Beyond the Numbers: Measurement and Purposeful Change in NTSV Rates

Page to Practice: October 2025 Lecture

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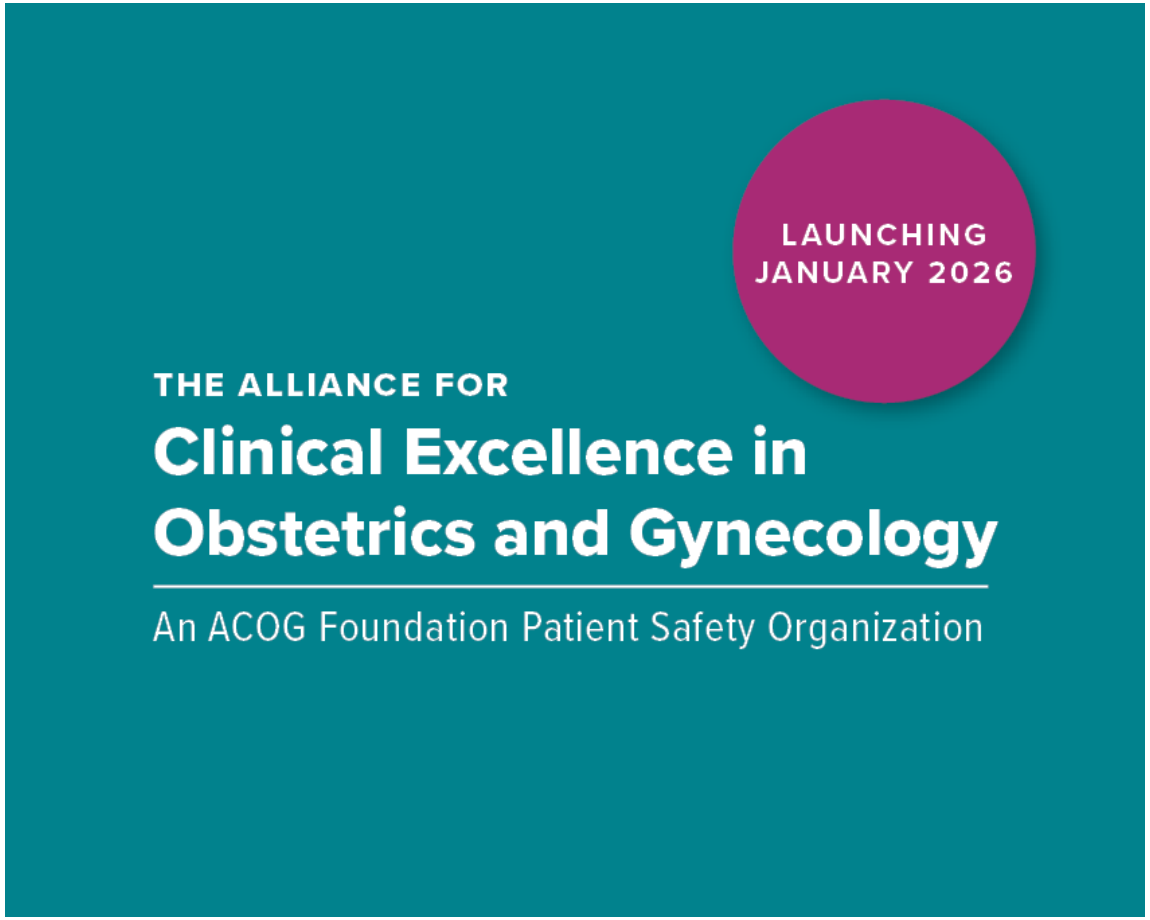

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What is “Page to Practice”?

- A deep dive into clinical topics related to quality improvement, patient safety, and measurement held in a 2-session format:
  - **Author Talk:** A brief conversation between guidance document or journal article’s author(s) and an ACOG host. Discussion may include the why and how behind a publication, what new information or guidance it includes, and the author’s takeaways from it.
  - **Lecture:** A webinar session on the same or related topic to the previous offering, provided by national experts with actionable take aways for attendees via instructive teaching and slides.

