



Center for
Health Equity

A PATHWAY TO EQUITY:

A FRAMEWORK
TO CLOSE THE
BLACK-WHITE GAP IN
INFANT MORTALITY



BUREAU OF HEALTH PROMOTION



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Background

The Los Angeles County Department of Public Health (DPH), alongside partners in Los Angeles communities and across the state, is pleased to announce a comprehensive five-year plan to reduce the county's Black-White gap in infant mortality. Infant mortality rate (IMR), the number of infants who die in Year 1 of life for every thousand live births, is accepted and used across the world to measure infant health. In fact, it is often used as a marker for the health of whole populations. Since the developing fetus is highly sensitive to environmental exposures experienced by its mother, the health and survival of newborns in a racial/ethnic group can be a marker for the health of that group as a whole.



How do we define infant mortality rate?

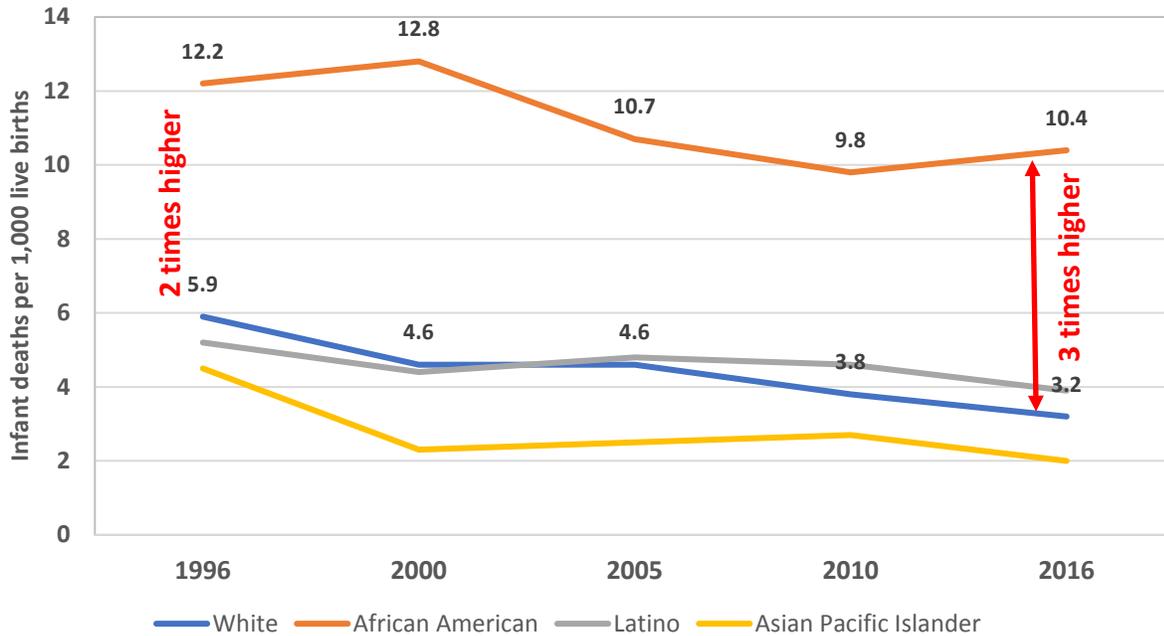
Infant mortality rate, often referred to as IMR, is calculated as the number of infants who die in a year, divided by the number of infants born alive in that same year, times 1,000. If 25 infants die in a population of 5000 newborns, the IMR would be $25 / 5000 = .005 \times 1000 = 5$

Around the world, infant mortality rates vary widely. When you look at rates from country to country, you see a pattern. In countries where there is deep and lasting poverty or a history of recent war, infant mortality rates are high. Afghanistan, burdened with both poverty and war, has the highest IMR in the world: more than 1 out of every 10 Afghan infants dies in its first year of life. In countries that are well-off and not experiencing war, infant mortality rates are low. The world's lowest IMRs are typically seen in Japan and in Scandinavian countries, where rates are around 2 deaths for every thousand births.¹

¹ The CIA World Factbook Downloaded from <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2091rank.html> on April 4, 2018.

