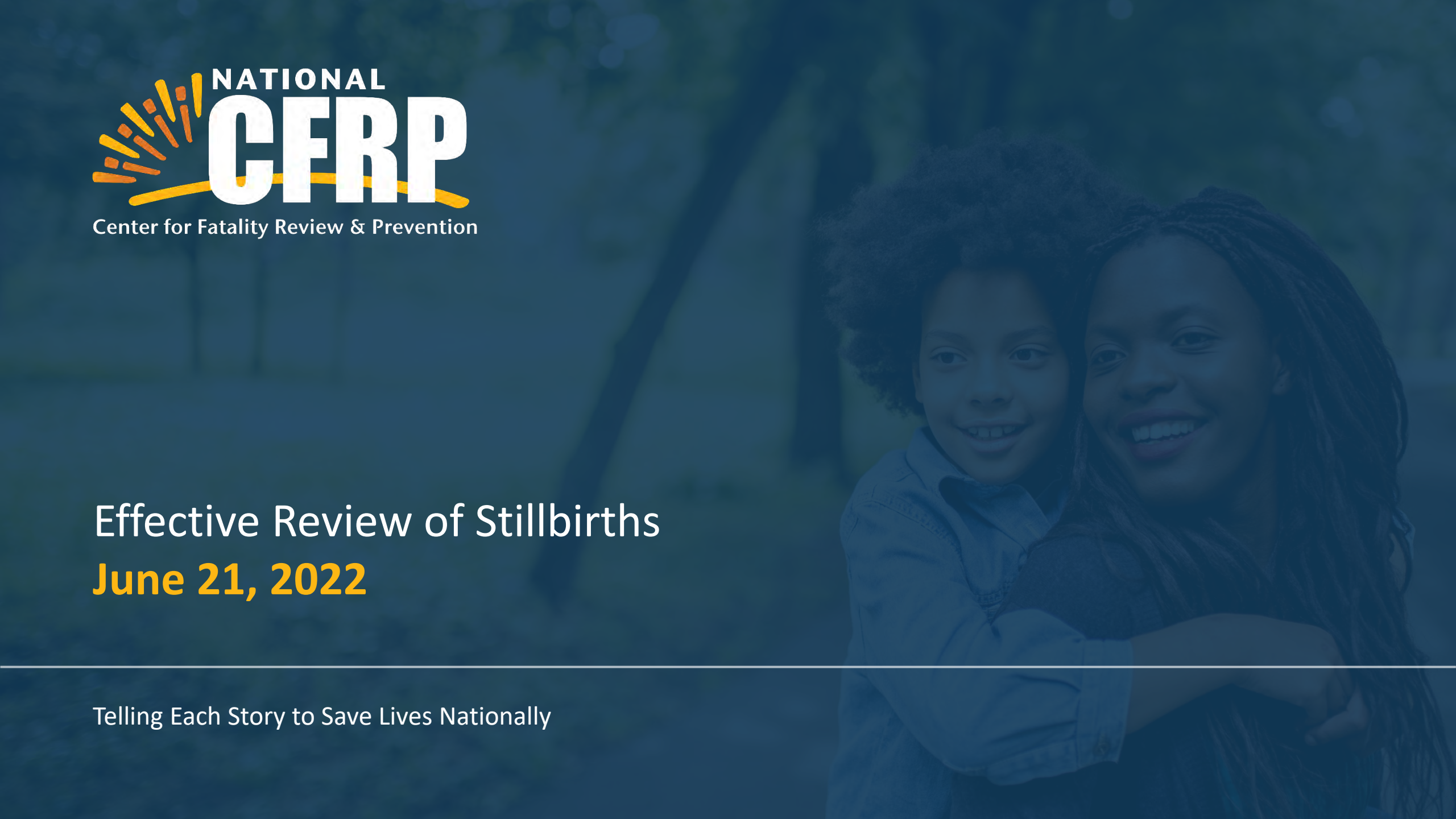
NATIONAL CFRP

Center for Fatality Review & Prevention



Effective Review of Stillbirths

June 21, 2022

Telling Each Story to Save Lives Nationally

KEY FUNDING PARTNER

FEDERAL ACKNOWLEDGEMENT

The National Center is funded in part by Cooperative Agreement Numbers UG7MC28482 and UG7MC31831 from the US Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB) as part of an award totaling $1,099,997 annually with 0 percent financed with non-governmental sources. Its contents are solely the responsibility of the authors and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

HOUSEKEEPING

Before we get started

- This webinar is being recorded and will be available on the National Center's webpage (URL: www.ncfrp.org).
- Participants are muted. Please use the question-and-answer box to ask questions.
- Due to the large number of participants, the speakers may be unable to answer all questions. Unanswered questions will be answered and posted with the recording.
- Contact the National Center (email: info@ncfrp.org) for any tech problems.

EVALUATION

https://www.surveymonkey.com/r/32BRMMX

Diane Pilkey, RN, MPH

Welcome and Introductions

Senior Nurse Consultant

Division of Child, Adolescent and Family Health

Maternal and Child Health Bureau

Health Resources and Service Administration

HRSA'S VISION FOR THE NATIONAL CENTER

IMPROVING SYSTEMS OF CARE AND OUTCOMES FOR MOTHERS, INFANTS, CHILDREN, AND FAMILIES

Assist state and community programs in:

- Understanding how CDR and FIMR reviews can be used to address issues related to adverse maternal, infant, child, and adolescent outcomes
- Improving the quality and effectiveness of CDR/FIMR processes
- Increasing the availability and use of data to inform prevention efforts and for national dissemination

PRESENTATION GOALS

- Discuss the scope of the problem, prevalence and trends in stillbirths
- Review information on the causes and contributors to stillbirth
- Learn the current guidelines for evaluation and medical work up following a stillbirth
- Identify opportunities for prevention, sampling of recommendations from fatality review teams

Speakers

Charlene H. Collier, M.D.
Medical Director
Mississippi State Department of Health

Cheryl Coleman-Doyle, RN, MSHSA
Fetal & Infant Mortality Review Coordinator
Mississippi State Department of Health