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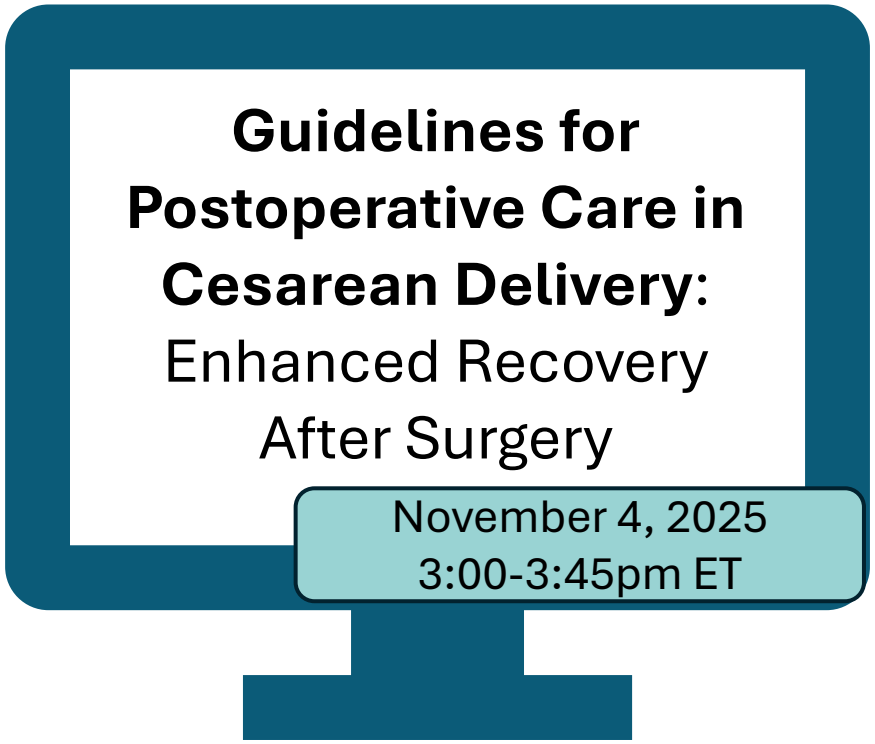
Next Page to Practice Sessions



Conversation

Lecture

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Today's Session

Session Description

This session will explore how the Joint Commission's PC-02 measure—Nulliparous Women with a Term, Singleton Baby in a Vertex Position Delivered by Cesarean Birth—can be used as a metric and as a catalyst for meaningful change in maternal care. Presenters will offer a concise overview of its structure and criteria while focusing on real-world clinical complexities that influence cesarean birth rates. The session will highlight how PC-02 functions as a primary outcome measure and the importance of balancing measures, such as unexpected term newborn complications, to ensure safe and equitable care.

Learning Objectives

- Describe the rationale, structure, utility, and classification system of the Joint Commission's PC-02 measure Nulliparous Women with a Term, Singleton Baby in a Vertex Position Delivered by Cesarean Birth
- Apply NTSV data to identify opportunities for continuous quality improvement in maternal health
- Discuss the integration of health equity principles in perinatal quality improvement using measurement
- Identify evidence-based strategies for supporting vaginal birth

Today's Speakers

Dr. Elliott Main, MD

Dr. Melissa Rosenstein, MD, MAS

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Center for Discovery, Innovation and Clinical Impact

UCSF
University of California
San Francisco

Beyond the Numbers:
Measurement and Purposeful Change in NTSV Rates

What You Need to Know About the NTSV Cesarean measure and QI programs to address high rates of cesarean deliveries