At first glance, Los Angeles County’s infant mortality rate of 4 deaths per thousand looks relatively good.² It reflects a major decline in infant mortality in the county over time.

Figure 1: Infant Mortality by Race/Ethnicity Los Angeles County, 1996 to 2016



Source: California Department of Public Health, Death Statistical Files, 1996-2016

Our rate compares favorably to the overall United States rate (about 5.8 deaths per thousand live births) and the California rate (4.6 per thousand).³ But a closer look at infant survival in Los Angeles County shows that there are stark inequalities just below the surface.

The overall county rate reflects a White IMR of 3.2 per thousand live births and a rate for Asians and Pacific Islanders in the county of 2 per thousand live births. The county’s Latino IMR, 3.9 deaths per thousand live births, is just under the overall county rate. What stands out from the county average is the rate of infant death among Black residents. The IMR for Black babies is 10.4, meaning that a Black newborn in Los Angeles County is more than three times as likely to die as a White newborn, more than two and a half times as likely to die as a Latino newborn, and more than five times as likely to experience death in the first year of life as an infant identified as Asian/Pacific Islander.²



² Source: California Department of Public Health, Center for Health Statistics, OHIR Vital Statistics, 2016.

³ The US rate cited here is a projected estimate for 2017 from the CIA World Factbook op cit. That figure is used rather than the most recent actual rate to permit global comparisons.

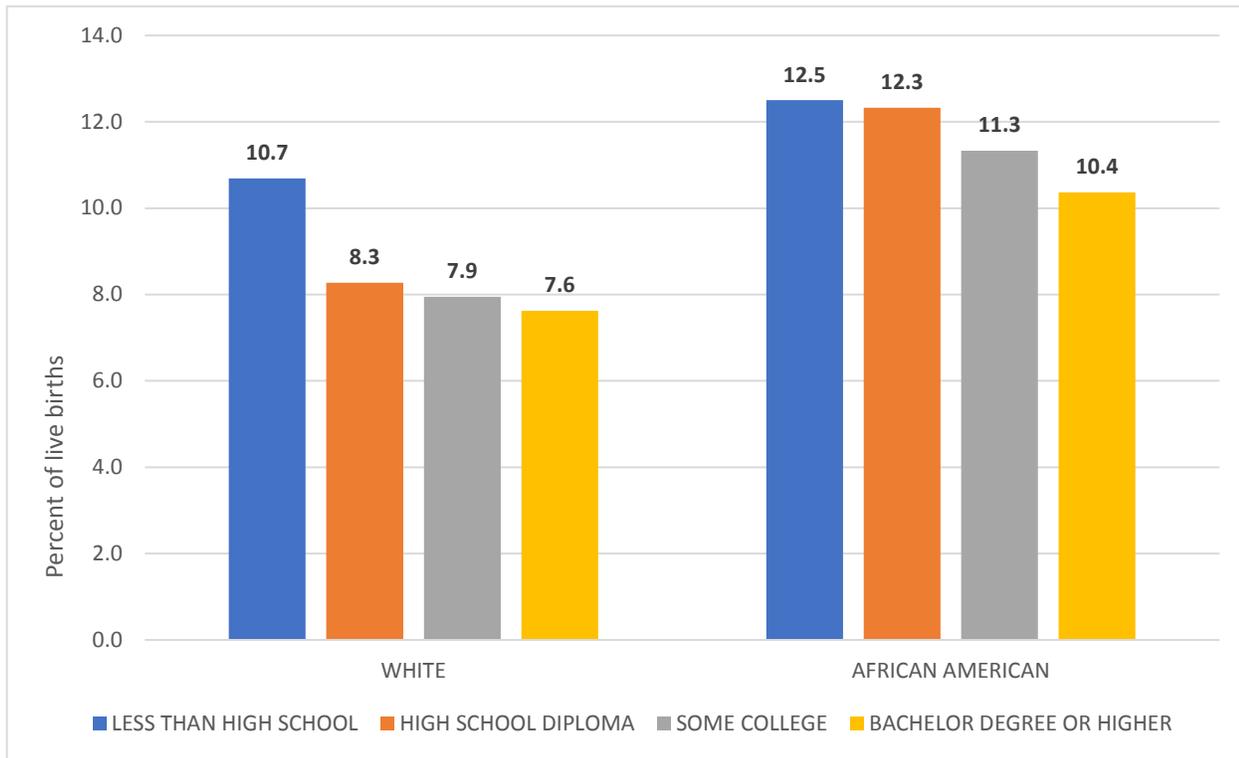
What causes racial inequality in infant survival?