Photograph: Raymond Philip / EyeEm/Getty Images/EyeEm

Stillbirth

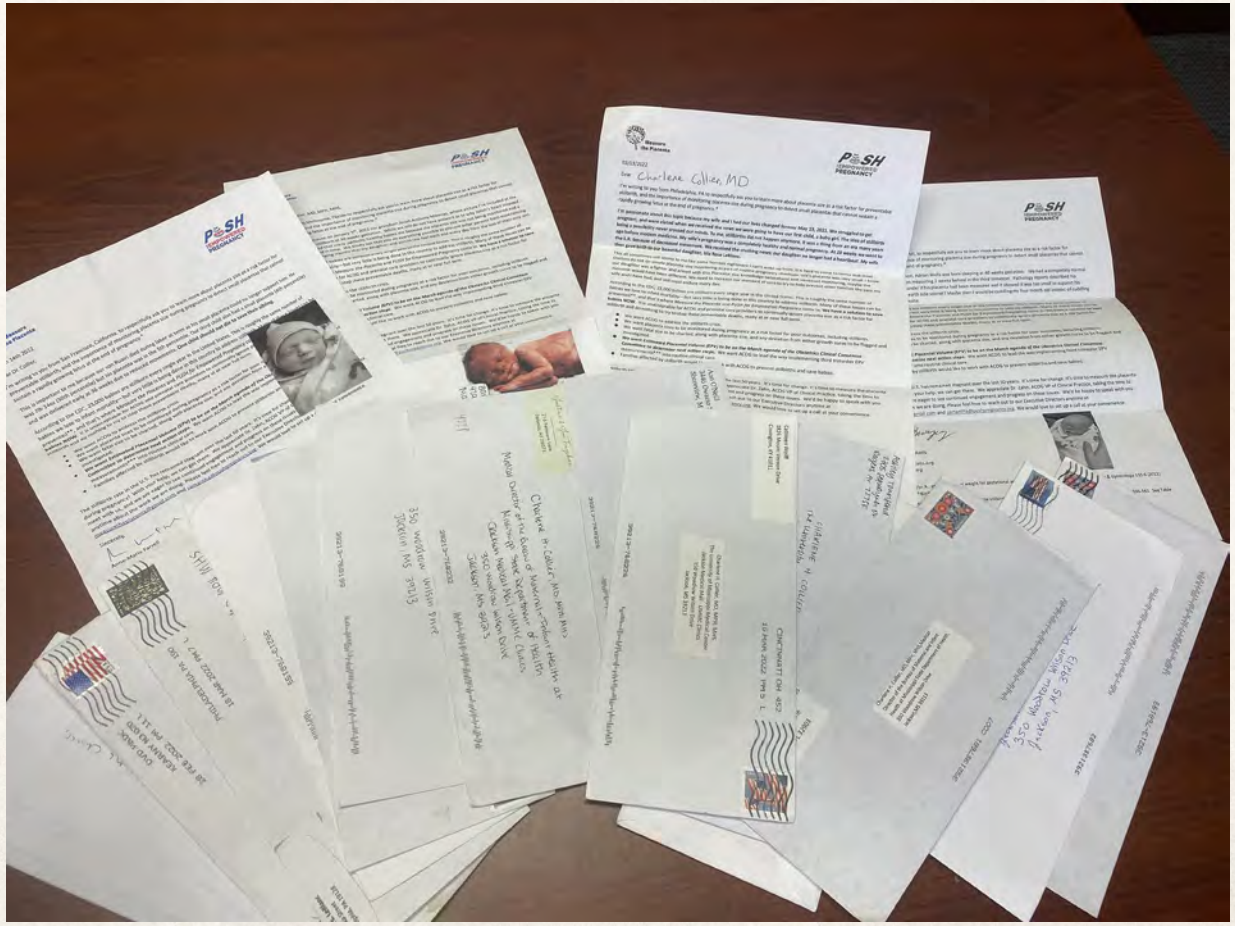
Moving from Silence to Action

C.Collier MD, MPH, MHS

Disclosures

- No financial disclosures
- Views my own

Hearing Families…



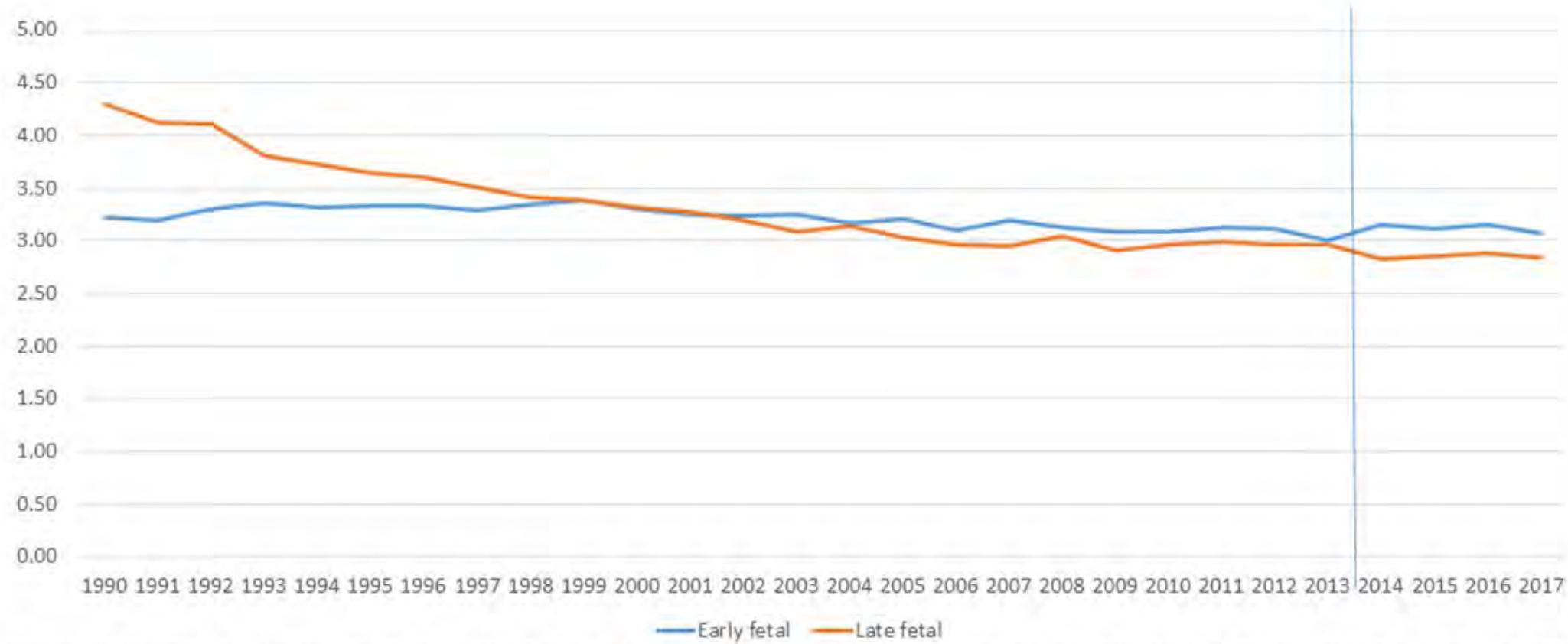
Places To Listen

- CDC- Stillbirth : Family Stories
- NY Times Series: Stillbirth Your Stories
- tommys.org (UK)
- PUSH for Empowered Pregnancy

Background

- Stillbirth or fetal death- defined as a death or loss occurring before or doing birth after 20 weeks gestation.
- Early (20- 27 weeks) Late (28-36) Term 37+ weeks
- Occurs in 1 in 160 births
- Approximately 24,000 stillbirths annually, 6,900 are Black stillbirths
- 10 times as common as SIDS

Trends- Rates



NOTE: Starting with 2014 data, the obstetric estimate of gestation at delivery replaced the gestational age measure based on the date of the last normal menses, introducing a discontinuity in early and late fetal mortality rates from earlier years; rates calculated using the different measures are non-comparable.
Source: CDC/NCHS, National Vital Statistics System.
Fetal Death Public-Use File, 2017.