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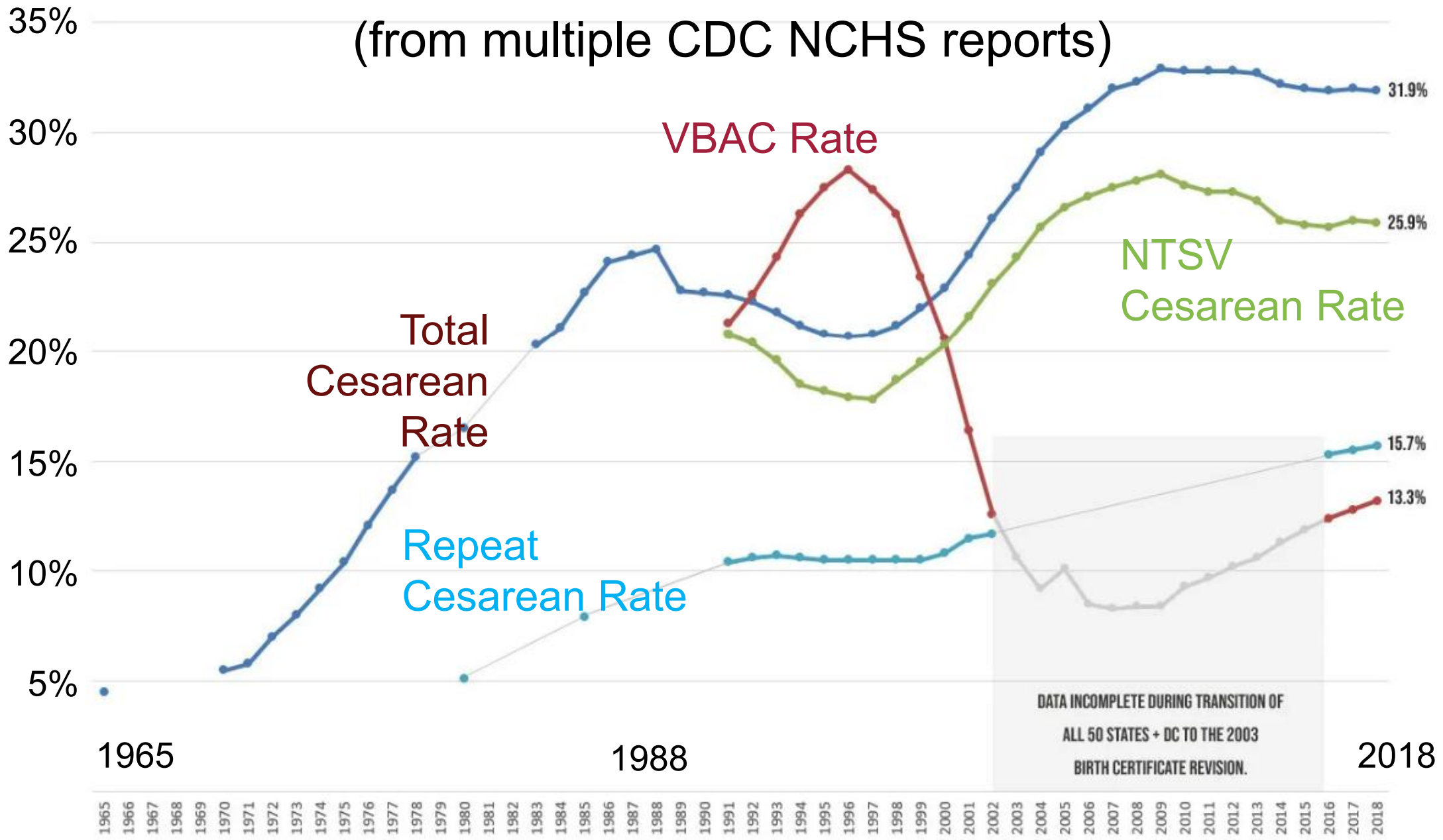
U.S. Cesarean Rates
(from multiple CDC NCHS reports)



What Indications Have Driven the **RISE** in Primary CS?

Cesarean Indication	Percent of the Increase in Primary Cesarean Rate Attributable to this Indication
Labor complications (Failure to progress and Fetal concerns)	**65%**
Breech	No Change
Multiple Gestation	10%
Various Obstetric and Medical Conditions (Placenta Abnormalities, Hypertension, Herpes, etc.)	15%
“Elective” (defined variously, Often: scheduled without “medical indication”)	10%

Part 1. Cesarean Measures

Why should we care about the rate of cesarean deliveries?

Which cesarean measure should we use?

What accounts for the variation in cesarean rates?

Why should we care about the rate of cesarean deliveries?

Cesarean: Maternal Risks

Acute

Common:

- Longer hospital stay
- Increased pain and fatigue
- Postpartum hemorrhage (transfusions ~2%)
- Slower return to normal activity and productivity
- Delayed or difficult breastfeeding

1/100 to 1/1000

- Anesthesia complications
- Wound infection
- Deep vein thrombosis

Long Term

1/100 to 1/1000

- Abnormal placentation (previas and accretas)
- Uterine rupture
- Surgical adhesions
- Bladder surgical injury
- Bowel surgical injury
- Bowel obstruction

