

RISING TO THE CHALLENGE:



CROSS COLLABORATIVE OPPORTUNITY TO ADVANCE MATERNAL HEALTH EQUITY

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

2024 Behavioral Health Symposium
California Hospital Association
December 4, 2024

DISCLOSURES

None



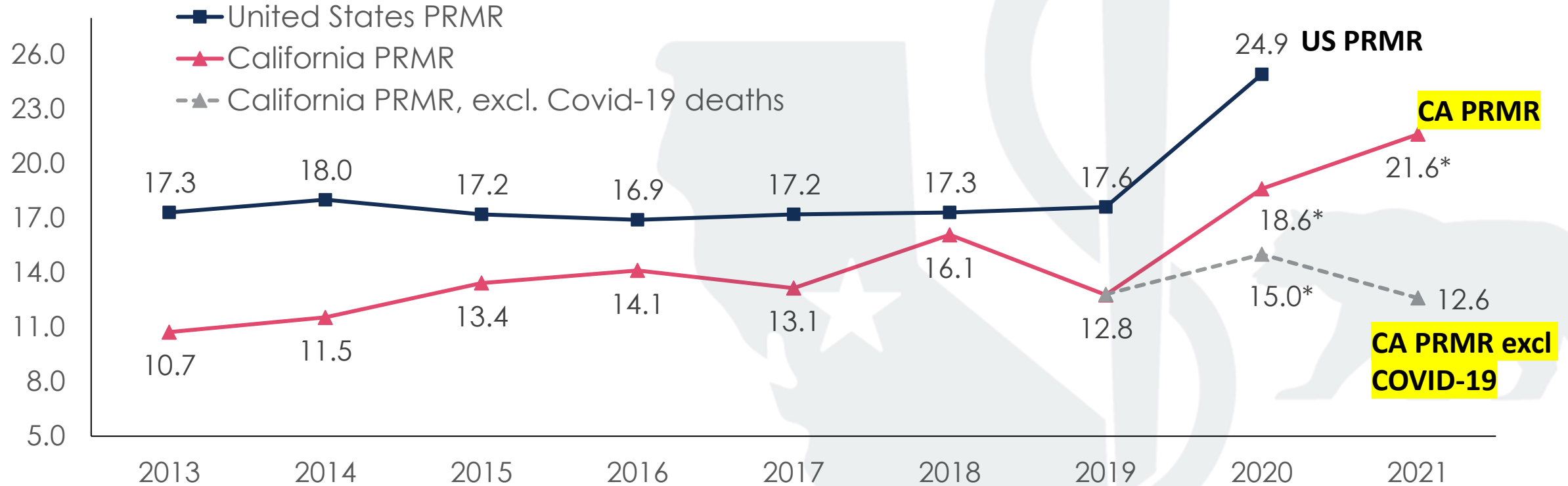
OBJECTIVES

- Understand the Strong Start and Beyond Initiative
- Distinguish the disparities in health outcomes across women of different races, ethnicities, and socioeconomic status



Pregnancy-Related Mortality Ratio in U.S. and California 2013-2021

Deaths per 100,000 live births



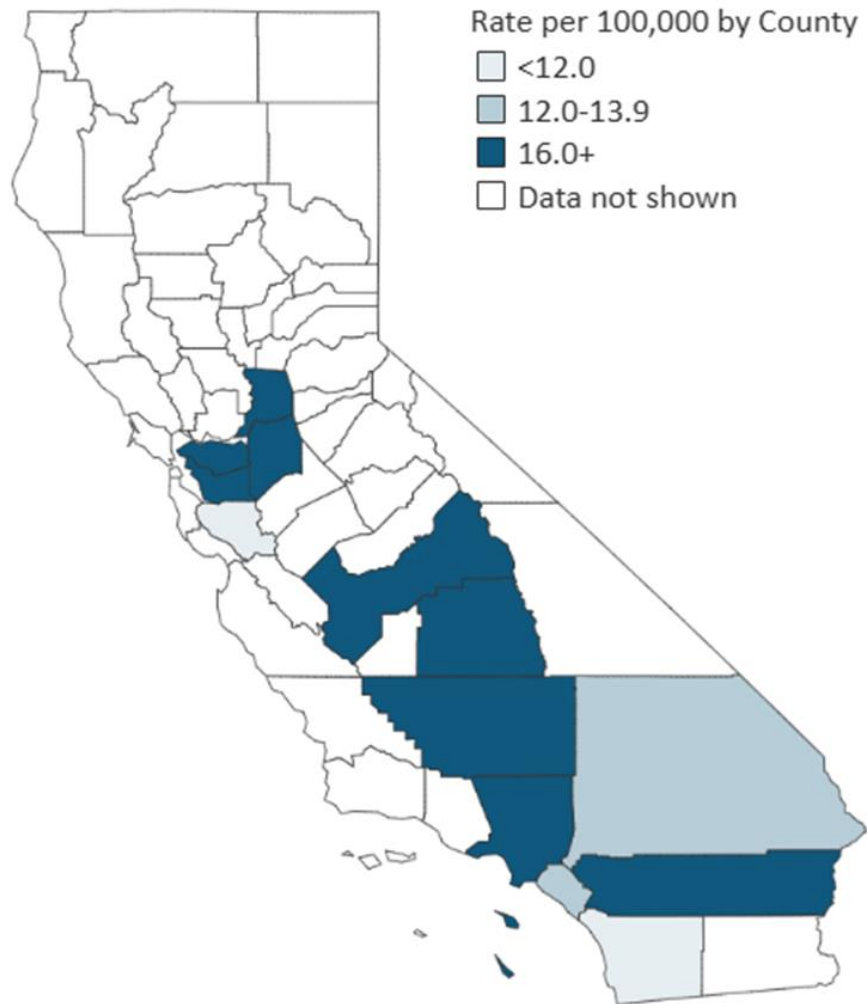
Pregnancy-related mortality ratio (PRMR) = Number of pregnancy-related deaths per 100,000 live births, up to one year after the end of pregnancy. Pregnancy-relatedness was determined by expert committee case review process. Data on U.S. PRMR were accessed at [Pregnancy Mortality Surveillance System |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

