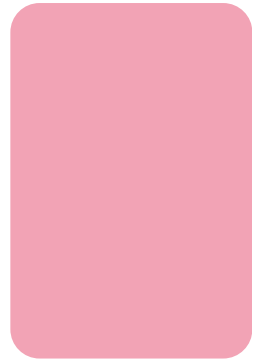


# California's Maternal Health Blueprint 2024



OFFICE OF THE  
**CALIFORNIA  
SURGEON GENERAL**



Dear Californians,

As First Partner of California, I am deeply committed to ensuring the health and well-being of all women in our state. It is with this commitment in mind that I support the critical need to advance California women's reproductive and maternal health.

We've made great strides in reducing maternal mortality, but our work is far from over. Home to one in eight births in the United States, California has a unique responsibility to lead and set a better standard for maternal health across the nation.

But right now, despite progress, unacceptable disparities persist. Black mothers are more than three times as likely to die during pregnancy and childbirth than the state average, and Hispanic and Asian/Pacific Islander communities also show concerning trends.

Addressing these disparities is a moral imperative, one we're bound to by our deepest shared value of creating a California for ALL Women. Every mother, regardless of background, deserves the same opportunity for a healthy pregnancy and childbirth. Furthermore, prioritizing maternal health empowers women to lead healthier, more fulfilling lives, enabling them to fully contribute to their families, their communities, and the economy.

California is uniquely positioned to build on proven initiatives that enhance maternal health and reduce disparities. Together, we can create a robust support network for mothers, from preconception through postpartum care, addressing the diverse needs of our population and setting an example for the nation.

Warm Regards,

Jennifer Siebel Newsom  
First Partner of California



Every five days, a mother in California loses her life to pregnancy-related complications. While California has made significant strides in reducing maternal mortality rates through innovative approaches, the work is far from over. With national and state priorities on maternal and women's health initiatives aligning, California is poised to continue leading in maternal health over the next two years.

California currently boasts the lowest maternal mortality rate in the nation, thanks to pioneering ideas sourced from across California. Eliminating the disparities in maternal morbidity and mortality is now the urgent focus, because even one death, is too many.

With over 80% of maternal deaths being preventable, a diverse advisory group of stakeholders from the community, government, healthcare, private, public, and non-profit sectors was convened by the Office of the California Surgeon General, with a singular goal: to improve reproductive and maternal health. The California Maternal Health Blueprint summarizes the bold recommendations that will keep California at the forefront of maternal health innovation. Together, we aim to build a movement that leverages California's investments and partnerships, because the best investment in a newborn's health is ensuring the health of the mother.

The California Maternal Health Blueprint outlines two critical goals: educating and empowering individuals about their reproductive health and reducing maternal mortality rates.

Now is the time to advance the goals outlined in the Blueprint. By working together, we can make meaningful strides towards reducing maternal mortality and creating a healthier future for all Californians.

Join us in this vital mission.

Warmly,

Diana E. Ramos, MD, MPH, MBA, FACOG  
California Surgeon General

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# Acknowledgements

We are deeply grateful to the individuals and organizations who contributed to the California Maternal Health Blueprint and who are dedicated to the success of the goals and activities outlined within the Blueprint.

The Perinatal Advisory Group has met for over a year to contribute to the framework of the Blueprint and each member remains dedicated to California's success in decreasing maternal mortality rates.

## PERINATAL ADVISORY GROUP MEMBERS:

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**Brian Bateman MD, MSc** – Stanford Anesthesiology

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**Punit Sharma MBA, PhD** – UCI Paul Merage School of Business

**Julie Souliere** – CalHHS Assistant Secretary

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**Sharief Taraman MD** – Cognoa, UCI School of Medicine and Chapman School of Engineering

**Paul Weiss PhD** – UCLA

**Amanda Williams MD, MPH, FACOG** – CMQCC and Stanford OBGYN





## Background: The Maternal Health Crisis

In California, every five days<sup>1</sup>, a heart-wrenching tragedy unfolds as a mother loses her life to pregnancy-related complications. This grim reality extends its reach far beyond California, with the U.S. witnessing a staggering rate of maternal deaths exceeding that of other high-income countries.