If you ask the average person why babies born to Black mothers are so much more likely to die in their first year of life, you will probably get one of four answers listed in **Table 1**. Each reflects a factor that does have something to do with infant survival. But NONE of them stand up as an explanation for the gap.

Table 1: Common Public Perceptions Used to Explain Why Babies Born to Black Mothers Are More Likely to Die in Their First Year of Life

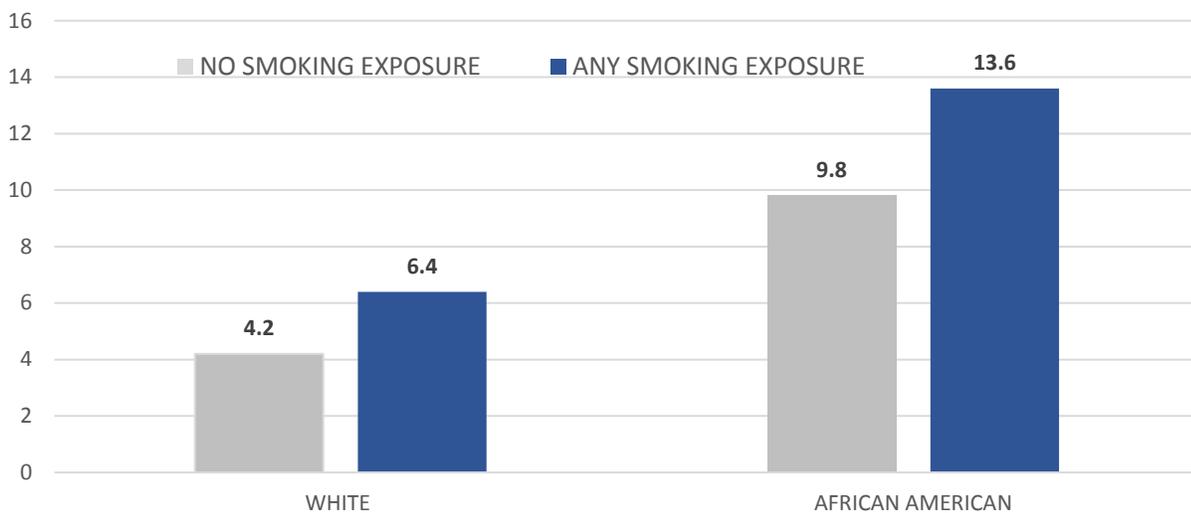
| The Perception | The Facts |
|--|---|
| <p>Socioeconomic status Does a higher level of poverty among Black women explain the difference?</p> | <p>We know that a secure job, a safe home, and healthy food all contribute to health. And when you look at White mothers alone or Black mothers alone, better off moms have healthier babies. But Los Angeles County data tells us that Black women who have private insurance, which means they are employed, have worse outcomes than White women who receive public insurance. The story of Kim Anderson demonstrates that even a high level of economic security is not as protective for Black women as for White. See this story: “Unnatural Causes: Kim Anderson’s Story”: https://youtu.be/FPCpB8zZP20</p> |
| <p>Mother’s education Could the gap in LA be due to a lower average education level among Black women?</p> | <p>All over the world, women’s education is associated with healthier births. White and Black women who are well educated do have an advantage over those of the same race with less education. But county data show Black mothers have worse outcomes than White at every education level. Even Black women with college degrees only fare better than White women who did not complete high school. Figure 2 makes it clear—this explanation does not hold up.</p> |
| <p>Mom’s behavior Could it be that Black women engage in riskier behavior than White women?</p> | <p>While Black and White women tend to engage in different kinds of risky behavior, risk-taking seems to be evenly divided. For example, White women drink alcohol more than Black women, while Black women in LA County smoke more than Whites during pregnancy. But the more fundamental point is that risk-taking doesn’t explain the gap. Black moms in LA County who do not smoke have worse outcomes than White women who do (see Figure 3 below).</p> |
| <p>Access to health care Perhaps the fact that Black women are less likely to have private insurance or a car means they are less able to get to prenatal care than Whites?</p> | <p>Once again, this is a real concern, but it doesn’t explain the inequality we see in birth outcomes. Data show that Black women who had adequate prenatal care had worse outcomes than White women who did not.</p> |

**Figure 2: Preterm Birth by Mother's Race/Ethnicity and Education Attainment
Los Angeles County, 2016**



Source: California Department of Public Health, Linked Birth and Death Statistical Files, 2016.