Prospective Rates- Ongoing Risk

P*rospective fetal mortality rate* : number of stillbirths at a given gestational age (in single weeks) per 1,000 live births and stillbirths at that gestational age or greater

Using a denominator of women who are still pregnant at a given gestational age

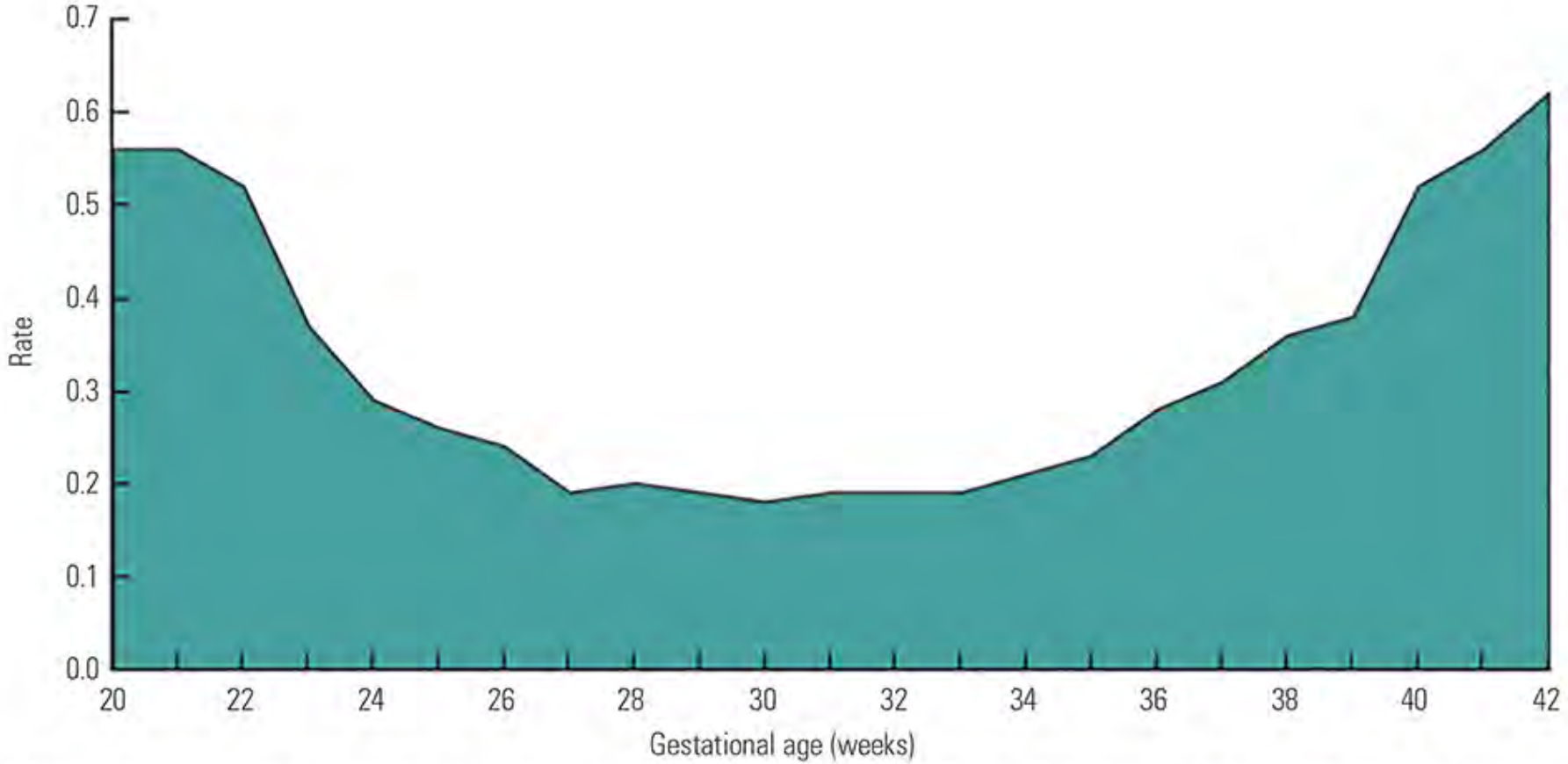
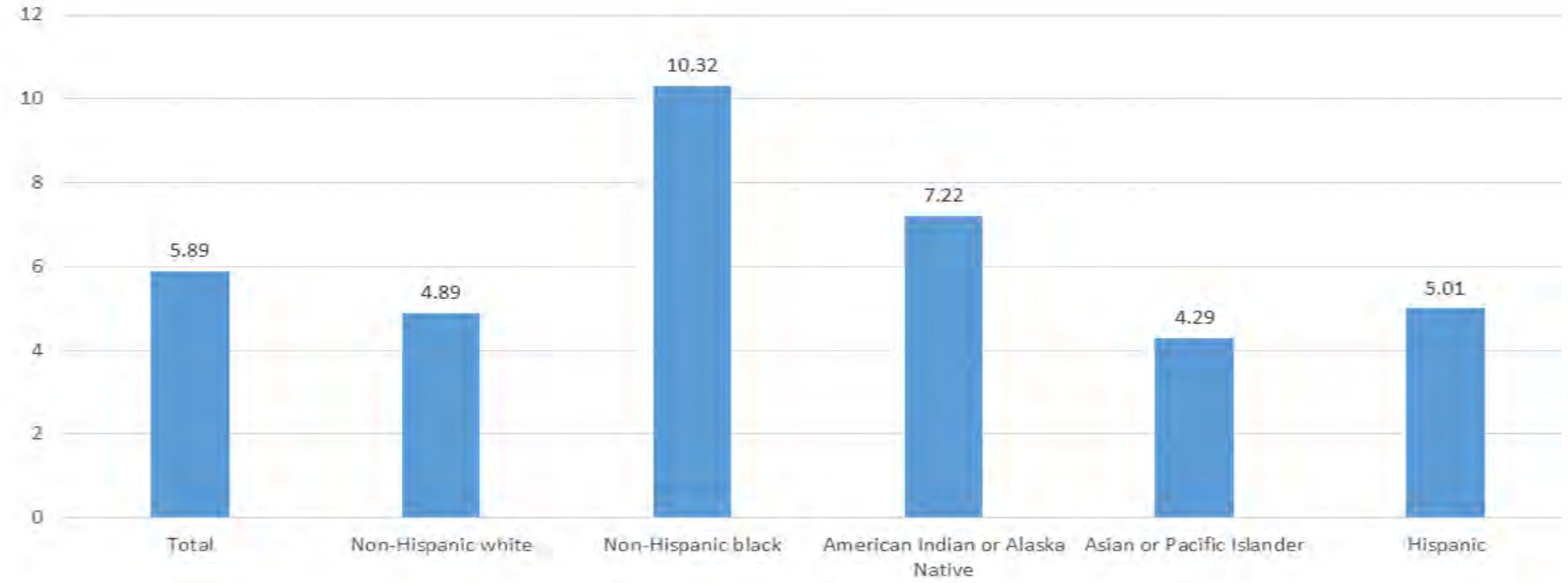


Figure 1. Prospective fetal mortality rate, by single week of gestation: United States, 2013. Note: The prospective fetal mortality rate is the number of stillbirths at a given gestational age per 1,000 live births and stillbirths at that gestational age or greater. (MacDorman MF, Gregory ECW. Fetal and perinatal mortality: United States, 2013. National vital statistics reports; vol. 64 no. 8. Hyattsville, MD: National Center for Health Statistics. 2015.)