- California has witnessed a decline in maternal mortality overall.<sup>2</sup>
- Black mothers are experiencing a mortality ratio more than three times greater than the state average.<sup>3</sup>
- The mortality rates for Hispanic and Asian/Pacific Islander communities<sup>4</sup> have shown an upward trend from 2016 to 2019.

Recognizing the imperative for immediate action, the California Surgeon General has rallied a coalition of diverse stakeholders, united in their mission to pioneer transformative solutions for reproductive and maternal health. From this collaborative movement, two pivotal statewide goals were identified, as beacons for a healthier maternal and infant trajectory.

1 [Pregnancy Mortality Surveillance System | Maternal and Infant Health | CDC](#)

2 Pregnancy-related mortality ratio (PRMR) = Number of pregnancy-related deaths per 100,000 live births, up to one year after the end of pregnancy. Pregnancy-relatedness was determined by expert committee case review process. Data on U.S. PRMR were accessed at Pregnancy Mortality Surveillance System | Maternal Mortality Prevention | CDC on June 18, 2024).

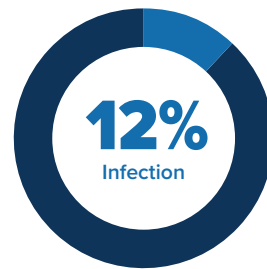
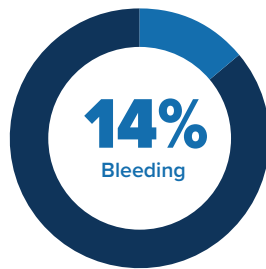
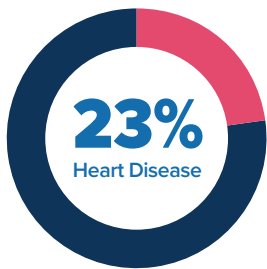
3 [Pregnancy-Related Mortality — 2018–2020](#)

4 [Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees in 38 U.S. States, 2020 \(Centers for Disease Control and Prevention\)](#)

## By December 2026:

- Assist reproductive-age individuals in California understand the possible health risks they may encounter in future pregnancies.
- Decrease maternal deaths in California by 50%.

### Pregnancy-Related Causes of Death in California<sup>1,2</sup>:



In California, heart disease is the leading cause of pregnancy-related deaths across all ethnicities<sup>3</sup>.

As more mothers are dying from chronic health issues such as heart disease (25%) and mental illness (23%) rather than traditional causes such as bleeding (17%) or infection (16%), as reported by the Center for Disease Control and Prevention (CDC), it is important to note that over 80% of these deaths are preventable<sup>4</sup>. This necessitates immediate and proactive measures.



1 [The California Pregnancy-Associated Mortality Review](#)