We perform over 160,000 Cesareans every year in California

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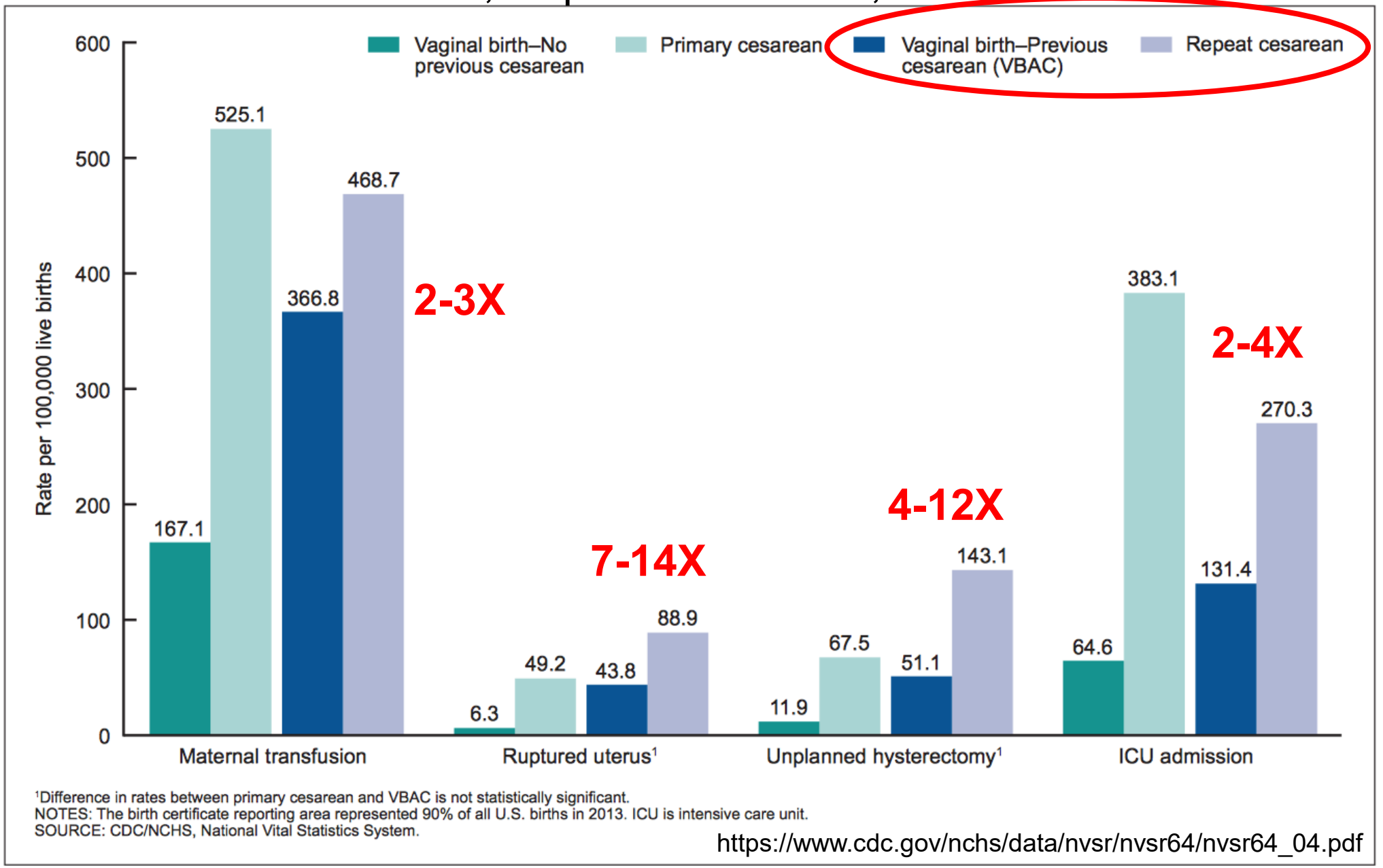
Cesarean: Neonatal Risks

- Increased neonatal morbidity
  - Impaired neonatal respiratory function
  - Increased NICU admissions
  - Can affect maternal-newborn interactions including breastfeeding
  - Decreased immune function

Have Outcomes Been Improved with Much Higher Primary Cesarean Rates?