* The CA 2020 PRMR was significantly higher than the PRMR in 2013. The CA 2021 PRMR was significantly higher than the PRMRs in 2013, 2014, 2015, 2017, and 2019.

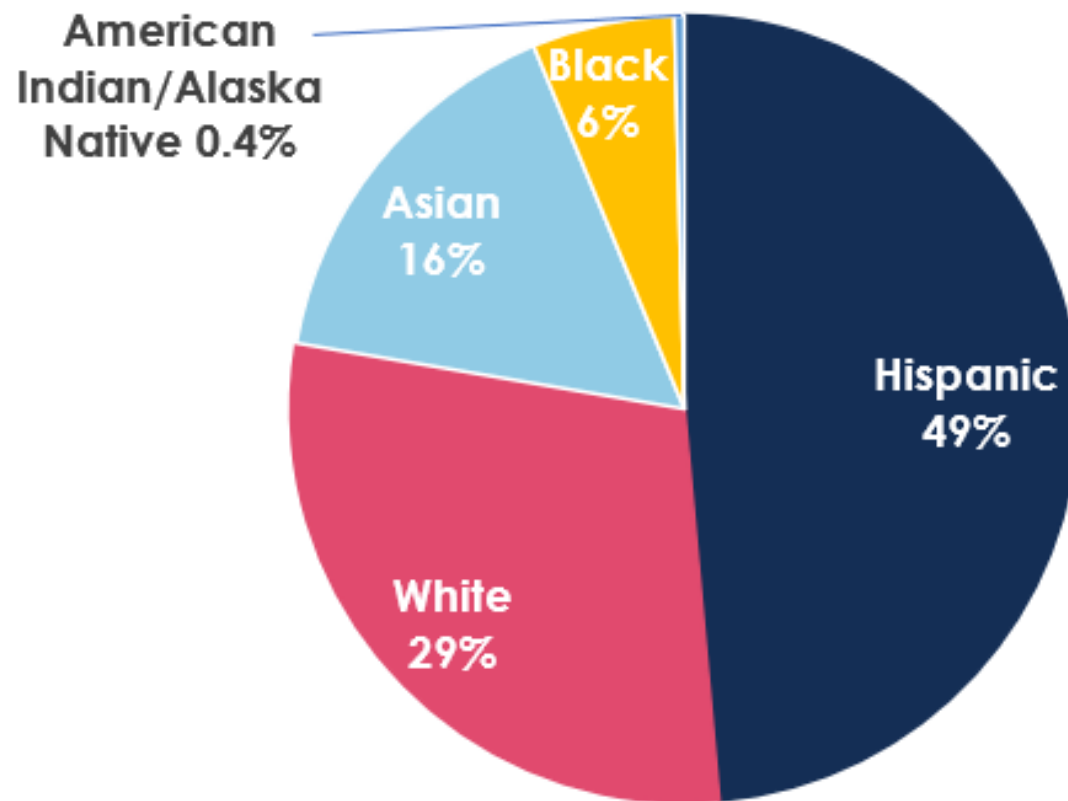
Covid-19 Impact on Pregnancy-Related Deaths in California