Figure 3: Prevalence of Low Birth Weight Births by Mother's Race/Ethnicity and Smoking Exposure, LAMB 2012&2014



Source: Los Angeles Mommy and Baby (LAMB) Project, 2012&2014 Stacked data; smoking exposure is defined as smoking in the six before pregnancy, smoking during pregnancy, or exposure to secondhand smoke during pregnancy.

Figures 2 and 3 illustrate why conventional wisdom about education or maternal behaviors do not explain the worse birth outcomes experienced by Black mothers. Black mothers with a bachelor's degree education or higher experienced preterm birth rates than White mothers with high school education. And Black mothers with no smoking exposures experienced a higher rate of low birth weight than White mothers with smoking exposures.

Although infant mortality rates have decreased between 1996 and 2016 across all racial/ethnic groups, disparities persist. Black infant mortality rates continued to be two to three times higher as compared to White.

Does racism really outweigh income, education, behavior and access to care as a cause of infant death?

How could it be that race overrides a known hazard like smoking in relation to birth outcomes? Recent research suggests a pathway that links social experience to poor health outcomes, including poor birth outcomes, via exposure to chronic stress: this is the common experience shared by Black women across lines of class, education, and maternal attitudes and behaviors.

- The pathway starts with a social experience that may be as major as missing out on a job opportunity⁴, or as “minor” as being hassled on a shopping trip;⁵
- That experience triggers psychological stress along with feelings of anger, frustration, anxiety or even self-blame;
- This translates into physical stress. This is the fight-or-flight response everyone has experienced in the face of danger – a car going the wrong way or a toddler reaching to pull something off a table. In those situations, the response is protective. The body is flooded with stress hormones that speed up heart rate and pulse, and send blood supply to the extremities, making it possible to respond quickly and effectively. When the source of stress is removed, the individual can return to normal as the heart and pulse slow and the muscles relax;
- If the stressor is not short-term, but rather a part of someone's daily routine in social encounters throughout the day, elevated hormone levels may set a new baseline level of physiological stress that places all organ systems in the body at risk.

