



# Preconception Medical Assessment (PreMA) Issue Brief

January 2025



OFFICE OF THE  
**CALIFORNIA**  
**SURGEON GENERAL**

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## Forward

The Office of the California Surgeon General Issue Brief is a public statement highlighting a critical public health issue in California and provides a tool for addressing it. This brief focuses on the importance of preconception health and is aligned with the **Office's larger reproductive and maternal health priorities.**

This Issue Brief presents a tool, spearheaded by the California Surgeon General, to improve maternal health before pregnancy begins. While the tool presented in this Issue Brief focuses on individuals, the Office acknowledges that circumstances vary widely, underscoring the need for systemic change as well.

Collaboration with healthcare systems, technology companies, community partners, and government agencies is vital for success. Through partnership, each collaborator has a crucial role in supporting mothers and their babies and improving maternal health outcomes.

# PreMA Quiz and Maternal Health Equity

California is facing a maternal health crisis with preventable deaths continuing throughout and after pregnancy<sup>1</sup>. Systemic inequities and challenges worsened by the COVID-19 pandemic<sup>2</sup> underscore the need for bold, transformative solutions.

The Preconception Medical Assessment (PreMA) is a simple, yet powerful quiz designed to reduce preventable maternal deaths by identifying the need for potential medical care, even before a pregnancy begins. With a focus on proactive prevention by increasing awareness and education, PreMA paves the way for safer pregnancies and healthier outcomes for mothers and babies. PreMA, available to all who wish to complete it, is one step forward—a leap toward equity and better health for all mothers, pregnant-capable people, babies, and their families. PreMA is one of the innovative tools California has developed that can help reduce maternal mortality 50% by December 2026.



## Thinking About Having a Baby?

Your health and well-being are important. Let's make sure you are strong and ready, so when you do decide to get pregnant, you'll be set to feel your best.

### Take the PreMA (Preconception Medical Assessment) Quiz

- 1 Were you born with a heart problem, or do you currently have a heart problem that needs medical attention?  
 yes  no
- 2 Have you ever been told that your heart is not working well, or do you have a heart problem?  
 yes  no
- 3 Has a doctor told you that you have high blood pressure?  
 yes  no
- 4 Has a doctor told you that you have diabetes?  
 yes  no
- 5 Have you ever been diagnosed with a lung disease, or do you have a history of breathing problems?  
 yes  no
- 6 Do you take any medicine that was not prescribed to you by a doctor, like illegal drugs or prescription medicine for reasons other than your health?  
 yes  no
- 7 Have you ever had a surgery on your stomach or intestines, or do you have a problem with your digestive system?  
 yes  no
- 8 Have you ever been in the hospital or needed treatment because you drank too much alcohol?  
 yes  no

### Tips for Everyone

- Get a preconception visit to review overall health and existing medical conditions.
- Review medications, including over-the counter and herbal supplements.
- Family planning can give you extra time to get healthy before pregnancy.
- Go to all your prenatal and postpartum visits.
- In partnership with your medical provider, create a pregnancy plan for a healthy pregnancy and a healthy baby.

Always remember to trust your body. If you do not feel right, seek care right away.

**4+ yes.** For the healthiest baby, your health requires closer and more attention before and during pregnancy. You may have chronic health conditions that require extra attention in pregnancy. See a health care provider at least 6 months prior to trying to become pregnant. You may need more tests, new medications or to see a specialist before and during pregnancy. During delivery you may need extra medical attention.

**1-3 yes.** For the healthiest baby, your health will probably require more attention before pregnancy. See a health care provider at least 3 months before trying to become pregnant and create a pregnancy plan. You may need more tests, new medications or see a specialist before and during pregnancy.

**0 yes.** For the healthiest baby, follow the Tips for Everyone suggested above.

Scan the QR code and get started by talking to your health care provider today.  Find resources at [CA.gov](https://ca.gov) or [osg.ca.gov/resources](https://osg.ca.gov/resources)



# Why Maternal Health Matters

Maternal health is a vital sign of societal health, yet, tragically, preventable maternal deaths continue to rise<sup>3</sup>. Understanding the underlying trends, disparities, and preventable causes is essential for reversing this trajectory and ensuring the well-being of mothers and their families.