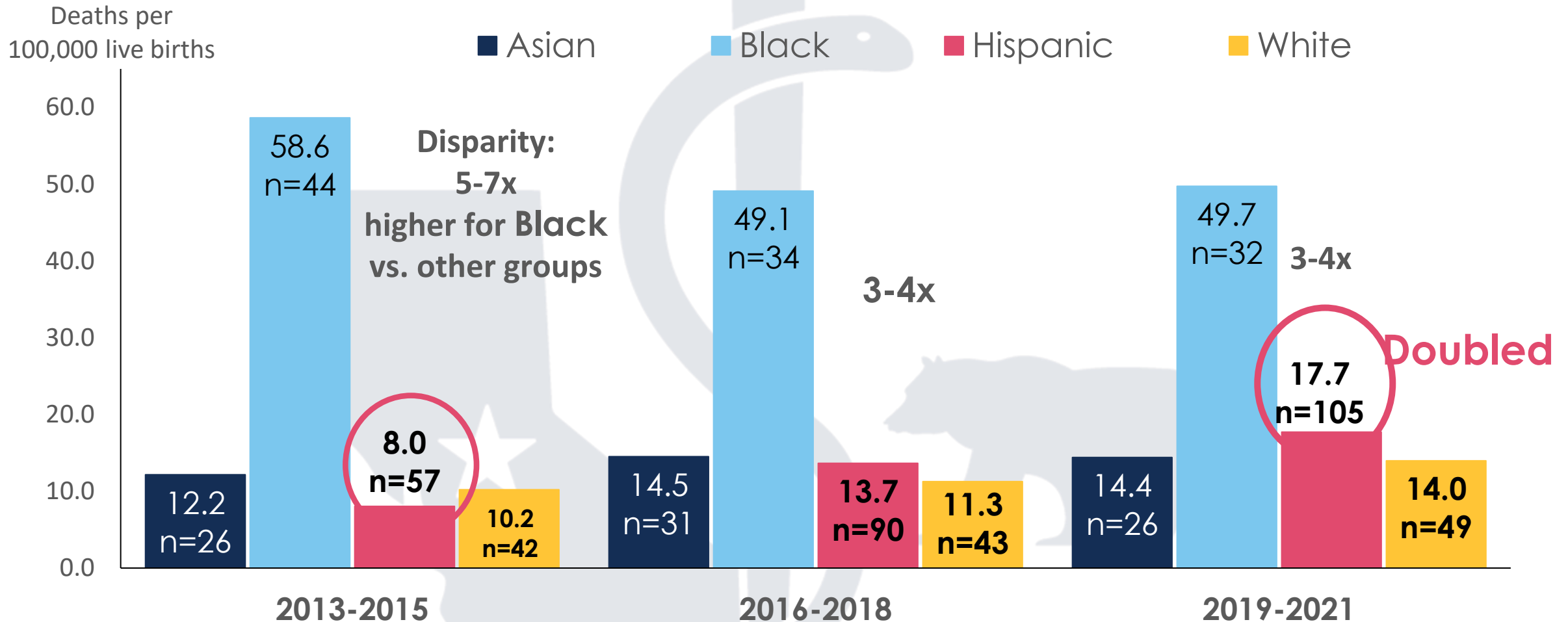
- 2020 rate of pregnancy-related deaths **increased 45%**
- 2020, **24%** of the pregnancy-related deaths were from **Covid-19**
- 2021, **71%** of the pregnancy-related deaths were from **Covid-19**



California: Births by Race/Ethnicity 2018-2020



Pregnancy-Related Mortality Ratio by Race/Ethnicity California 2013 – 2021



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.



The Time is Now!

The White House: Maternal Health Blueprint

HRSA*: 2024 Enhancing Maternal Health Initiative

CDC: Maternal Hypertension & Behavioral Health

First Partner of California: California for ALL Women

Disparities by Community Conditions Social Determinants & Trends in 2018-2020



2.1x

HIGHER

Rate of pregnancy-
related deaths when
living in the least healthy
community conditions

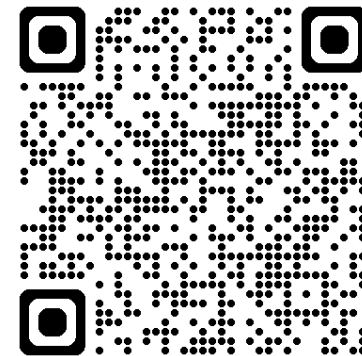
California's Maternal Health Blueprint 2024



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SURGEON GENERAL

Strong Start and Beyond Goals

- Reduce maternal mortality 50% by December 2026
- Educate and empower individuals on their reproductive health



LEADING UNDERLYING CAUSES OF PREGNANCY-RELATED DEATH INCLUDE (UP TO 1 YEAR POST-PARTUM)

23%

Mental health conditions
(including suicide and overdose)

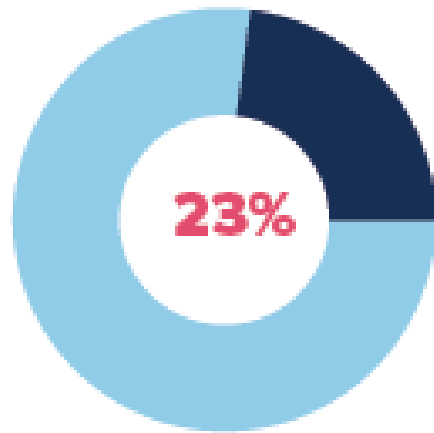
14%

Hemorrhage

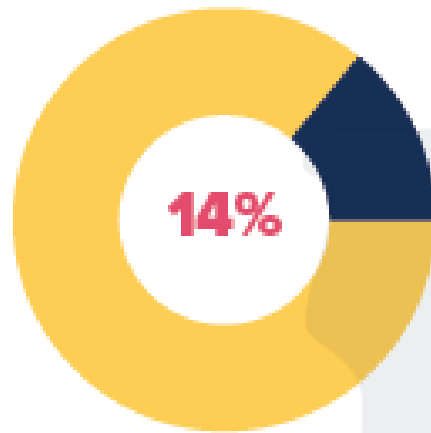
13%

Cardiac and coronary conditions

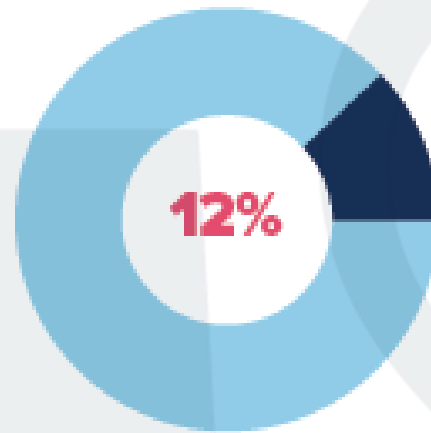
Pregnancy-Related Causes of Death California 2013-2021