ACOG: Managing Stillbirth- Obstetric Care Consensus, Number 10 March 2020

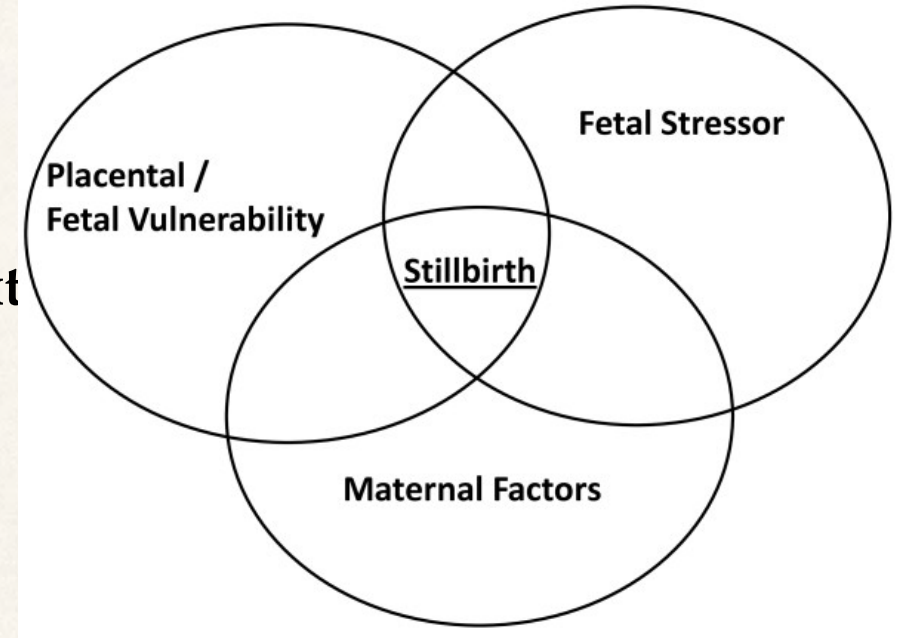
Significant Disparities



Source: CDC/NCHS, National Vital Statistics System.
Fetal Death Public-Use File, 2017.

Talking About Risk

- Not all stillbirths are preventable or predictable
- Risks can be additive and interactive
- Framing from modifiable and non-modifiable **within context**
- **What is the pathway that elevates risk?**
  - Compromised placental growth, perfusion, attachment
  - Fetal growth and development
  - Umbilical cord compression/compromise
  - Nutrition
  - Vascular /Cardiovascular compromise



BMC Pregnancy Childbirth. 2014; 14: 142.
Published online 2014 Apr 14. doi: 10.1186/1471-2393-14-142

Table 1. Estimated Rate of Stillbirth With Maternal or Fetal Conditions

Condition	Estimated Rate of Stillbirth*
All pregnancies	6.4/1000
Diabetes	
Treated with diet (A1)	6–10/1000
Treated with insulin	6–35/1000
Hypertensive disorder	
Chronic hypertension	6–25/1000
Preeclampsia	
without severe features	9–51/1000
with severe features	12–29/1000
Growth restricted fetus	10–47/1000
Multiple gestation	
Twins	12/1000
Triplets	34/1000
Oligohydramnios	14/1000
Late term pregnancy (greater than 41 weeks)	14–40/1000†
Previous stillbirth	9–20/1000
Decreased fetal movement	13/1000
Systemic lupus erythematosus	40–150/1000
Renal disease	15–200/1000
Cholestasis of pregnancy	12–30/1000
Advanced maternal age	
35–39 years	11–14/1000
40 years or greater	11–21/1000

ACOG: Managing Stillbirth- Obstetric Care Consensus, Number 10 March 2020

Black maternal race	12–14/1000
Maternal age less than 20 years	7–13/1000
Assisted reproductive technology	12/1000
Obesity (prepregnancy)	
BMI equal to or greater than 30 kg/m^2	13–18/1000
Smoking greater than 10 cigarettes per day	10–15/1000

*Rate per 1,000 live births and stillbirths

†Data from Rosenstein MG, Snowden JM, Cheng YW, Caughey AB. The mortality risk of expectant management compared with delivery stratified by gestational age and race and ethnicity. Am J Obstet Gynecol 2014;211:660.e1–8.

Adapted from Signore C, Freeman RK, Spong CY. Antenatal testing—a reevaluation: executive summary of a *Eunice Kennedy Shriver* National Institute of Child Health and Human Development workshop. Obstet Gynecol 2009;113:687–701 *and* Fretts RC. Etiology and prevention of stillbirth. Am J Obstet Gynecol 2005;193:1923–35.

ACOG: Managing Stillbirth- Obstetric Care Consensus, Number 10 March 2020

Disparities in Stillbirth by Race Does Not Mean "Race" Created the Disparity or Is the Risk Factor

- Differences in Exposure to the Risk Factors That Increase Stillbirth
  - Racism
  - Food desserts
  - Environmental Hazard exposure
  - Tobacco Access/Marketing/Exposure
  - Poverty
  - Stress

What we say matters…

- Instead of Black Race' is a Risk Factor
- Try: " There are higher rates of stillbirth in the Black population due to…
- Populations experiencing higher rates of stillbirth include….because…

Emerging Risks- Covid-19

Risk for Stillbirth Among Women With and Without COVID-19 at Delivery Hospitalization — United States, March 2020–September 2021

Weekly / November 26, 2021 / 70(47);1640–1645

On November 19, 2021, this report was posted online as an MMWR *Early Release.*

Carla L. DeSisto, PhD[1]; Bailey Wallace, MPH[1]; Regina M. Simeone, PhD[1]; Kara Polen, MPH[1]; Jean Y. Ko, PhD[1]; Dana Meaney-Delman, MD[1]; Sascha R. Ellington, PhD[1] (View author affiliations)

1,249,634 delivery hospitalizations during March 2020–September 2021

Pregnant individuals with COVID-19 were at increased risk for stillbirth compared to those without COVID-19 (adjusted relative risk [aRR] = 1.90; 95% CI = 1.69–2.15)

Higher association during Delta Variant

Evaluation of Stillbirth- Customized approach

- Patient Story/Experience
- Full Medical/Obstetric/Family/Social History
- Fetal Examination- Autopsy (30% information added)
- Placental Evaluation (30% information added)
  - Karyotype/Microarray (Abnormalities in 8% of cases)
  - Lab Evaluations: Antiphospholipid Antibody, Fetal maternal hemorrhage'
    - Infections, Toxicology, Indirect Coombs

Questions for FIMR Teams

- Were the tests offered/ understood/accessible/appropriate
- Any patterns in your community about differences in the evaluation
- Barriers to evaluation (Autopsy - resources, communication, completion)
- Follow up to explain results/ Timeliness/Responsibility

Moving Data To Action

- What are the strategies to reduce stillbirth at the population level?
- Are those strategies accessible to all populations?
- What are the barriers to implementing those strategies equitably?