## Chronic Disease and Maternal Health

Chronic diseases such as high blood pressure and diabetes are common in women and pregnant capable people and heighten the risk of complications during pregnancy. Alarmingly, one in three women of reproductive age has at least one chronic condition<sup>4</sup>, underscoring the urgent need for comprehensive care and management.

## The Power of Early Detection

More than 80% of pregnancy-related deaths in California are preventable<sup>3</sup>. With timely and effective intervention, early detection of conditions such as hypertension and diabetes is not just beneficial, it's potentially lifesaving, highlighting the critical need for early and continuous screening.

## Disparities in Maternal Outcomes

Maternal mortality rates starkly differ across ethnicities due to systemic inequities in healthcare access and quality. Addressing these disparities is not only a matter of health but of equity: Black women face maternal mortality rates up to four times higher than their White counterparts<sup>5</sup>. Hispanic pregnancy-related deaths have notably doubled since 2013<sup>5</sup>.

## Preventable Causes of Maternal Deaths

Understanding and addressing the key causes of preventable maternal deaths—such as heart disease, severe bleeding, and infections—is essential for improving outcomes and saving lives.



## The Role of Social Determinants

The environment where a person lives, learns, and works profoundly affects their health outcomes. Factors such as stable housing, education, and access to nutritious food play critical roles in the health of mothers and babies, contributing up to 80% of health outcomes<sup>8</sup>.



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## PreMA Methodology: Development and Validation

PreMA employs a straightforward methodology using validated questions that quickly assess pre-existing medical conditions such as hypertension, diabetes, and illicit drug use that increase the risk of complications during pregnancy. Developed through a collaborative expert review and a rigorous validation process, PreMA empowers women and pregnant-capable people with knowledge about their health *before* pregnancy.

To validate PreMA, participants across California assessed the ease of responding to the eight questions. The validation process demonstrated robust inclusivity, ensuring applicability across diverse populations and languages. Additionally, criterion validity testing confirmed the alignment of PreMA with clinical assessments, further supporting its reliability.

### Initial Question Development

The Obstetric Comorbidity Index ([Bateman Index](#)) and the Expanded Comorbidity Index ([Leonard Index](#)) served as the foundation for question development. Both tools were designed and validated for healthcare providers to assess patient risk. Both Indices were combined to create a preliminary set of questions for PreMA.

The Delphi technique, a structured and systematic consensus-building method, was employed to refine and finalize the PreMA questions. This method relies on the collective expertise of panel members through iterative reviews. The Delphi panel for PreMA included experts in healthcare delivery, community engagement, and technology and innovation. Two rounds of expert review were conducted to ensure the questions' relevance, clarity, and applicability.

## **Institutional Review Board (IRB) Review**

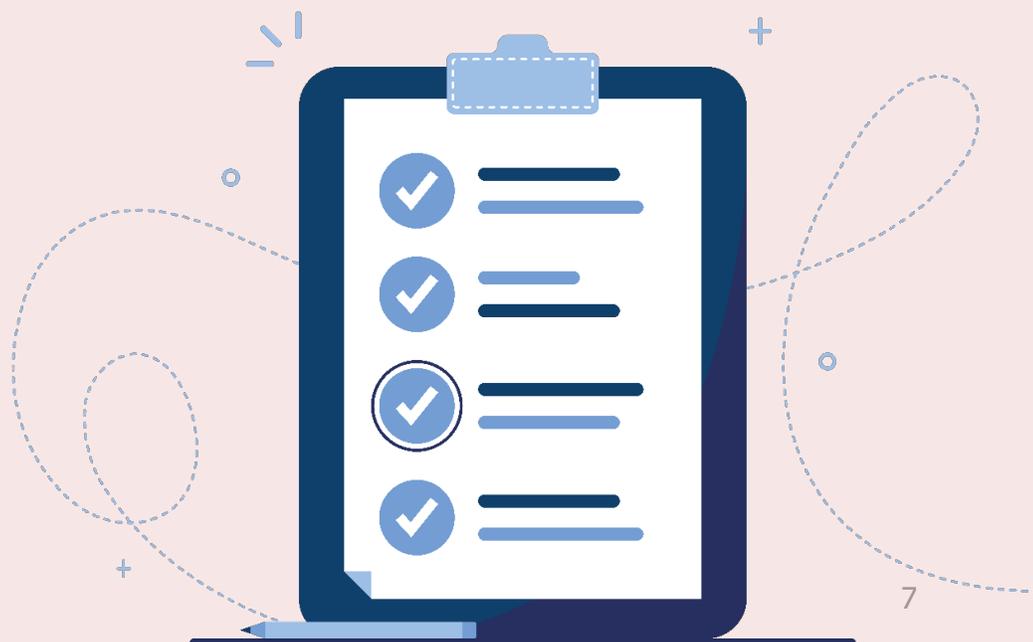
### **The development process underwent a two-phase IRB review:**