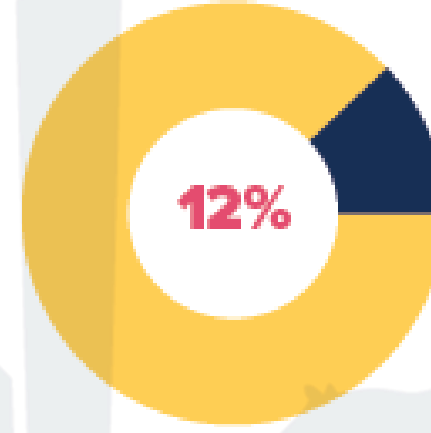
**Heart
Disease**



Bleeding



**Behavioral
Health**



Infection

Behavioral Health causes, associated with 10-15% of pregnancy-related deaths from medical causes

* Excludes COVID-19 Infection

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).*

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.

**Consensus Statement
Alliance for Innovation on
Maternal Health
Consensus Bundle on
Cardiac Conditions in
Obstetric Care**

*Afshan B. Hameed, MD, Alison Haddock,
MD, et.al*

Most people who died from cardiac conditions during pregnancy or postpartum

- not** diagnosed with a cardiovascular disease before death
- had underlying risk factors
- had presented with signs and symptoms suggestive of cardiac disease

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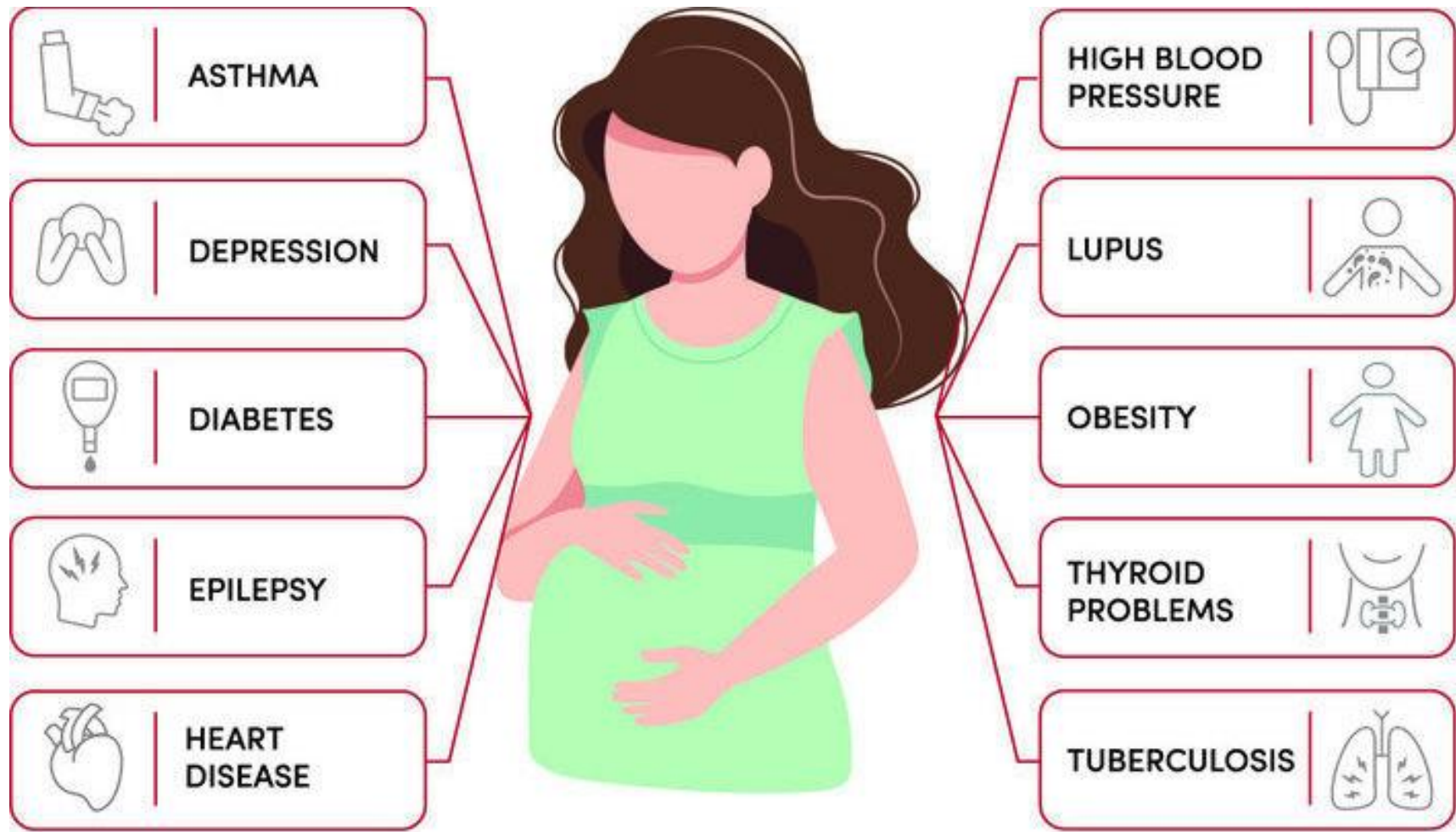


More than **80%** of all pregnancy-related CV deaths, regardless of cause, **were preventable**