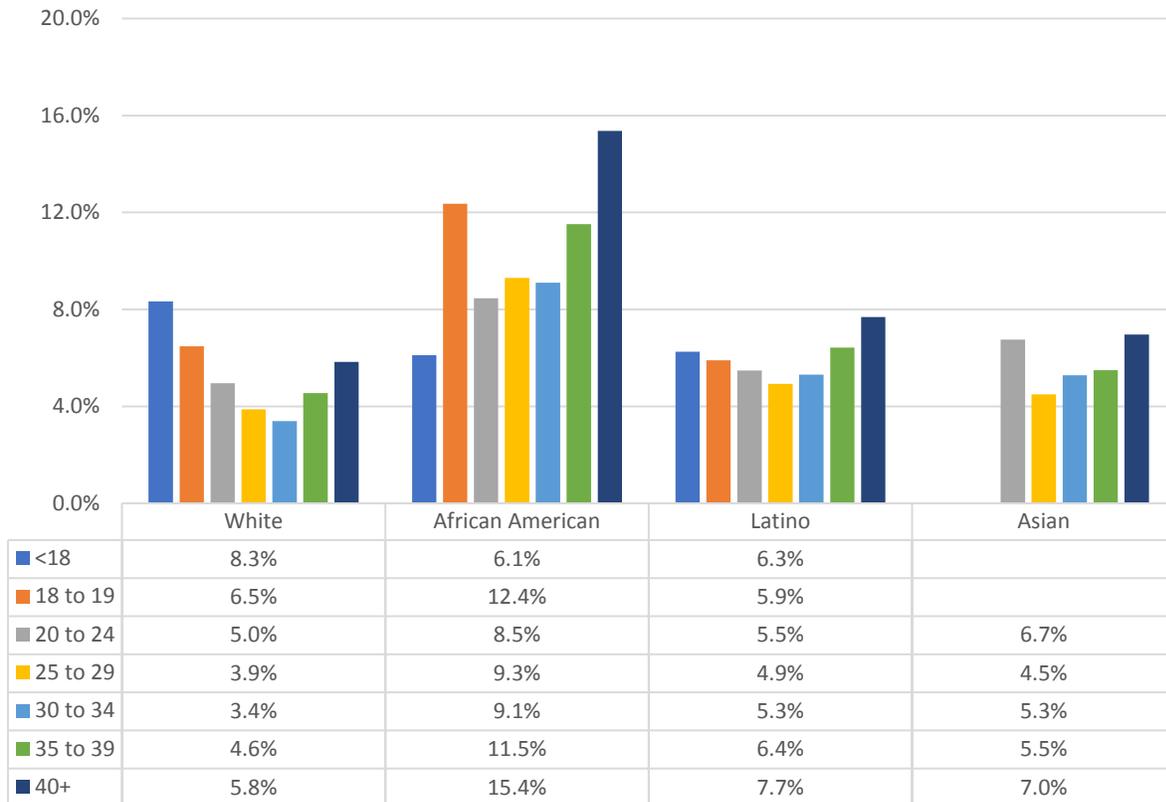
This is what public health and clinical scientists believe helps explain the differences in birth outcomes between Blacks and Whites in LA County and throughout the United States.

⁴ Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination. Marianne Bertrand, Sendhil Mullainathan. American Economic Review. vol. 94, no. 4, September 2004, (pp. 991-1013)

⁵ <http://wtkr.com/2013/10/28/fourth-new-yorker-accuses-a-department-store-of-racial-profiling/> downloaded April 4, 2018

This analysis, which some have termed “life course theory” because it links health outcomes to social experience from infancy on, suggests chronic stress associated with racism as the critical link between social inequality and birth inequality. Since racism also limits access to resources and opportunities, Black women are exposed to multiple adversities that affect their well-being and the health of their infants.

Figure 4: Low Birth Weight Singleton Births by Race/Ethnicity and Age
Los Angeles County, 2016



Source: California Department of Public Health, Birth Statistical Files, 2016

Figure 4 compares women of different race/ethnicity groups by looking at rates of low birth weight by mother’s age. The typical pattern is described as a “J-curve;” higher rates of low birthweight in the teen years, lower rates in the prime childbearing twenties and early thirties, and an increasing rate as mothers age. Among Black women in LA County (as elsewhere in the US), that pattern disappears; low birth weight is less common in the teen years than it is later on.

African American mothers experience low birth weight delivery two to three times more often than White mothers in every age group except those less than 18.

One researcher described this unique pattern as “weathering.”⁶ She argued that the impact of racism over time is so powerful, it overrides the usual benefits of maturity. This is chronic stress at work.

What must be done?

This new understanding of the pathway from mother’s lived experience to infant health, suggests a map for intervention. Our job is to block the pathway at each juncture: to address the causes of stress, to help women avert chronic physical stress as a response to social stress, and to intervene early and effectively when chronic stress has placed a woman at risk. LA County’s framework is designed to maximize the opportunities for community prevention, while assuring interventions are available along the entire pathway.

And how will we do it?

1. By reducing the chronic stress in women’s lives.

That means taking on:

- **Racism.** Los Angeles County employs 100,000 people in dozens of agencies that interact with residents millions of times a year. Those encounters can be a source of stress for residents, if they come needing help and leave feeling demeaned. So, our response to racism starts at home, with implicit bias training for every county employee and policies that ensure an equitable distribution of resources and opportunities needed for well-being.
- **Poverty.** While Los Angeles County can’t resolve income inequality on its own, we can work to minimize its impact on birth outcomes. Two strategies in this area include (1) giving high risk pregnant women who are in need, preference for safe, affordable housing and (2) making sure we reach out to everyone in the county who is eligible for the Earned Income Tax Credit, a benefit that has shown to reduce adverse birth outcomes.
- **Exposure to violence.** Community and family violence does not just affect victims or even the families of victims. Research shows that it is a source of chronic stress for the entire community. The Los Angeles County Department of Public Health has been asked to serve as home to a new, county-wide Office of Violence Prevention. That office will partner with perinatal programs at DPH and county-wide to identify and address exposure to violence during pregnancy and beyond.
- **Awareness.** Perhaps most importantly, taking on racism means taking on the misperceptions that place responsibility for causing, and thus for preventing, infant mortality on mothers. While public health has known for decades that infant mortality rates differ across racial and ethnic