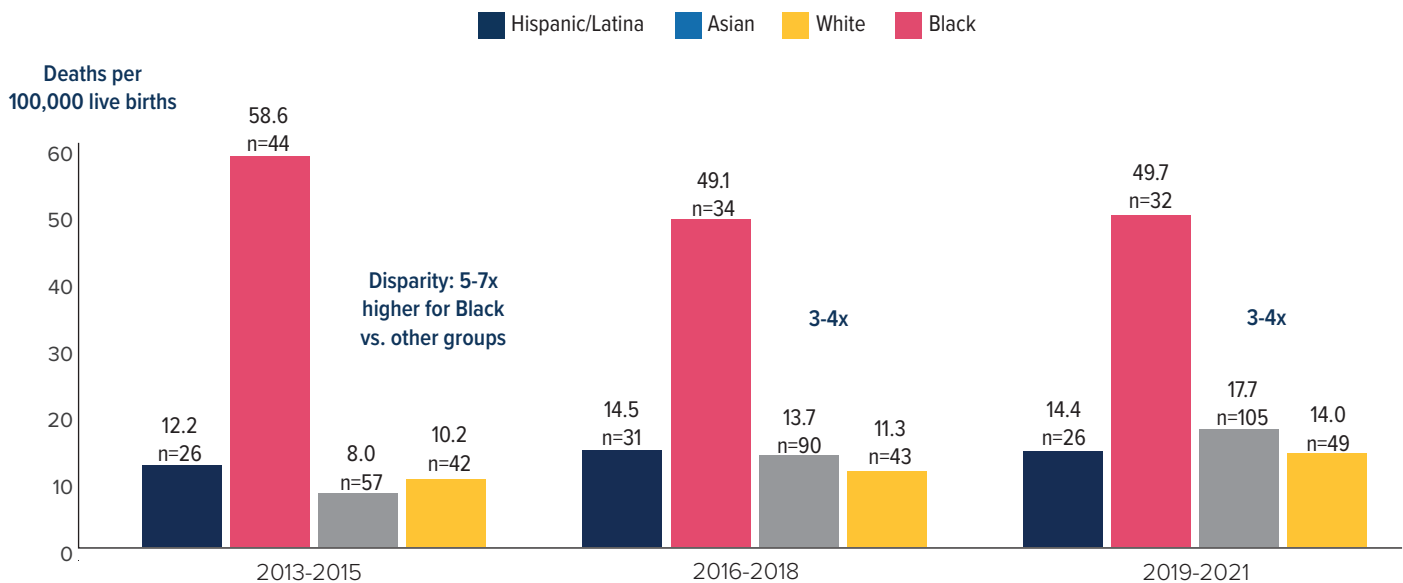
2 Pregnancy-related deaths include deaths within a year of pregnancy from causes related to or aggravated by the pregnancy or its management, as determined by expert committee review. Abbreviations: CVD = Cardiovascular disease; Hem = Hemorrhage; Inf = Sepsis or infection; HDP = Hypertensive disorders of pregnancy; AFE = Amniotic fluid embolism; TPE = Thrombotic pulmonary embolism; CVA = Cerebrovascular accident; Anes = Anesthesia complications; Other = Other medical condition(s). Note: Deaths with undetermined cause were excluded from analysis (n=2).

3 [Pregnancy-Related Mortality — 2018-2020 \(ca.gov\)](#)

4 [Four in 5 pregnancy-related deaths in the U.S. are preventable | CDC Online Newsroom | CDC](#)

Maternal mortality disproportionately impacts certain racial and ethnic groups in California and the United States. Black women are three times more likely to die from a pregnancy-related cause compared to other groups<sup>1</sup>. Given the significant disparities in maternal mortality rates, an equity lens will be at the forefront of the actions laid out in the California Maternal Health Blueprint.

## Pregnancy-Related Mortality Ratio by Race/Ethnicity California 2012-2020 (N=564)<sup>1</sup>



- Black mothers continue to experience higher rates of complications during pregnancy and suffer from maternal behavioral health conditions at alarming rates.<sup>2</sup>
- Hispanic individuals represent 48% of all births in California<sup>3</sup> and face increased rates of chronic disease, including heart disease and diabetes.

California will lead the nation in implementing innovative ideas to address the growing maternal death crisis by improving maternal health outcomes. As the [World Health Organization](#) states “Healthy mothers and children are the basic foundation of a prosperous society.” The well-being of vulnerable populations, including pregnant mothers and babies, serves as a barometer for the overall health and functioning of a society.

<sup>1</sup> [The California Pregnancy Mortality Surveillance System \(CA-PMSS\), California Department of Public Health](#)  
<sup>2</sup> [Centering Black Mothers in California](#)  
<sup>3</sup> [CDPH, Center for Family Health, Maternal, Child and Adolescent Health Division, Data Dashboards, Births](#)



# Blueprint Development: Perinatal Advisory Group and Maternal Health Partners

California is taking proactive steps to reevaluate maternal healthcare, tackle persistent challenges, and pioneer groundbreaking solutions. As a trailblazer in maternal care, California is committed to ongoing improvement to effectively meet the needs of its residents. The California Maternal Health Blueprint will drive this progress through sustained collaboration between public and private stakeholders.