Consensus Statement Alliance for Innovation on Maternal Health Consensus Bundle on Cardiac Conditions in Obstetric Care

Afshan B. Hameed, MD, Alison Haddock,
MD, et.al

	ROUTINE CARE	CAUTION*†	STOP‡§
	Reassurance	Nonemergent Evaluation	Prompt Evaluation Pregnancy Heart Team
History of CVD	None	None	Yes
Self-reported symptoms	None or mild	Yes	Yes
Shortness of breath	No interference with activities of daily living; with heavy exertion only	With moderate exertion, new-onset asthma, persistent cough, or moderate or severe OSA§	At rest; paroxysmal nocturnal dyspnea or orthopnea; bilateral chest infiltrates on CXR or refractory pneumonia
Chest pain	Reflux related that resolves with treatment	Atypical	At rest or with minimal exertion
Palpitations	Few seconds, self-limited	Brief, self-limited episodes; no lightheadedness or syncope	Associated with near syncope
Syncope	Dizziness only with prolonged standing or dehydration	Vasovagal	Exertional or unprovoked
Fatigue	Mild	Mild or moderate	Extreme
Vital signs	Normal		
HR (beats per minute)	<90	90–119	≥120
Systolic BP (mm Hg)	120–139	140–159	≥160 (or symptomatic low BP)
RR (per minute)	12–15	16–25	≥25
Oxygen saturation	>97%	95–97%	<95% (unless chronic)
Physical examination	Normal		
JVP	Not visible	Not visible	Visible >2 cm above clavicle
Heart	S3, barely audible soft systolic murmur	S3, systolic murmur	Loud systolic murmur, diastolic murmur, S4
Lungs	Clear	Clear	Wheezing, crackles, effusion
Edema	Mild	Moderate	Marked



1 in 3 women of reproductive age have at least one chronic condition

Contraception Options





Pregnancy is a Window to Future Health

High Blood Pressure 63% increased risk future cardiovascular disease

Diabetes 20%-50% will develop type 2 diabetes later in life

Depression increased risk for suicide

[a href="https://www.vecteezy.com/free-photos/behind">Behind Stock photos by Vecteezy](https://www.vecteezy.com/free-photos/behind)

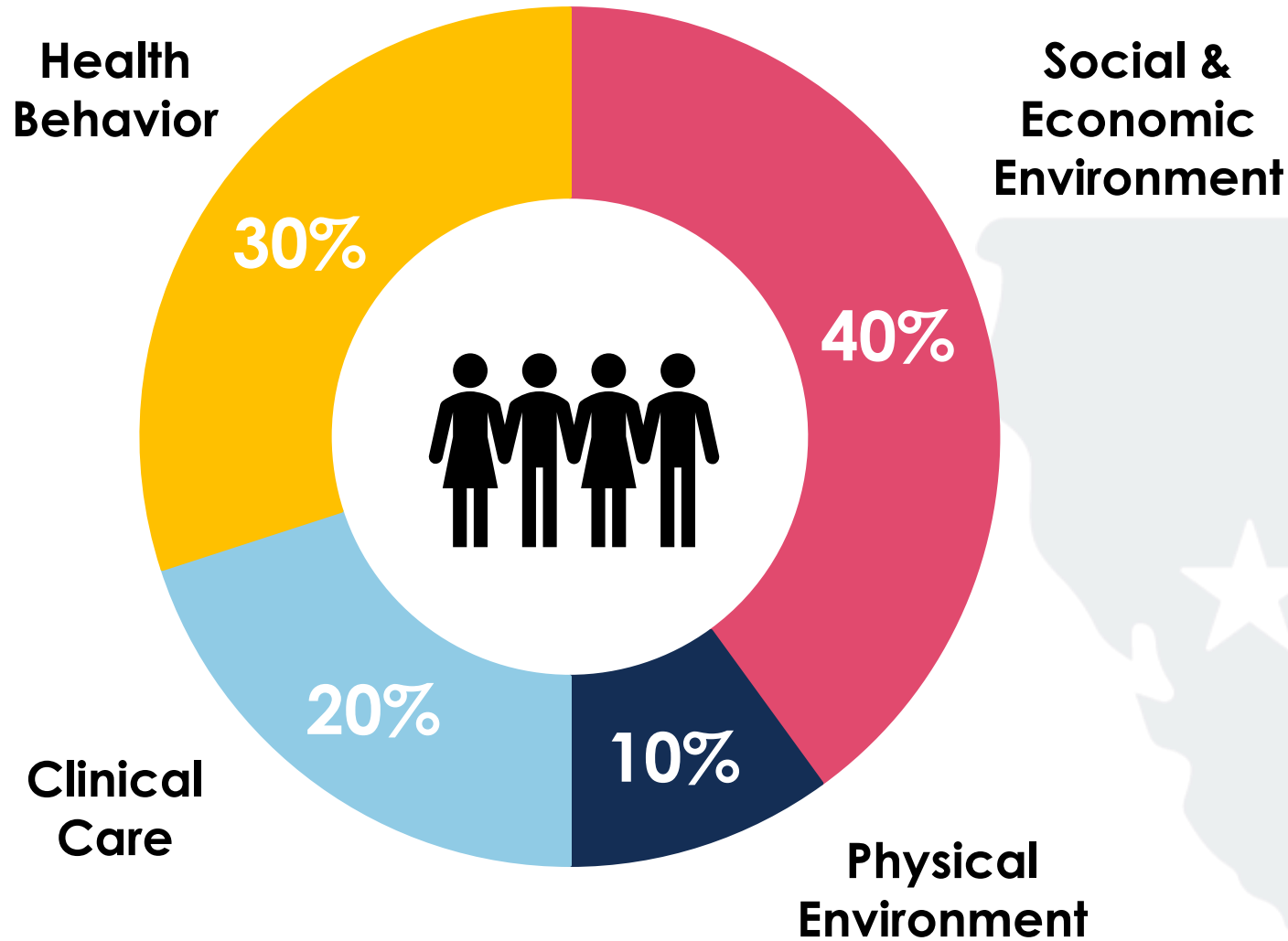
Cardiovascular Risk Factors Mediate the Long-Term Maternal Risk Associated With Hypertensive Disorders of Pregnancy:

Jennifer J. Stuart, ScD Lauren J. Tanz, ScD Eric B. Rimm, ScD Donna Spiegelman, ScD Stacey A. Missmer, ScD Kenneth J. Mukamal, MD, MPH Kathryn M. Rexrode, MD, MPH Janet W. Rich-Edwards, ScD

Li L, Ji J, Li Y, Huang Y, Moon JY, Kim RS. Gestational Diabetes, Subsequent Type 2 Diabetes, and Food Security Status: National Health and Nutrition Examination Survey, 2007–2018. *Prev Chronic Dis* 2022;19:220052

Yu H, Shen Q, Bränn E, et al. Perinatal Depression and Risk of Suicidal Behavior. *JAMA Netw Open*. 2024;7(1):e2350897. doi:10.1001/jamanetworkopen.2023.50897

THE DRIVERS OF HEALTH



80% of Health Happens Outside the Healthcare Setting

Pregnancy-Related Deaths by Timing to Death California 2013-2021 (N=607)



62%
After 1st
Day of
Delivery

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.

*“delivery” refers to live births and other pregnancy outcomes resulting in fetal deaths.

Obstetrics Health Index

Stanford

Default Question Block

The study team at the Stanford University is grateful for your interest in this study! You are invited to participate in this survey because you are a patient of this clinic seeking an annual exam or routine care. If you have any questions about the survey, please contact Susan Perez (slperez@stanford.edu). You may stop at any time without penalty. By clicking below you are consenting to participate in the survey.

To ensure you understand your rights and role as a participants, please review the attached Patient Consent Document: [Patient Consent](#).

I have read the consent document and agree to participate in this survey.

Below are questions about your health history to assess your obstetric health risks.

	Please respond to the best of your ability.		
	Yes	No	I don't know.
Do you currently have a diagnosis of heart failure or cardiomyopathy?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Were you born with a heart condition or do you currently suffer from a heart condition requiring medical attention?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have a diagnosis of pulmonary hypertension?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have a history of an irregular heartbeat (arrhythmia)? Have you ever had a heart attack or have you received care to improve blood flow in your heart such as a cardiac catheterization/cardiac stents?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Do you have a diagnosis of pulmonary hypertension?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have a history of an irregular heartbeat (arrhythmia)? Have you ever had a heart attack or have you received care to improve blood flow in your heart such as a cardiac catheterization/cardiac stents?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have a blood disorder (e.g., sickle cell, clotting disorder, low platelet count)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you currently have anemia/low iron?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have high blood pressure?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have epilepsy or seizures? Have you had a stroke? Do you have a history of a neuromuscular disorder such as myasthenia gravis, multiple sclerosis, or muscular dystrophy?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have an autoimmune disease (Lupus, Graves disease, Crohn's, rheumatoid arthritis, or ulcerative colitis)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you ever had a c-section? Have you ever had any surgeries to your uterus (to remove fibroids)? Have you ever had a d&c (dilation and curettage)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have diabetes and use insulin?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have a severe disorder of your digestive track (e.g., diseases of the liver, gallbladder, pancreas)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have schizophrenia, bipolar disorder, or depression?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have a history of asthma? Have you ever had a rare lung disease? Do you have a history of COPD (chronic obstructive pulmonary disease)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you currently use illegal drugs or use a prescription medication for non-medical reasons? Do you use heroin, methamphetamine or cocaine?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you have a disorder of your thyroid that has caused hospitalization (e.g., thyrotoxicosis)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you had a bariatric surgery (e.g., gastric bypass or gastric banding surgery)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



California's Maternal Health Blueprint 2024



Cosmo Quiz

Is Your BFF Really on Your Side?

1. If you and your friend meet a cute guy you're both into, what would she do after you declare that you like him?

- Suggest you go for an afternoon to her apartment
- Flirt with her but back off if he's clearly into you
- Say, "Really? When he doesn't seem like your type."

2. When she tells you she's going out with her boyfriend instead, you're:

- Not that surprised because she's happened to this before
- Shocked. She's always made such a big deal about getting into a relationship
- Disappointed all over again that you're both single

3. You just came up with the coolest idea for a blog. How would she react to it when you tell her?

- She enthusiastically says she'll do it with you
- She enthusiastically says she'll do it on her own
- She says she'll do it if you can help her

4. When you two have a disagreement, how does it usually get resolved?

- You talk until you both walk away satisfied
- You talk until you both walk away with one of you feeling like the loser
- You agree to disagree and move on

5. What role does your BFF usually take on when you two are in public together?

- Her best friend
- Her wingman
- Her cheerleader

602 COSMOPOLITAN SEPTEMBER 2014

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 is 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 your health and discuss medical [options](#).
- Review medications, including over-the-counter and herbal [options](#).
- Family planning can buy you time to get you 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 need to change medications and require more attention in pregnancy. See a health provider at least 3 months prior to trying to become pregnant. You may need more tests, new medications or see a specialist before and during pregnancy. During delivery you may need some medical attention.