⁶ Black/White Differences in the Relationship of Maternal Age to Birthweight: A Population-Based Test of the Weathering Hypothesis. Geronimus, Arline T. 1996. "Black/White Differences in the Relationship of Maternal Age to Birthweight: A Population-Based Test of the Weathering Hypothesis." *Social Science and Medicine*, 42(4): 589-97.

groups, we have not successfully made that knowledge available to the communities most affected by high rates. Too often, women who experience the loss of an infant blame themselves, unaware that each personal tragedy reflects the shared experience of 6,600 other Black women nationally, and 88 Black mothers each year in LA County. Women have a right to that knowledge, as the starting point for the social action needed to close the gap.

2. By blocking the pathway from social stress to physiological stress.

That means taking on:

- **Social isolation.** Isolation exacerbates the stress associated with poverty and racism. Social connection is the antidote. Our framework addresses isolation by promoting group models of prenatal care, such as the Centering Pregnancy ⁷model that offers woman-to-woman support during pregnancy and beyond.
- **Lack of support.** The framework calls for expanded use of home visiting to assure that more women across Los Angeles County have someone to turn to when problems arise. In addition to expanding existing programs, we will pilot a new home visiting model offering women in-home support in the first few days after delivery. The Baby Buddy program will offer help with shopping, cooking or cleaning, and giving moms help with daily chores that can be overwhelming with a new baby. We will also focus on engagement of fathers. Too often men get the message that they have no role in childbirth or infant care, especially if they can't provide financial security for mom and baby. We will help prenatal care programs eliminate barriers that keep dads away while offering support groups and individual coaching for men who want to help but need guidance on parenting and support in relation to their own health and social needs.
- **Lack of awareness concerning stress.** The physical signs of stress may not be evident to someone for whom a high level of stress is a constant. DPH will train staff in our home visiting programs to help women recognize the signs of stress and develop strategies to address them by seeking social support and using self-care techniques.
- **Lack of self-confidence,** particularly around parenting, breast feeding and other challenges that confront women as new mothers. Post-partum mothers' groups, improved breastfeeding support, and home visiting are key strategies in this area.

⁷ <https://www.centeringhealthcare.org/what-we-do/centering-pregnancy>

- **A sense of powerlessness.** We will build on existing programs, educating home visitors and group prenatal care leaders so they can provide information to women about voter registration and local opportunities to become active in community events.

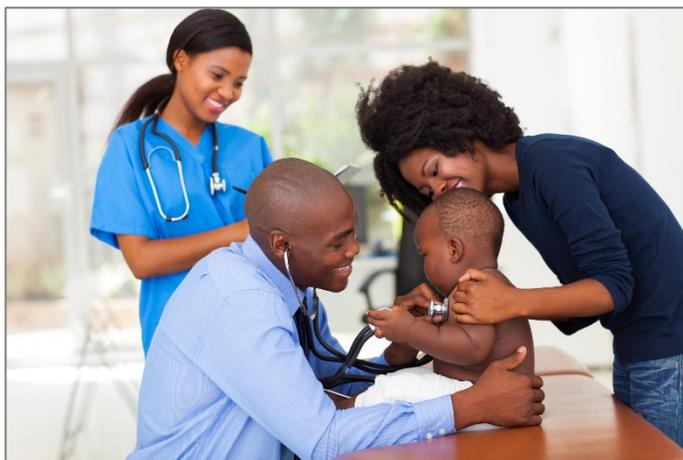


- **Building community.** Black communities throughout LA County are home to community-based, community-run organizations that strive, with limited funding, to address the social isolation, lack of support, vulnerability to stress, lack of confidence and disempowerment experienced by Black women. We will establish an Innovation Fund targeting grants to organizations that have sustained community efforts around Black women’s (and men’s) health through passion and commitment. They are key to the full engagement of community residents in the struggle for Black infant health.

