provided by Title X clinics in Los Angeles, Yolo, and San Francisco Counties. Based on this assessment, CFHC has developed training and curricula to help clinic staff administer preconception care to women in a consistent manner. By 2012, CFHC aims for every woman served in California Title X clinics to have access to reproductive life planning.

Interconception Care Project for California (ICPC)

The postpartum visit is an optimal time to address any medical problems that may have developed around or during a woman's pregnancy while also providing women interconception assessment and counseling. However, this visit is currently underutilized. Through funding from the March of Dimes, the ICPC, in a year-long project, is charged with developing Postpartum Visit Care Guidelines for obstetric providers that will incorporate risk assessment based on the previous pregnancy and develop recommendations for future care. Moreover, the ICPC will develop culturally sensitive and literacy-level appropriate patient preconception and interconception messaging.

LA Best Babies Network (LABBN)

LA Best Babies Network coordinates the Healthy Births Initiative, an investment by First 5 LA, to improve pregnancy and birth outcomes in Los Angeles County. Because women with previous poor birth outcomes are at risk for a recurrence of such outcomes during future pregnancies, the Best Babies Collaboratives (BBCs) are charged with providing interconception care to reduce this risk. This care is provided for two years post partum. Moreover, the Network has developed and released the "How Healthy Are You?" scorecard as a preconception health assessment tool for women. The Network also provides employers information on Pregnancy and Family Friendly Workplace Policies and Breastfeeding Friendly Workplace Policies, in an effort to promote pre- and interconception health messages in the workplace.

Partnership to Eliminate Disparities in Infant Mortality Action Learning Collaborative

CityMatCH, the Association of Maternal and Child Health Programs, and the National Healthy Start Association, with funding from the Kellogg Foundation, have teamed up to eliminate racial inequalities that contribute to infant mortality in LA County urban areas. Los Angeles County is working with this national collaborative to educate health care providers and community members about the association between racism and poor birth outcomes.[23,24]

Women, Infants, and Children (WIC)

For the past three years, with funding from the March of Dimes, the PHFE-WIC Program has offered a special program known as WOW (WIC Offers Wellness) for LA County women. WOW helps women with previous birth complications (such as a preterm birth) by promoting health and wellness, offering one-on-one counseling sessions and monthly support group meetings.

23. Smedley BD, Stith AY, and Nelson AR, eds. Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, Institute of Medicine, Washington DC: National Academy Press, 2002.

24. Dominquez TP, Dunkel Schetter C, Glynn L, Hobel CJ, Sandman CA. Racial differences in birth outcomes: The role of general, pregnancy, and racism stress. Health Psychology 2008; 27: 194-203

What Can Individuals Do?

What Can Women Do?

Reproductive-age women can stay healthy by incorporating the following behaviors into their lives:

- Make a reproductive life plan, thinking ahead about if and when to have children. If sexually active with male partner(s), practice consistent and effective birth control to prevent unintended pregnancy or to allow for an optimal time interval (about 2 years) between pregnancies.
- Strive to attain a healthy weight through good nutrition and exercise prior to becoming pregnant. Manage chronic health problems before, during, and after pregnancy to prevent potential complications associated with these conditions.
- Learn how to manage stress and get help for feelings of sadness or depression, to achieve mental wellness.
- Talk to a health care provider about prescription and over-the-counter medications, as some drugs may increase the risk of birth defects.
- Engage in moderate (gardening) to vigorous (running, bicycling) exercise 20 to 30 minutes per day, at least 3 times per week.
- Consume a well-balanced diet, which includes at least 400 micrograms of folic acid and five servings of fruits and vegetables daily, along with whole grains and low-fat protein products, like chicken and dairy.
- Avoid tobacco, recreational drugs, and alcohol for at least 3 months before becoming pregnant.
- Learn about toxins in the environment that affect reproductive health, including chemicals in your home and workplace and high mercury levels in some kinds of fish.
- Obtain yearly dentist visits for oral health check-ups, and doctor visits for sexually transmitted disease screening, immunizations, and to discuss physical and mental well-being.
- If uninsured, contact the 211 LA County Telephone Information Line (see page 14) for information on where to access health care and obtain other services related to nutrition, diapers, and parenting support.

What Can Men Do?

Men can also play an important role in preconception health:

- Discuss family planning with female partner(s) to avoid unintended pregnancy and promote optimal spacing between births.
- Eat a healthy diet rich in fruits, vegetables, whole grains, and low-fat proteins.
- If you smoke, quit. Drink alcohol only in moderation and avoid drug use.
- Talk to your health care provider about any prescription medications and over-the-counter remedies you use.
- Get screened for sexually transmitted diseases and prevent the spread of any infections to your sexual partner(s).
- Serve as a source of emotional support to your partner and the women in your life.

What Can Community Providers and Health Professionals Do?

Routine health care and social services for women of reproductive age should include:[25]

- Counseling about folic acid and prevention of neural tube defects
- Screening for diabetes and prior poor pregnancy outcomes
- Education to increase awareness of the importance of healthy diet, weight, and fitness
- Providing treatment for women with chronic conditions and, when appropriate, providing pre-pregnancy genetic counseling
- Identification of and help for victims of domestic violence/abuse

- Appropriate screening, prevention, and treatment of infectious diseases, including sexually transmitted infections
- Education to increase awareness that no amount of alcohol, recreational drug, or tobacco use is safe during the earliest weeks of pregnancy
- Review of women's family planning goals, combined with necessary counseling about pregnancy prevention or pregnancy planning
- Referral of eligible mothers and families to WIC and enrollment of eligible individuals in Family PACT, California's comprehensive family planning program for low income women and men (www.familypact.org)

What Can Policymakers Do?