1-3 YES for the healthiest baby, your health will probably require more attention before pregnancy. See a health provider at least 4 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, you want to be sure you follow the tips for everyone in the box above.

Want to help to get started to talk to your health provider?



Health & More

CA.gov
findhelp.org

CA.gov
findhelp.org

PreMA Preconception Medical Assessment

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?

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3. Has a doctor told you that you have high blood pressure?

4. Has a doctor told you that you have diabetes?

5. Have you ever been diagnosed with lung disease, or do you have a history of breathing problems?

6. Do you take any medicine that was prescribed to you by a doctor, like illegal drugs or prescription medicine for reasons other than your health?

7. Have you ever had a surgery on your stomach or intestines, or do you have a problem with your digestive system?

8. Have you ever been in the hospital or needed treatment because you drank too much alcohol?

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 buy you time to get you 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.


2-4 YES for the healthiest baby: your health requires special care attention before and during pregnancy. You may have chronic health conditions that require extra attention in pregnancy. See a health provider at least 3 months prior to trying to become pregnant. You may need more tests, new medications or 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 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: you want to get help you follow the tips for everyone in the list above.

Want to help to get started to talk to your health provider?

Health & More
CA.gov
FindHelp.org



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 buy you time to get you 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.

Support New Mom's Mental Health

Support New Mom's Mental Health

1 IN 5 People in California experience depression during & after pregnancy



Look for changes in behavior



Listen for harmful words



Provide words of support



Direct to places of support and care

It's okay to have the conversation.