#### **Phase 1: Question Validation**

- This phase focused on the clarity and ease of understanding the questions.
- Participants were healthy individuals of reproductive age (18–44), not currently pregnant, and represented diverse gender identities and racial/ethnic backgrounds.
- A convenience sample of 200 individuals was recruited across California.
- Over 230 Californians participated in the validation process (102 in English and 132 in Spanish) from 162 unique ZIP codes.
- The sample included a diverse population: 35% Black, 35% White, 29% Hispanic, 14% Asian, and 0.2% American Indian.

#### **Phase 2: Criterion Validity**

- This phase was conducted at Stanford OB clinics with 20 participants.
- Participants completed the PreMA tool before their clinical appointment, and their responses were compared with risk assessments completed by their clinicians based on patient medical records. The patient and clinician responses were evaluated to establish criterion validity.



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## What is PreMA

PreMA is a simple, eight-question tool designed to help identify potential medical needs before pregnancy. It's quick and easy—nothing complicated or overwhelming—just the essential questions.

PreMA empowers individuals to make decisions about their healthcare and take proactive steps toward safer pregnancies and healthier outcomes. This approach aims to ensure that every mother receives the care and support she needs regardless of her circumstances.

PreMA is a small but powerful step toward a system that values prevention as much as it values intervention.

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## Call to Action: California Leads the Way

PreMA is poised to redefine preconception health across California, making preventive care a standard part of maternal healthcare. Its adoption can serve as a model for other states, promoting a larger shift towards more equitable and proactive maternal health strategies.

This simple tool leads the way to potential solutions by increasing awareness and promoting participation to save lives and create opportunities for healthier outcomes. PreMA helps transform maternal health from reactive to proactive, ensuring that challenges are met before they become crises.

PreMA must be widely integrated into everyday locations such as laundromats, places of worship, and beauty salons. We are putting a call out for a united effort to raise awareness, encourage participation, and foster partnerships with trusted community organizations that extend PreMA's reach and impact.



# Citations

1. 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).
2. CA-PMSS: Pregnancy-Related Mortality in California, 2013-2021. California Department of Public Health; Maternal, Child and Adolescent Health Division. 2024. [www.cdph.ca.gov/ca-pmss](http://www.cdph.ca.gov/ca-pmss)
3. [CDC Press Release: Four in 5 pregnancy-related deaths in the U.S. are preventable](#)
4. [Gawon, L.M., Sanders, J.N., Sward, K. et al. Multi-morbidity and Highly Effective Contraception in Reproductive Age Women in the US Intermountain West: a Retrospective Cohort Study. J GEN INTERN MED 35, 637642 \(2020\).](#)
5. Pregnancy-related mortality ratio (PRMR) = Number of pregnancy-related deaths per 100,000 live births. 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. PRMRs for American Indian/Alaska Native (n=0,0,1 for 2013-2015, 2016-2018, and 2017-2019, respectively), Native Hawaiian/Pacific Islander (n=0,1,3 for 2013-2015, 2016-2018, and 2017-2019, respectively), Multiple-race (n=8,4,10 for 2013-2015, 2016-2018, and 2017-2019, respectively), and other races (n=0,1,0 for 2013-2015, 2016-2018, and 2017-2019, respectively) are not shown due to small counts.
6. 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).
7. Pregnancy-associated (P-A) deaths include deaths from any cause while pregnant or within one year of the end of pregnancy. P-A deaths were identified by linking the California vital records, patient discharge data, emergency department data, and ambulatory surgery center data (2013-2021). These linked data were supplemented with information from coroner and autopsy reports and medical records to verify the decedent's pregnancy status and grouped cause-of-death classifications from ICD-10 codes in the California death certificate data. Pregnancy-relatedness was determined by expert committee review.
8. McGovern, Laura, Miller, George and Hughes-Cromwick, Paul. Health Policy Brief: The Relative Contributions of Multiple Determinants to Health Outcomes. Health Affairs. August 21, 2024

# Appendix

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