The California Maternal Health Blueprint began with the formation of the Perinatal Advisory Group (PAG), consisting of 17 influential leaders from various fields. These individuals, representing healthcare, business, and technology sectors, brought new insights and innovative ideas to the movement. Their involvement sparked enthusiasm, inspiration, and hope for positive change in California's maternal health arena.

During the PAG discussions, key themes surfaced, underscoring the critical need to cultivate patient trust, enhance patient involvement in healthcare decision making, and establish comprehensive risk assessment measures throughout healthcare delivery. Numerous points of convergence and prospects for interdisciplinary cooperation arose. These encompassed leveraging technology and artificial intelligence (AI) to augment existing efforts in perinatal care enhancement, as well as cultivating a diverse cadre of community health workers, such as doulas and promotoras. These individuals are adept not only at fostering trust but also providing support and advocacy for mothers throughout pregnancy, childbirth, and the postpartum phase.

PAG themes laid the foundation for the overall goals and activities within the Blueprint.

## Consumers:

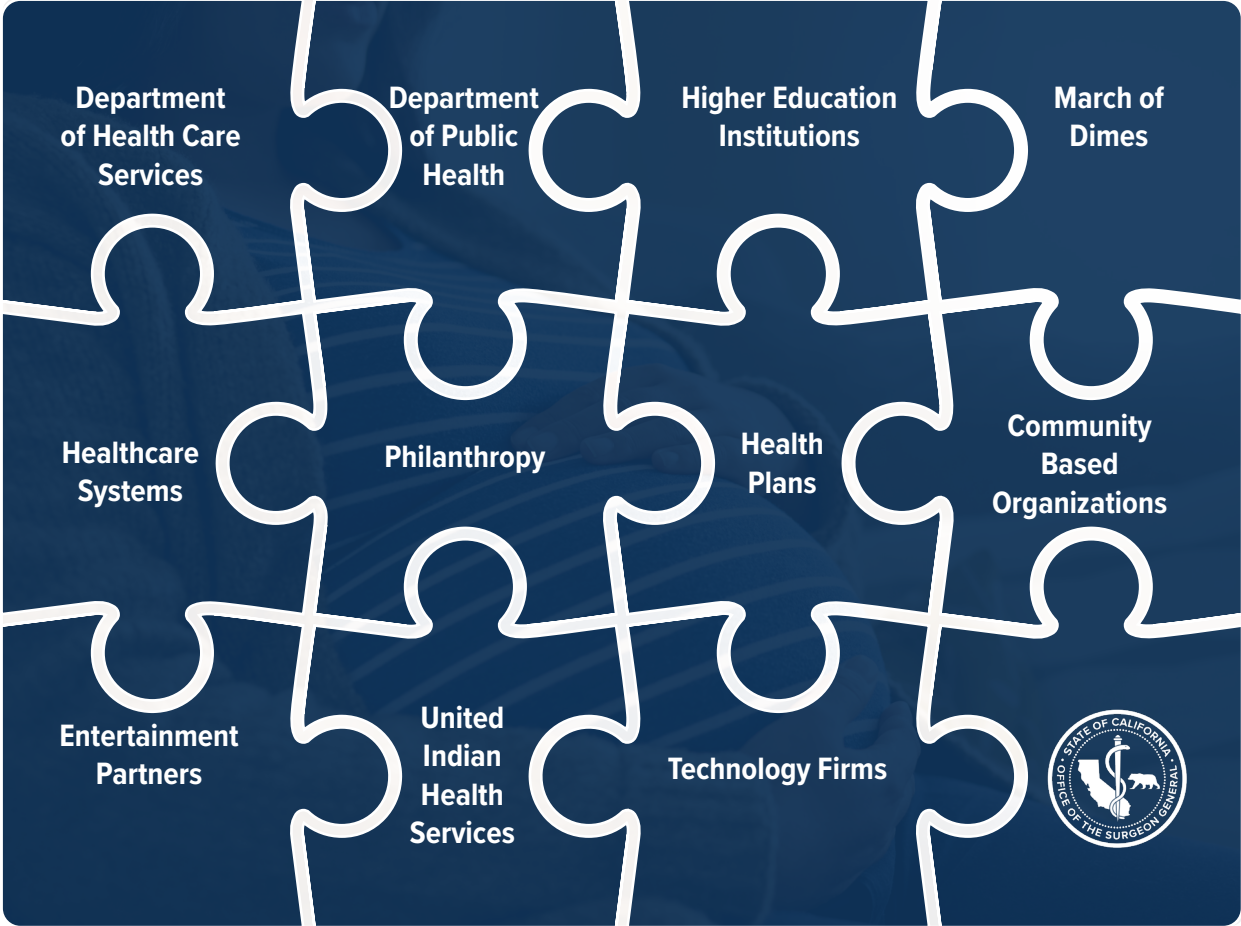
- Build trust
- Active participants in their health
- Empower partners and family