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SURGEON GENERAL

For more information



Key Actions



At-home Pregnancy Medical Risk Questionnaire



Improve Resource Awareness



Support Behavioral Health



Partnerships and Collaboration

**Over 80% of
healthcare occurs
outside of the
healthcare setting**



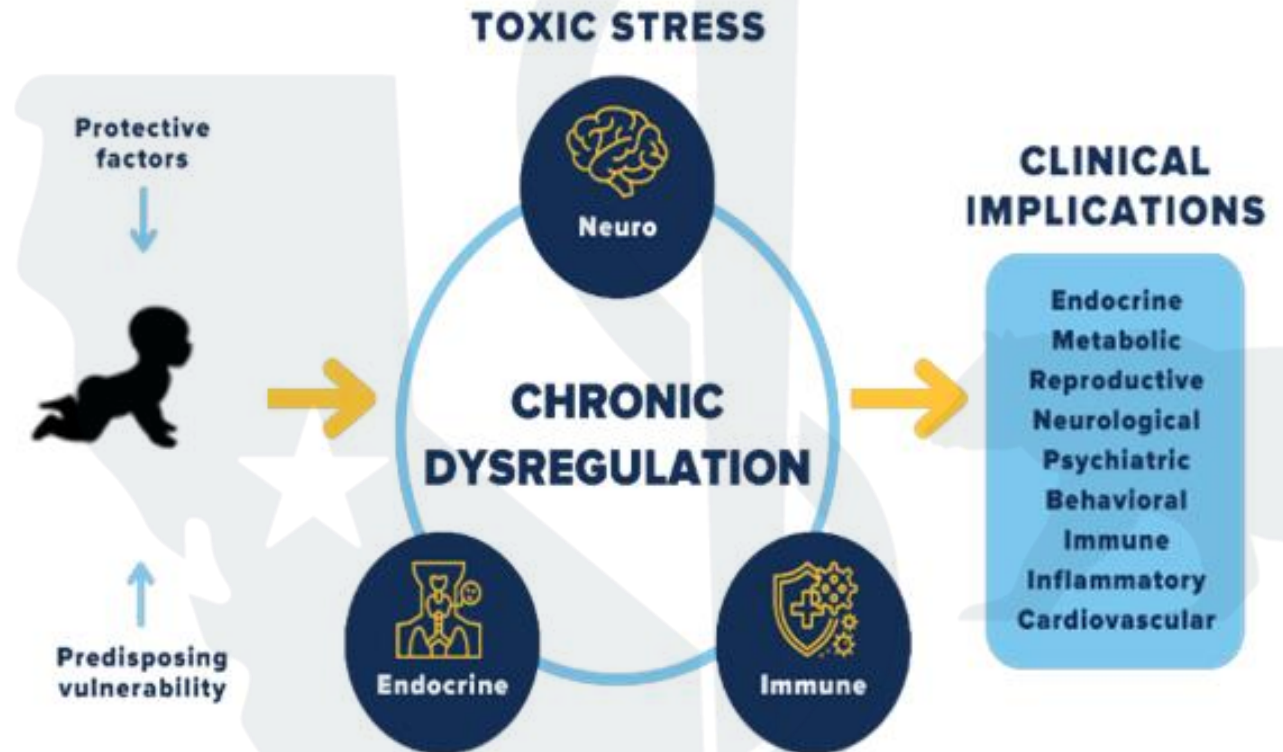
**STRONG START
& BEYOND**

Strong Start and Beyond Timeline



Diversity of Community Input//Private-Public Partnership/Cross Collaboration

ACES CAN LEAD TO



Types of ACEs



ABUSE

- Emotional
- Physical
- Sexual



NEGLECT

- Emotional
- Physical

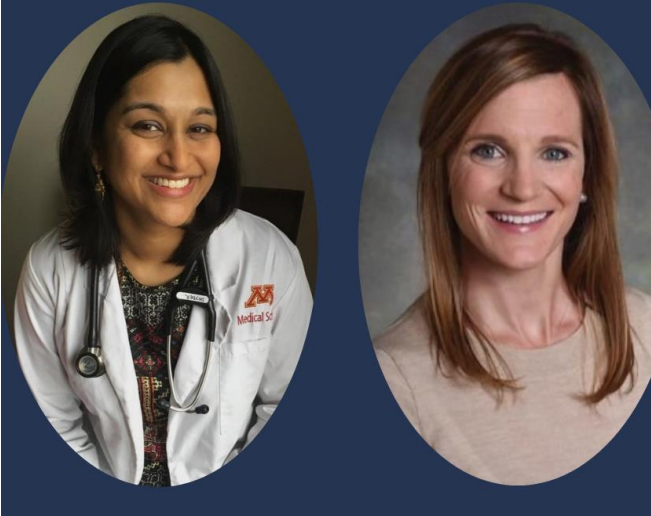


HOUSEHOLD CHALLENGES

- Substance misuse
- Mental illness
- Suicidal thoughts and behavior
- Divorce or separation
- Incarceration
- Intimate partner violence or domestic violence

PHYSICIANS ARE UNIQUELY IMPACTED

Dr. Mom Foundation is dedicated to the memory of two Minnesotan physicians who died by suicide.



- Roughly 1 doctor dies by suicide everyday
- Female doctors are **3x more likely** to die by suicide
- Physicians Experience Highest Suicide Rate of Any Profession
- 29 % of practicing physicians reported depression, a rate twice that of US adults

[Dr. Mom Foundation \(drmomfound.org\)](http://drmomfound.org)

Mata DA, Ramos MA, Bansal N, et al. Prevalence of Depression and Depressive Symptoms Among Resident Physicians: A Systematic Review and Meta-analysis. JAMA. 2015;314(22):2373–2383. doi:10.1001/jama.2015.15845 <https://www.medscape.com/viewarticle/896257>



#OneSmallThingSSB

One Small Thing

1. WATCH THE BABY WHILE MOM NAPS
2. STRAIGHTEN UP THE HOUSE
3. COOK A MEAL OR HAVE ONE DELIVERED
4. GO ON A WALK TOGETHER
5. RUN SOME ERRANDS
6. BRING OVER COFFEE OR LUNCH

StrongStartandBeyond.org

Join Our Strong Start and Beyond Webinars

JOIN US FOR A WEBINAR **MATERNAL WELLBEING DURING THE HOLIDAYS**

WITH DR. DIANA E. RAMOS
CALIFORNIA SURGEON GENERAL



WEDNESDAY
DECEMBER 4, 2024

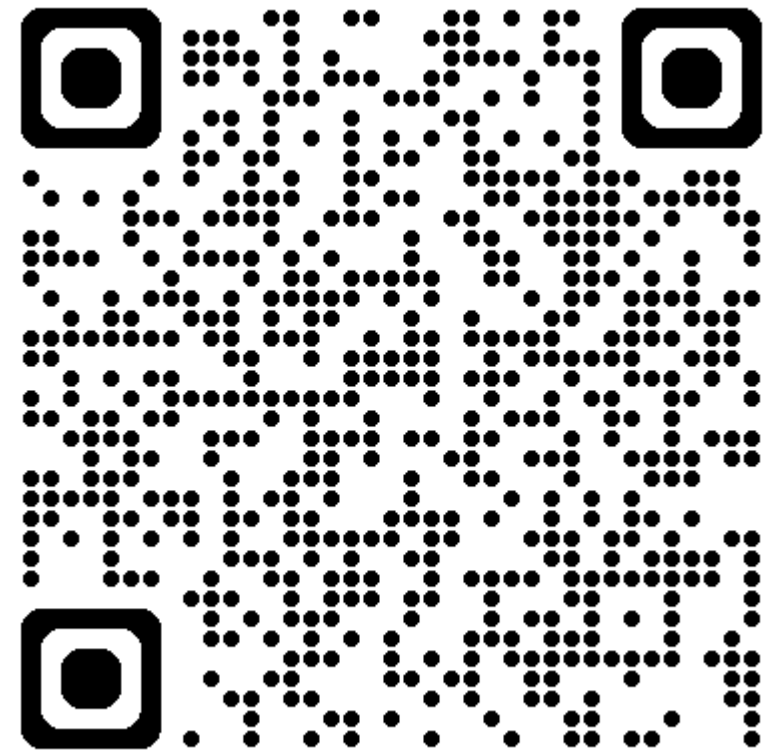
TIME
12:00PM - 12:45PM PST

REGISTER
LINK IN BIO

Visit Our Website to Learn More
www.StrongStartAndBeyond.org



GUEST SPEAKER
ELISSA EPEL, PH.D, PROFESSOR
DEPT OF PSYCHIATRY & BEHAVIORAL SCIENCES, UCSF



StrongStartandBeyond.org

Partner with us in the Movement!



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THANK YOU

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