National Prevention- Protocols & Bundles

- National strategies employed together to reduce risk
- UK, Australia
- Started with a commitment to reduce stillbirth

NHS England
Saving Babies' Lives
A care bundle for reducing stillbirth

Safer Baby Bundle
WORKING TOGETHER TO REDUCE STILLBIRTH

NHS England- Saving Babies' Bundle

1. Reducing smoking in pregnancy
2. Risk assessment and surveillance for fetal growth restriction
3. Raising awareness of reduced fetal movement
4. Effective fetal monitoring during labour

https://www.england.nhs.uk/wp-content/uploads/2016/03/saving-babies-lives-car-bundl.pdf

Element 1: Reducing smoking in pregnancy

Element description
Reducing smoking in pregnancy by carrying out Carbon Monoxide (CO) test at antenatal booking appointment to identify smokers (or those exposed to tobacco smoke) and referring to stop smoking service/specialist as appropriate
Intervention
Carbon monoxide (CO) testing of all pregnant women at antenatal booking appointment and referral, as appropriate, to a stop smoking service/specialist, based on an opt out system. Referral pathway must include feedback and follow up processes.

Process indicators	Outcome indicators
i. Recording of smoking status of each pregnant woman ii. Recording of CO reading for each pregnant woman iii. If this identifies exposure to smoke or a high CO reading, referral to stop smoking service or other action	i. Number/rates of women smoking at booking ii. Number/rates of women smoking at time of delivery (SATOD)

Rationale

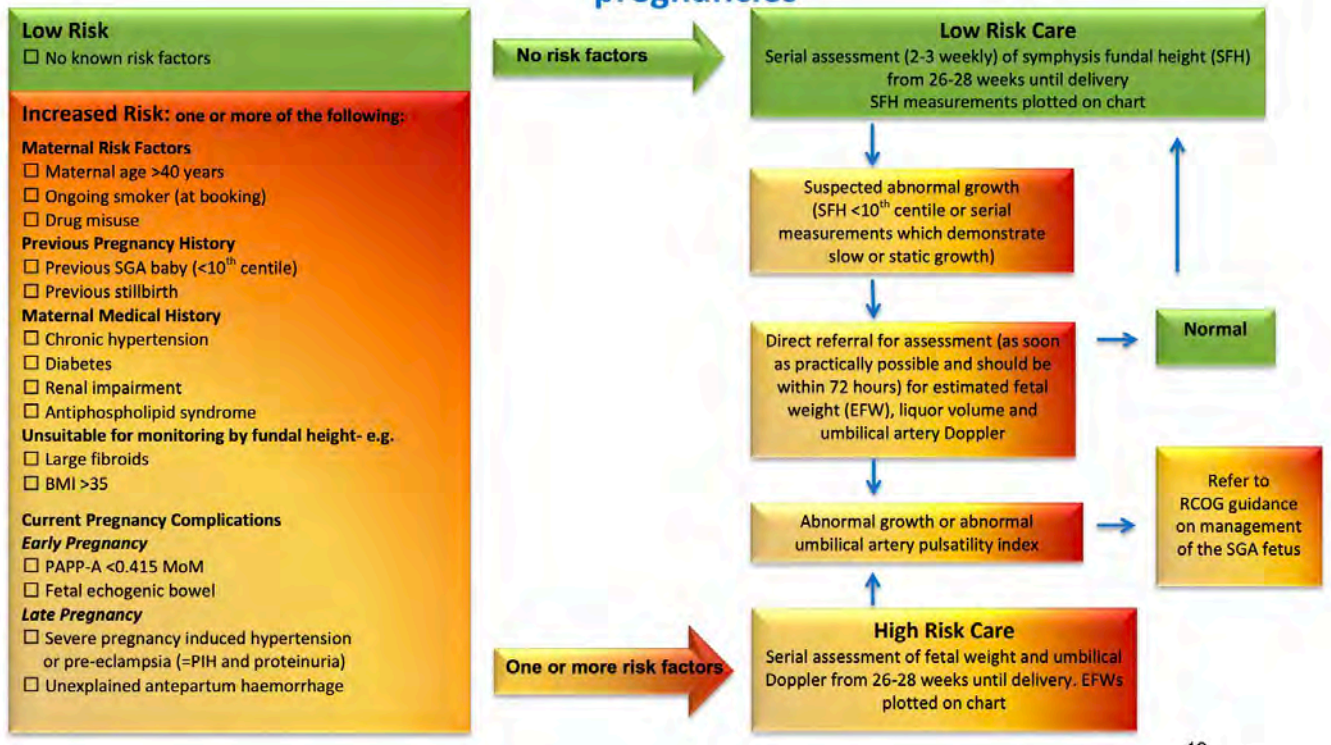
There is strong evidence that reducing smoking in pregnancy reduces the likelihood of stillbirth[7]. It also impacts positively on many other smoking-related pregnancy complications such as premature birth, miscarriage, low birth-weight and Sudden Infant Death Syndrome (SIDS)[8]. Whether or not a woman smokes during her pregnancy has a far reaching impact on the health of the child throughout his or her life[9].

Element 2: Risk assessment and surveillance for fetal growth restriction

Element description
Risk assessment and surveillance of pregnancies for fetal growth restriction
Interventions
1. Use supplied algorithm to aid decision making on classification of risk, and corresponding surveillance of all pregnancies. (Some providers may wish instead to use the RCOG algorithm*)
2. For women at high risk of fetal growth restriction, fetal growth to be assessed using serial ultrasound scans as per algorithm (Appendix B). Estimated fetal weight derived from ultrasound measurements recorded on a chart**
3. For low risk women, fetal growth to be assessed using antenatal symphysis fundal height charts** by clinicians trained in their use. All staff must be competent in measuring fundal height with a tape measure, plotting measurements on charts, interpreting appropriately and referring when indicated.
4. Ongoing audit, reporting and publishing (on local dashboard or similar) of Small for Gestational Age (SGA) birth rate, antenatal detection rate, false positive rate and false negative rate.
5. Ongoing case-note audit of selected cases not detected antenatally, to identify learning and improve future detection

* The RCOG algorithm triages women with three or more minor risk factors into a serial scanning pathway

Algorithm and Risk Assessment Tool: Screening and Surveillance of fetal growth in singleton pregnancies