## Health System:

- Identify risk early
- Incorporate technology
- Improve diverse representation of community partners

The foundation of the California Maternal Health Blueprint rests on the principle that to adequately tackle pressing issues highlighted by the PAG, federal, state, and local investments in California should be harmonized and interwoven, eradicating previous divisions.

Cross-collaboration is essential for success, as highlighted by the Blueprint, which underscores the importance of partnership in accomplishing its objectives and actions. Each partner plays a vital and indispensable role in the overall endeavor and necessary piece of the puzzle.



# California's Maternal Health Blueprint: Goals and Activities

California's Maternal Health Blueprint outlines two ambitious goals aimed at innovating and disrupting maternal health outcomes in California.

## By December 2026:

- ▶ Assist reproductive-age individuals in California understand the possible health risks they may encounter in future pregnancies.
- ▶ Decrease maternal deaths in California by 50%.

We have an opportunity to leverage our collective resources to impact the reproductive and maternal health and well-being of Californians through these bold and audacious goals.







## Goal 1

Assist reproductive-age individuals in California understand the possible health risks they may encounter in future pregnancies.

The first goal revolves around educating and empowering reproductive-age individuals throughout California by creating a pioneering, unprecedented open-source questionnaire designed to assess pregnancy medical risk based on an individual's current health. This questionnaire, to be used at home and outside the healthcare setting, will offer all Californians a simple way to determine whether they are likely to experience a low, medium, or high-risk pregnancy. We aim to have at least 50% of reproductive age individuals in California complete the questionnaire by December 2026.

The pregnancy medical risk questionnaire serves as a pivotal tool, enabling individuals to comprehend their pregnancy complication risks and engage in informed discussions with healthcare providers, particularly within communities disproportionately affected by adverse maternal outcomes. The questionnaire will allow individuals to address their current health conditions that may increase their pregnancy complication likelihood, before even becoming pregnant. In addition, it will allow individuals to understand the proper level of care needed for their individual circumstances. The questionnaire will be based on validated and evidence-based hospital pregnancy medical risk assessments. The at home pregnancy medical risk assessment will undergo validation in English and Spanish with patients throughout California.

The results will be categorized as a potential for high, moderate or low medical pregnancy risk. Next steps and educational resources will be made available through various partners across California.

To achieve this goal, a multifaceted approach is imperative, spanning population-level outreach, individual engagement, technology infusion, and leveraging social media platforms to normalize conversations surrounding preconception care and healthcare decision-making.



**Health Resources & Services Administration (HRSA) Funded, California Maternal Quality Care Collaborative (CMQCC):** [State Maternal Health Innovation](#) to reduce maternal mortality and morbidity as a result of improved assessment and treatment of clinical and Social Determinants of Health (SDOH).