3. By intervening as early as possible when stress has taken a toll on health.

Strategies in this area are:

- **One Key Question© (OKQ).** OKQ calls on providers to screen women for pregnancy intent at every regular health care visit by asking, “Would you like to become pregnant in the next year?” For women who respond yes, it creates an opportunity to enter their pregnancy healthy by addressing risks that could affect infant health even before pregnancy starts. For women who say no, providers have a chance to help the woman choose the optimal family planning option for her.



- **Risk reduction.** While smoking, drinking and drugs DO NOT explain the Black-White difference in birth outcomes, they are serious risks. Smoking, in particular, is associated with a sharp increase in preterm birth among Black women who smoke, compared to Black women who do not in LA County. Our plan calls for use of social media, training of home visitors and clinical providers, and implementation of protocols for screening and referral to cessation programs in all county-run clinics. Given that smoking almost always starts in the teen years, we will reinvigorate school-based prevention efforts, emphasizing the dangers across the life span, but especially during pregnancy.

- **Universal access to effective medical interventions.** Working closely with the state Department of Public Health, the March of Dimes, and with local providers, our plan calls for standardized use of medical interventions that can avert preterm birth for women at risk. Key among these are use of progesterone to avert preterm labor and use of baby aspirin to prevent preeclampsia and preterm birth.
- **Enhanced mental health services** for women with a range of mental health needs, from those experiencing depression or anxiety related to pregnancy or childrearing, to those with ongoing mental illness. Strategies include training of home visitors and clinic-based paraprofessionals on evidence-based, preventive mental health interventions and implementation of enhanced mental health consultation for perinatal providers across the county.
- **Early referral to services** for women whose babies are born preterm or with congenital health problems. We want to ensure that mothers receive home visiting support and coaching and that infants receive excellent care early in life. Achieving this calls for enhanced coordination between clinical providers and state-funded services for children with special health care needs.

Where do we start?

This framework reflects over a year of conversation with women, providers, county agency staff, clinicians and social service organizations. A first step towards moving forward is sustaining and building that collaborative effort.

Collaborating with key partners, including:

- **The women most directly affected by birth outcome inequality.** All our efforts must lift up women’s voices, recognizing their expertise both about the sources and the impact of stress in their lives and the best ways to make change.
- **Other county agencies.** Our plan calls for collaboration across all county departments starting with our partner health agencies but including agencies that we don’t usually think of as health resources. Agencies like Parks and Recreation, the LA County Library, Public Social Services, and schools—all have roles to play in promoting both the awareness and the interventions that comprise the framework.
- **Community-based organizations and providers.** These are the programs that women are most likely to encounter on a day-to-day basis, where they are most likely to receive prenatal care, child care, WIC nutrition support and other food and housing assistance. Community organizations led by and in service of Black women are also key partners as they play leadership roles in mobilizing for practice and policy change. Contributions these organizations can make are woven throughout the framework. This is also where the Innovation Fund described above is critical—it is local caregivers and leaders who can most effectively reach, support, and engage women at risk.

- **Birth hospitals.** These institutions, 64 of them in LA County, are both direct sources of care to women and leaders in shaping health care practice.
- **Philanthropy and health care payers.** Our framework emphasizes enhancing services that already exist and finding resources to pay for those that do not. But it is an ambitious plan, and new initiatives will require new sources of funding. We look to ongoing partnership with funders to help us support these new efforts.
- **The California Department of Public Health and statewide advocacy organizations** such as the March of Dimes. Statewide partnership is key, especially when change is called for at the policy level or when we seek to improve health care practice at a statewide level.

What can you do?

Join with us! We need your feedback both on what we propose to do and on the best ways to do it. At the local level, in the county's high-risk communities, join us in forming coalitions to tailor this broad menu of strategies to meet your local needs. If we are correct that birth outcome inequality is a social issue, it will take a social, collaborative movement to close the gap. We hope you will continue to be part of that effort.





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