- Promote the inclusion of pre- and inter-conception care in any health care reform package, and develop a minimum set of preconception and interconception benefits to be covered by employer-sponsored, private, and public health insurance plans.
- Expand Medi-Cal coverage to provide access to health care for two years post partum for women at high-risk, to reduce risk in next pregnancy.
- Support the expansion/promotion of county- and state-level campaigns to encourage every woman to have a reproductive life plan.

- Encourage employers to adopt pregnancy and family-friendly workplace polices.
- Enact policies that support the development of clean, green, healthy environments.

25. *Preconception care: every woman, every time. Institute for Health Policy Studies, University of California, San Francisco and Center for Human Nutrition, University of California, Los Angeles. January 2001.*

Conclusion

This review of preconception data for women of childbearing age, women who have recently had a child, and women who have recently lost an infant or fetus reveals numerous opportunities for improvement. Disparities in insurance and regular source of care, in preconception health knowledge, and in health conditions contribute to disparities in maternal health and birth outcomes. Achieving better health for mothers and children in LA County requires widespread education, policy change, and clinical intervention. Agencies in the LA County Preconception Collaborative are taking on the challenge of broadly improving preconception health through innovative approaches.

Despite the important work of local agencies in advancing preconception health, efforts to minimize poor birth outcomes and reduce existing disparities in maternal health in LA County require more widespread integration of preconception care into both public health practice and primary care. Preconception health care provides an opportunity for all women, including those who are already mothers, to become aware of the behaviors or health conditions that can affect their health and that of their children, and to modify them before they become pregnant. This comprehensive approach to women's health will ultimately benefit not only individuals and families, but the health of LA County overall.

211 LA COUNTY TELEPHONE INFORMATION LINE

The 24-hour **211 LA County** telephone information line provides assistance and referrals to mothers and women of childbearing age. The service is provided in English and Spanish. By dialing **211**, recent mothers and women who are pregnant, or are planning to become pregnant, may obtain information related to accessing health care and obtaining nutrition and diaper services for their young child. A parent support specialist staff member is also available to help new mothers with parenting questions and their mental health care needs.

on the web

The **Centers for Disease Control and Prevention (CDC)** is the primary Federal agency that works to improve preconception care for U.S. women through promotion, prevention, and preparedness. (800) CDC-INFO; **www.cdc.gov/ncbddd/preconception**

The **Preconception Health Council of California (PHCC)** is a statewide forum for planning and decision-making for the integration, development and promotion of preconception health and health care. Its mission is to engage individuals, communities, health care organizations and policymakers to optimize the health and well-being of women and their partners, which lead to healthier infants and families. **www.everywomancalifornia.org**

The mission of the **March of Dimes** is to improve the health of babies by preventing birth defects, premature birth, and infant mortality through research, community services, and education and advocacy. (213) 637-5050; **www.marchofdimes.com/ca**

LA Best Babies Network achieves healthy pregnancies and births in Los Angeles County by providing the infrastructure, programs, advocacy, and support to increase the capacity of community partners to succeed in these efforts. (213) 250-7273; **www.labestbabies.org**

Public Health Foundation Enterprises - Women, Infants and Children (PHFE-WIC) Program safeguards the health of low-income women, infants, and children (up to age 5) who are at nutrition risk by providing education on healthy eating, nutritious foods to supplement diets, breastfeeding support, and referrals to health care. PHFE-WIC is one of seven WIC agencies in LA County and serves over 316,000 clients each month. (888) 942-2229; **www.phfewic.org; California WIC Program** (888) WIC-WORKS **www.cdph.ca.gov/programs/wicworks/Pages/WICWhatisWICandHowtoApply.aspx**

The **Maternal, Child, and Adolescent Health (MCAH) Programs** is a division of the Department of Public Health within Los Angeles County. It is responsible for planning, implementing and evaluating services that address the health priorities and primary needs of infants, mothers, fathers, children and adolescents, and their families through ongoing assessment, policy development and quality assurance. (213) 639-6400; **www.publichealth.lacounty.gov/mch/index.htm**

The **California Family Health Council, Inc. (CFHC)** aims to improve the health of individuals, families, and communities. CFHC currently works with more than 80 health agencies to provide sexual and reproductive health services to over 1,000,000 clients each year. (213) 386-5614; **www.cfhc.org; www.teensource.org**

The mission of the **Perinatal Advisory Council: Leadership, Advocacy, and Consultation (PAC/LAC)** is to improve perinatal health outcomes by providing leadership, education and support to the professionals and systems that care for women and their families. PAC/LAC also aims to ensure that pregnant women, babies, and families are cared for by the most competent professionals in well-equipped health care settings. (818) 708-2850; **www.paclac.org**

The **California Teratogen Information Service (CTIS)** promotes healthy pregnancies by providing free information on the exposures (e.g., medications, alcohol/recreational drugs, chemicals/pesticides, occupational exposures) that can cause birth defects. (800) 532-3749; **www.ctispregnancy.org**

Housed within the Environmental Protection Agency, the **Fish Advisories Division** provides advice and guidance to women of childbearing age, pregnant women, nursing mothers and young children on consumption of fish and shellfish to help minimize the levels of mercury in the diet. (202) 566-0400; **www.epa.gov/fishadvisories**

Los Angeles County
Department of Public Health
313 N Figueroa Street Room 127
Los Angeles, CA 90012
213.240.7785

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For additional information about the L.A. County Health Survey, visit: www.publichealth.lacounty.gov/ha