**Stanford:** Validation of the at-home, know your risk questionnaire.

**March of Dimes:** Promotion of the questionnaire to the public, in particular, black and Hispanic communities



**Equity measures for goal one:**

Promote completion of the at-home questionnaire in the least advantaged communities and for Black and Hispanic women.



# Activities

## 1. Identifying individuals' potential pregnancy medical risk.

### Why:

Oftentimes pregnant people are not aware of the impact their current health plays on pregnancy outcomes. It is often the first prenatal appointment when a patient learns that their current health conditions can impact the risk of their pregnancy.

### What:

Develop and promote an at-home pregnancy medical risk questionnaire in multiple languages to inform individuals about possible pregnancy complication risks.

## 2. Improve awareness of resources available.

### Why:

Understanding one's risk is only one piece of the puzzle. 80% of all healthcare happens outside of the healthcare system, and in communities. Individuals need to know where and how to access available community resources.

### What:

Existing resources and programs will be collated to enhance their identification and accessibility for all Californians..

## 3. Empower individuals to make informed health decisions.

### Why:

When individuals express their concerns, they may feel unheard, leading to a gradual erosion of trust in the healthcare system. Having comprehensive information about pregnancy complication risks allows individuals to make informed decisions and initiate risk discussions with their healthcare providers.

### What:

Provide suggestions to improve engagement with an individual's healthcare team, fostering informed decision-making and advocacy for personalized care options. The California Office of Surgeon General will house general information and hyperlinks to local, state and national resources on care and support.



## Goal 2

Reduce the maternal mortality rate in California by 50%.

The second goal is to cut California’s maternal mortality rate in half by December 2026. With heart disease being the leading cause of pregnancy-related deaths in California<sup>1</sup>, our efforts will focus on addressing heart disease from preconception through postpartum. This acknowledges that more than 80% of pregnancy-related deaths are preventable<sup>2</sup> and underscores the need for innovative approaches to maternal health. Key to achieving this objective is the early detection of pregnancy risk levels, fostering trust in the healthcare system, and implementing tailored community engagement.

This goal will focus on building partnerships and engaging with stakeholders to develop culturally appropriate resources to rebuild trust in the reproductive and maternal systems of care, focusing on historically marginalized communities, such as Black, American Indian, and Hispanic populations.



**The California Department of Public Health’s Maternal, Child, and Adolescent Health Division (MCAH)** has played a pivotal role by shedding light on the challenges confronting Black mothers in the state. Their seminal report, [Centering Black Mothers](#), exposed the profound impact of social policies and systemic racism on the health outcomes of Black birthing individuals and infants, galvanizing efforts to address maternal mortality equity and focusing on development of trust.

The Office of the California Surgeon General seeks to improve communication and provide health information to allow for shared decision-making in healthcare. Reshaping the narrative surrounding maternal health through authentic dialogue and cultural representation aims to build trust and foster community engagement.

Elevating support for behavioral health as part of overall maternal health throughout the reproductive life course will help to decrease one of the most common cause of maternal mortality, behavioral health disorders<sup>3</sup>. Behavioral Health is associated with an additional 10-15% of pregnancy-related deaths from other causes.<sup>3</sup> This will require additional work towards building trust in the healthcare system since the topic is associated with a high level of stigma.

**Equity measures for goal 2:** Decrease pregnancy related deaths among individuals living in the least advantaged communities and among Black and Hispanic women.

By implementing these strategic interventions and fostering collaboration across diverse stakeholders, California endeavors to significantly reduce maternal deaths.

1 [Pregnancy-Related Mortality – 2018–2020 \(ca.gov\)](#)  
2 [Preventing Pregnancy-Related Deaths | Maternal Mortality Prevention | CDC](#)  
3 [The California Pregnancy-Associated Mortality Review](#)

## Activities:

1. Within healthcare settings, implement the evidence-based, validated Obstetric Morbidity Index (OCI) in California, establishing a medical maternal risk standard of care for all women.