Element 3: Raising awareness of reduced fetal movement

Element description
Raising awareness amongst pregnant women of the importance of detecting and reporting reduced fetal movement (RFM), and ensuring providers have protocols in place, based on best available evidence, to manage care for women who report RFM.
Interventions
1. Information and advice leaflet* on reduced fetal movement (RFM), based on current evidence, best practice and clinical guidelines, to be provided to all pregnant women by, at the latest, the 24th week of pregnancy and RFM discussed at every subsequent contact.
2. Use provided checklist to manage care of pregnant women who report reduced fetal movement, in line with RCOG Green-top Guideline 57[16]

Intervention	Process indicators	Outcome indicators
1. Information and advice leaflet* on reduced fetal movement (RFM), based on current evidence, best practice and clinical guidelines, to be provided to all pregnant women by, at the latest, the 24th week of pregnancy and RFM discussed at every subsequent contact.	i. Leaflet* given to and discussed with all pregnant women by 24th week of pregnancy ii. Feedback obtained from sample of women to gauge whether messages have been assimilated as intended	Percentage of women reporting RFM who have received the leaflet* Percentage of women reporting RFM who understood the message
2. Use provided checklist to manage care of pregnant women who report reduced fetal movement, in line with RCOG Green-top Guideline 57[17]	i. Protocol in place that follows checklist for care for pregnant women who report RFM ii. Care for all pregnant women who report RFM managed according to checklist	i. Stillbirth rate (decrease/increase) ii. Induction rate (increase/decrease) iii. Percentage of women reporting RFM who have 1. further action 2. no further action

*Leaflet produced by Tommy's/NHS England with organisations at Appendix A

Checklist for Required Management of Reduced Fetal Movements

- Based upon RCOG Guideline 57
- For women ≥28 weeks gestation
- Keep in guidance notes about Fetal Medicine Unit referral for women <24 weeks gestation

Attendance with Reduced Fetal Movements

Please initial when complete

- **Ask**

Is there maternal perception of reduced fetal movements? ☐

- **Assess**

Are there risk factors for Fetal Growth Restriction or Stillbirth? ☐
Consider - multiple consultations for RFM, known FGR, maternal hypertension, diabetes, extremes of maternal age, primiparity, smoking, obesity, racial/ethnic factors, past obstetric history of FGR or stillbirth) and issues with access to care.

- **Act**

Auscultate fetal heart (hand-held Doppler / Pinnard) ☐

Perform cardiotocograph to assess fetal heart rate in accordance with national guidelines. ☐

If risk factors for FGR/Stillbirth, perform ultrasound scan for fetal growth, liquor volume and umbilical artery Doppler within 24 hours. ☐

- **Advise**

Convey results of investigations to the mother. ☐

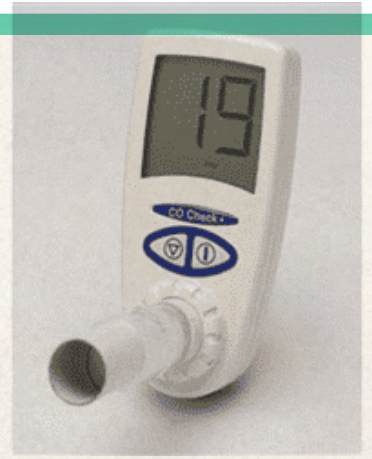
Mother should re-attend if further reductions in fetal movements at any time. ☐

- **Act**

Act upon abnormal results promptly. ☐

Connecting The Evidence Based Practices

Baby & me Tobacco Free



Count the Kicks

Society for Maternal-Fetal Medicine
High-risk pregnancy experts

SMFM Consult Series

smfm.org

Check for updates

Society for Maternal-Fetal Medicine Consult Series #52: Diagnosis and management of fetal growth restriction

(Replaces Clinical Guideline Number 3, April 2012)

Society for Maternal-Fetal Medicine (SMFM); Juliana Gevaerd Martins, MD; Joseph R. Biggio, MD, MS; Alfred Abuhamad, MD

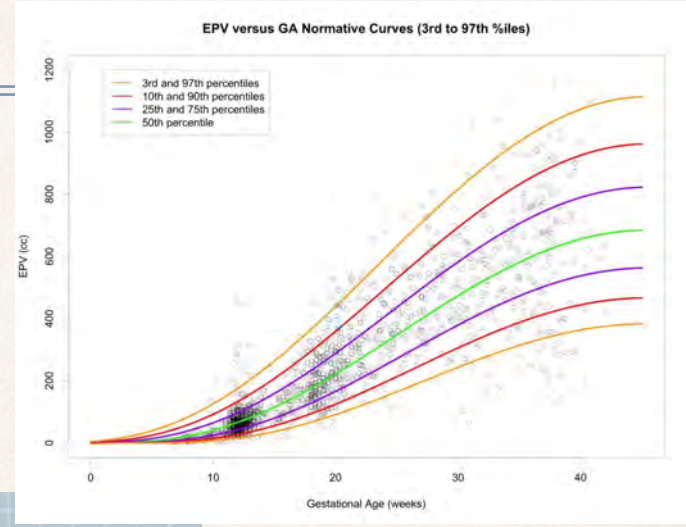
The American Institute of Ultrasound in Medicine (AIUM) supports this document review of the subject matter and believes it contributes to our understanding of the topic.

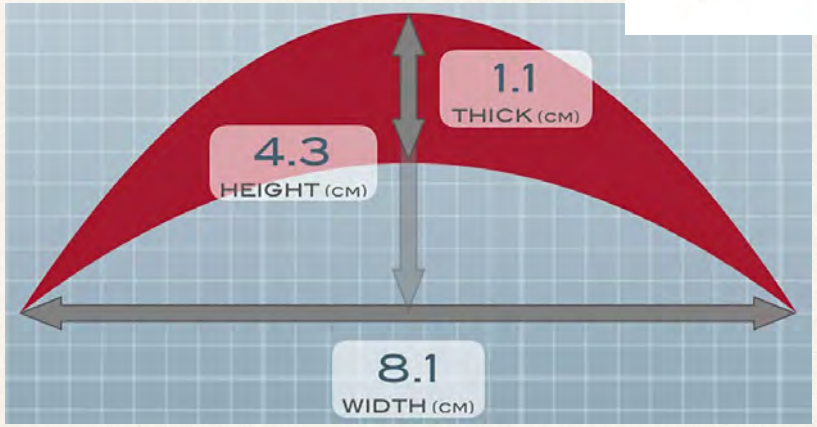
Accessibility of Ultrasound

- A Health Equity Issue
- Equipment, Training, Personnel
- Enhance point of care testing/handhelds
- Maternity Care Deserts

Emerging Topics- Estimated Placental Volume

- Evidence has demonstrated low placental weight is a risk factor for stillbirth
- EPV not integrated into standard practice.
- Opportunity for expanded application/research





https://medicine.yale.edu/obgyn/kliman/placenta/epv/

Hutcheon, Jennifer A. PhD; McNamara, Helen MD, MSc; Platt, Robert W. PhD; Benjamin, Alice MD; Kramer, Michael S. MD Placental Weight for Gestational Age and Adverse Perinatal Outcomes, Obstetrics & Gynecology: June 2012 - Volume 119 - Issue 6 - p 1251-1258 doi: 10.1097/AOG.0b013e318253d3

Assessing Fetal Movement- Kick Counts

- Multiple studies confirm reported decreased fetal movement indicator of poor outcome.
- Consistent guidance to families about fetal movement.
- Established action steps for patients & providers
- Insufficient evidence about specific practices but consistent themes- awareness, responsiveness, shared decision making

Resource Highlight

Count the Kicks

- www.countthekicks.org

Response to Decrease Fetal Movement . . .
Is it Easier Said Than Done?