### Why:

Since 1 in 8 US babies are born in California, understanding risk levels for pregnant women is imperative. Understanding a pregnant woman's risk level for complications is of paramount importance as it dictates the type of care she may require and the most suitable facility for her to receive such care. The OCI, developed by Dr. Brian Bateman<sup>1</sup>, is an effective tool for determining the risk for pregnant women at any stage of pregnancy. It has already been validated in Canada, Denmark, and India and it demonstrated improved maternal health outcomes.

### What:

A universal implementation of the OCI upon a woman's entry into any California medical facility.

Referral of high-risk individuals to the most suitable birthing facility based on likelihood of complications.



Encourage inclusion of OCI in the California Department of Health Care Services (DHCS) [Birthing Care Pathway](#) for Medi-Cal members



1 [A comorbidity-based screening tool to predict severe maternal morbidity at the time of delivery - PubMed \(nih.gov\)](#)

## 2. Connect communities and healthcare systems to include culturally centered care programs within healthcare systems.

### Why:

The foundation of engagement is trust. To build trust, California has already invested in reshaping the healthcare team, including the incorporation of Community Health Workers (CHWs) and Doulas as viable and reimbursable members of the healthcare team. Continuous support by an extended healthcare team increases empowerment and autonomy during birth, leading to trust. The utilization of ambassadors from communities most disproportionately affected by maternal mortality allows partners an opportunity to engage their community in a tailored approach.

### What:

Build trust between communities and the healthcare system.

- 1) Leverage partners where trust is already established to ensure a trusted messenger through a Perinatal Ambassador Program. Allow each ambassador to customize their approach to their community.



[Health Resources and Services Administration \(HRSA\)Funded, Charles Drew University](#), Design and establish a model for Black birthing families and enhance perinatal workforce expertise and capacity to deliver high quality care.

- 2) Increase awareness of doula services, CHWs, and extended healthcare teams.



[Doula services](#) have been added as a Medi-Cal benefit in 2023, underscoring California’s commitment to holistic maternal care.

## 3. Build partnerships between public and private entities.

### Why:

Collaboration between public and private entities is crucial for accelerating progress in reducing maternal mortality. Establishing a Strong Start and Beyond Fund, through philanthropic entities, that will provide funding for projects and initiatives aimed at achieving the goals of the California’s Maternal Health Blueprint.

### What:

Foster collaboration to accelerate progress, supporting a Strong Start and Beyond Fund to aid initiatives aligned with the California’s Maternal Health Blueprint.

#### 4. Collaborate with existing programs to foster seamless service delivery to individuals at a higher risk of maternal complications.

##### Why:

Collaboration between existing programs is essential to foster seamless service delivery to individuals at a higher risk of maternal complications for several reasons including comprehensive care coordination, avoidance of duplication of efforts, enhanced outreach and access, and improved resource sharing. Ultimately, collaboration will assist California in maximizing its impact to improve maternal health.

##### What:

Build collaboration to leverage progress made across California.

- 1) Continue to convene the PAG which includes representatives from perinatal programs within the state structure and externally and provide an opportunity for collaboration during convenings.
- 2) Collate programs and resources available to provide support services to the perinatal population; home visitation, doula, community health workers, social services, etc.
- 3) Develop and promote a behavioral health infographic for perinatal health patients. Behavioral health disorders account for over 12% of all maternal health mortality and addressing behavioral health can greatly reduce maternal mortality.



HRSA Funded, Health Services Los Angeles County, MAMA's PROMISE aims to incorporate Maternal Mental Health Interventions and Substance Use Treatment into their maternal health programs.





In California, maternal mortality remains a distressing reality, exemplifying a nationwide crisis with the U.S. facing a higher maternal death rate compared to other high-income countries.

Despite progress in California, disparities persist, notably with Black mothers three times more likely to die from pregnancy and mortality rates for Hispanic and Asian/Pacific Islander communities showing an upward trend. To combat this crisis, the Office of the California Surgeon General is committed to educating reproductive-age individuals on potential health risks in future pregnancies and reducing maternal deaths by 50%. California will continue to lead the nation in maternal health and provide support to pregnant mothers and babies.



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