- How easily can a patient get in touch with a provider?
- What is the distance they have to travel for an ultrasound?
- Do they have access to same day assessment?
- Is their employer supportive of breaks/time-off?
- How are they treated when they request an ultrasound?

Policy Efforts

- Need for additional funding for
  - Research
  - Disparities
  - Prevention

Summary Points

- We need a level of national urgency about stillbirth and a strategy.
- Elevate and centering families/survivors in what should be done.
- Acknowledging the sources of disparities and researching how inequities in treatment, care, racism, stress and environment contribute to differences
- Evaluate equitable access to the tools necessary to prevent stillbirth

Thank You

Recommendations from FIMR Case Review Team Meetings on Prevention of Stillbirths

Presented by:
Cheryl Coleman-Doyle, RN, MSHSA
Coordinator
Fetal & Infant Mortality Review
Mississippi State Department of Health

Encourage Moms to Attend All of Their Antenatal Appointments

Eat Healthy and Keep Active

Smoking Cessation

Avoid Alcohol & Illegal Substances

Vaccines

Avoid People Who Are Ill

Maternal Covid

OUR GOAL:

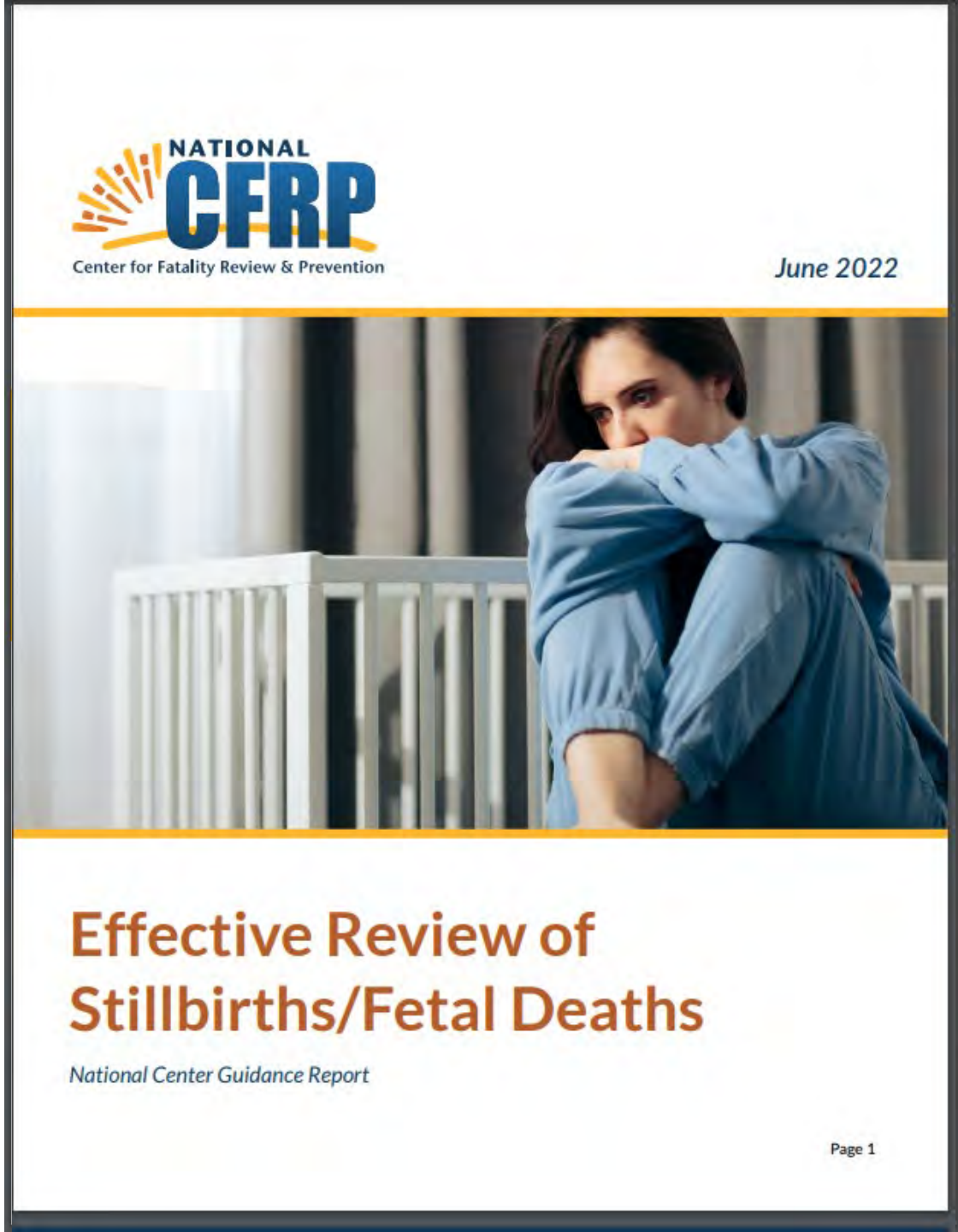
GOOD
OUTCOMES!

Working Together,
We CAN Make a
Difference!

Guidance

Effective Review of Stillbirths/Fetal Deaths

https://ncfrp.org/wp-content/uploads/Stillbirth_Guidance.pdf

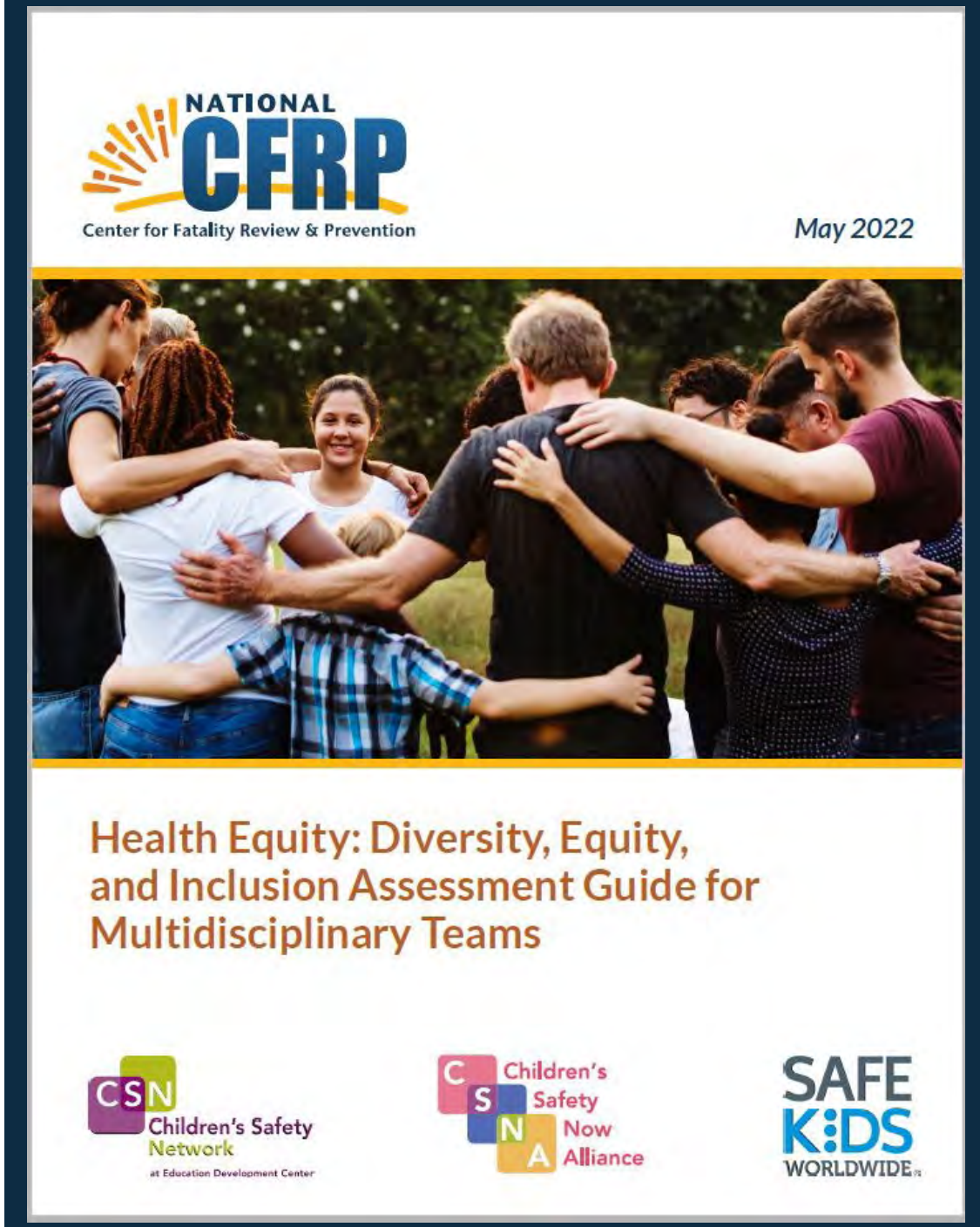


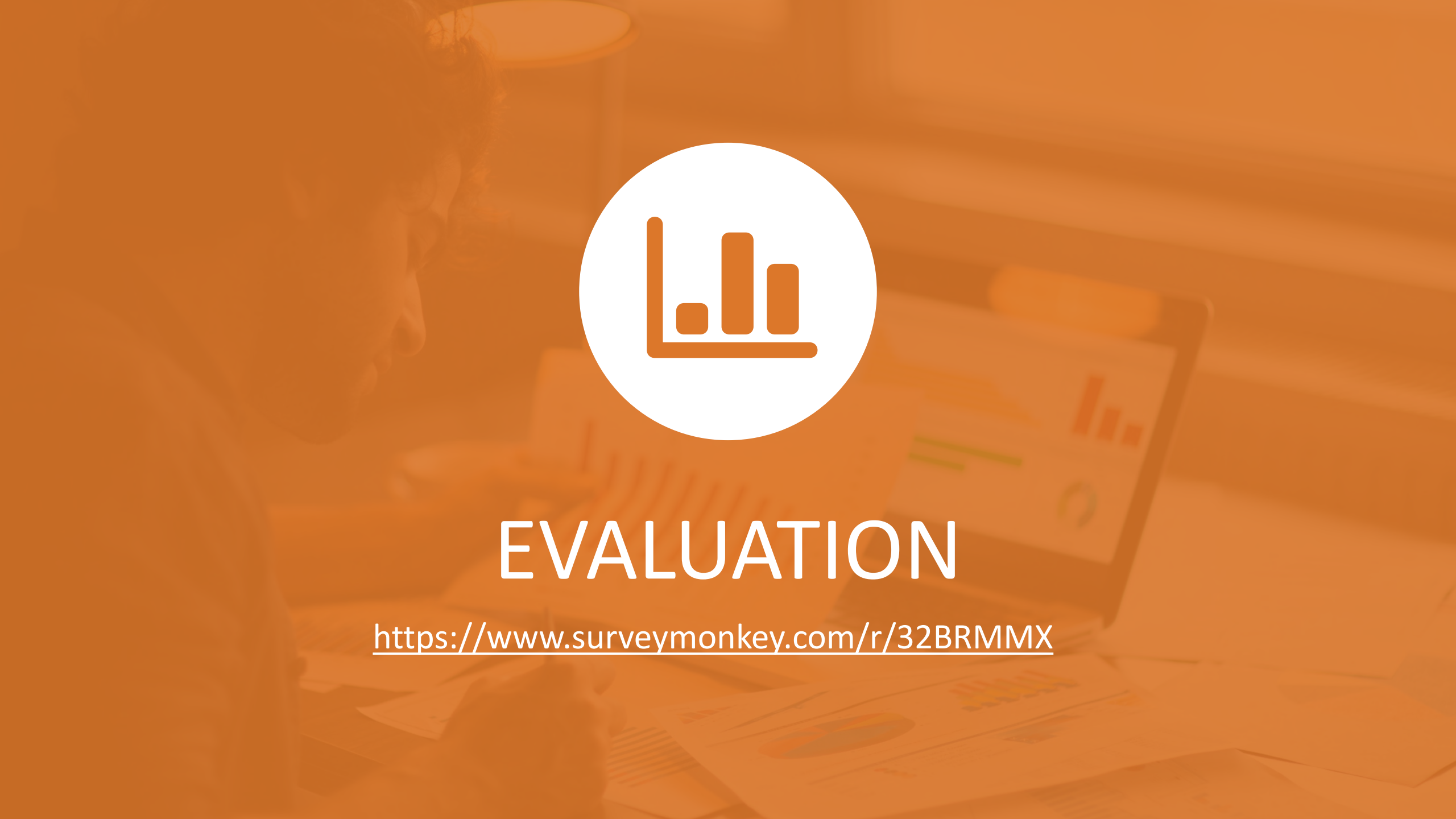
DEI GUIDE FOR MULTIDISCIPLINARY TEAMS

A resource to support multi-agency collaborations

Webinar: July 20, 2022, 1 p.m. – 2 p.m. ET

The National Center will be joining Children's Safety Network and Safe Kids Worldwide to launch a new resource for the field of childhood injury prevention professionals. ***Health Equity: Diversity, Equity, and Inclusion Assessment Guide for Multidisciplinary Teams*** was developed to support multi-agency collaborative efforts. Join us to learn more about the Guide and resources for facilitators.





EVALUATION

https://www.surveymonkey.com/r/32BRMMX

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THANK YOU FOR YOUR TIME!
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