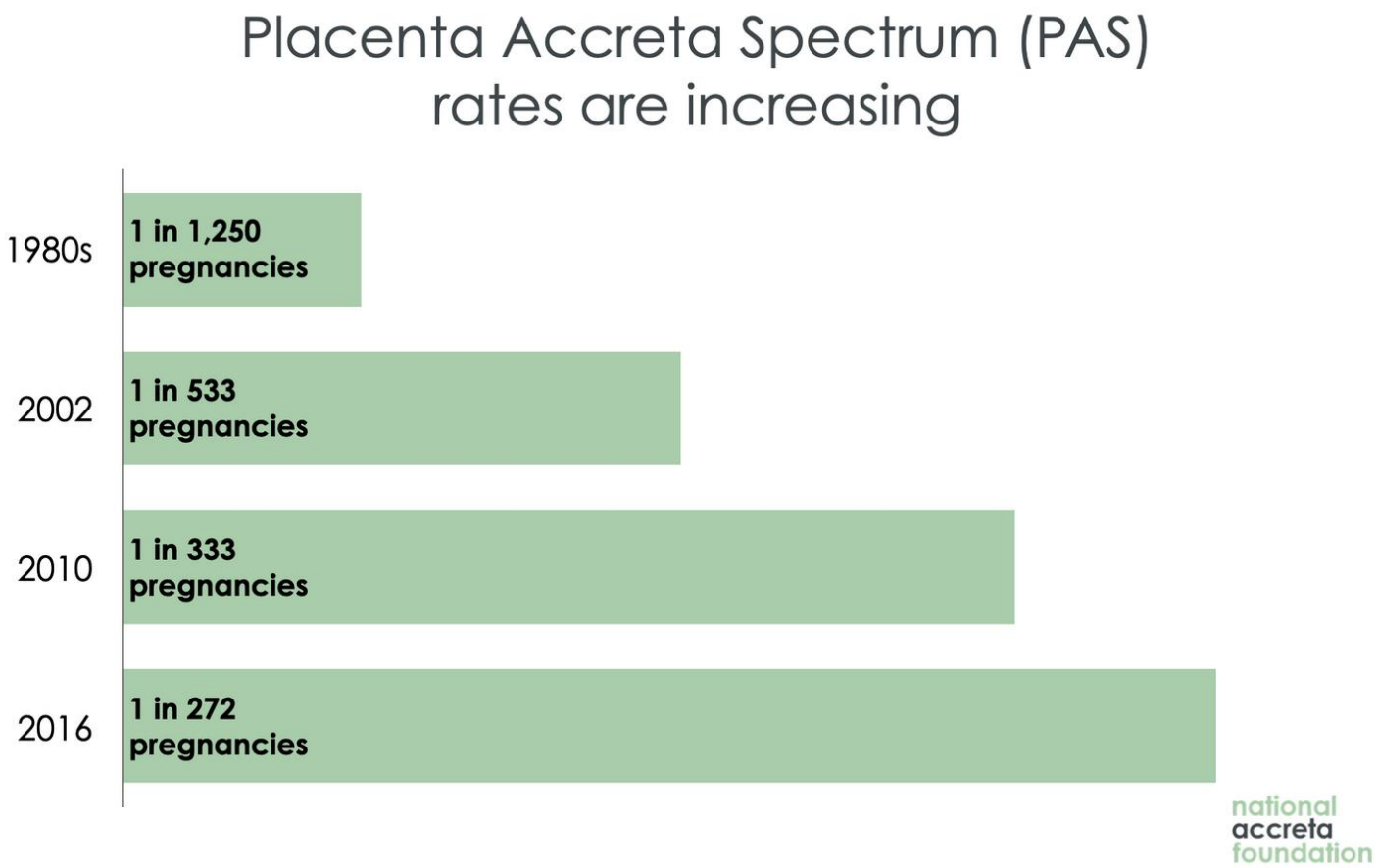
- Maternal Morbidity
  - SMM rates have risen in lock-step with Cesarean rates
  - Correlation not causation, but no evidence of improved outcomes from higher rates!
- Neonatal Morbidities
  - Rates of Term infants with Seizures, HIE, and Cerebral Palsy have continued to increase contrary to what you might expect with significantly higher Cesarean rate

Major Maternal Complications: Vaginal Births versus Primary Cesareans, Repeat Cesareans, and VBAC



https://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_04.pdf

Increasing risk of Placenta Accreta Spectrum



Maternal Complications in Pregnancies with Only 1 Previous Birth (CA 2016-2019)

	Without a prior CS N=378,321		With a prior CS N=151,326		With prior CS vs without CS RR
Maternal Morbidity Outcomes	**N**	**Rate**	**N**	**Rate**	**RR**
SMM--Total	3,749	0.99%	2,794	1.85%	1.86
SMM excluding transfusion-only	1,602	0.42%	1,153	0.76%	1.80
Tranfusion	2,476	0.65%	1,991	1.32%	2.01
Hysterectomy	191	0.05%	287	0.19%	3.76
SMM= Severe Maternal Morbidity					

Not just placenta accreta…

People 8/3/2017

Charles V, Charles IV and Kira Johnson
// COURTESY CHARLES JOHNSON

How Judge Hatchett's Son Is Coping After His Wife's Childbirth Death

(Healthy woman with complications resulting in death during "routine" repeat Cesarean)

COSMOPOLITAN

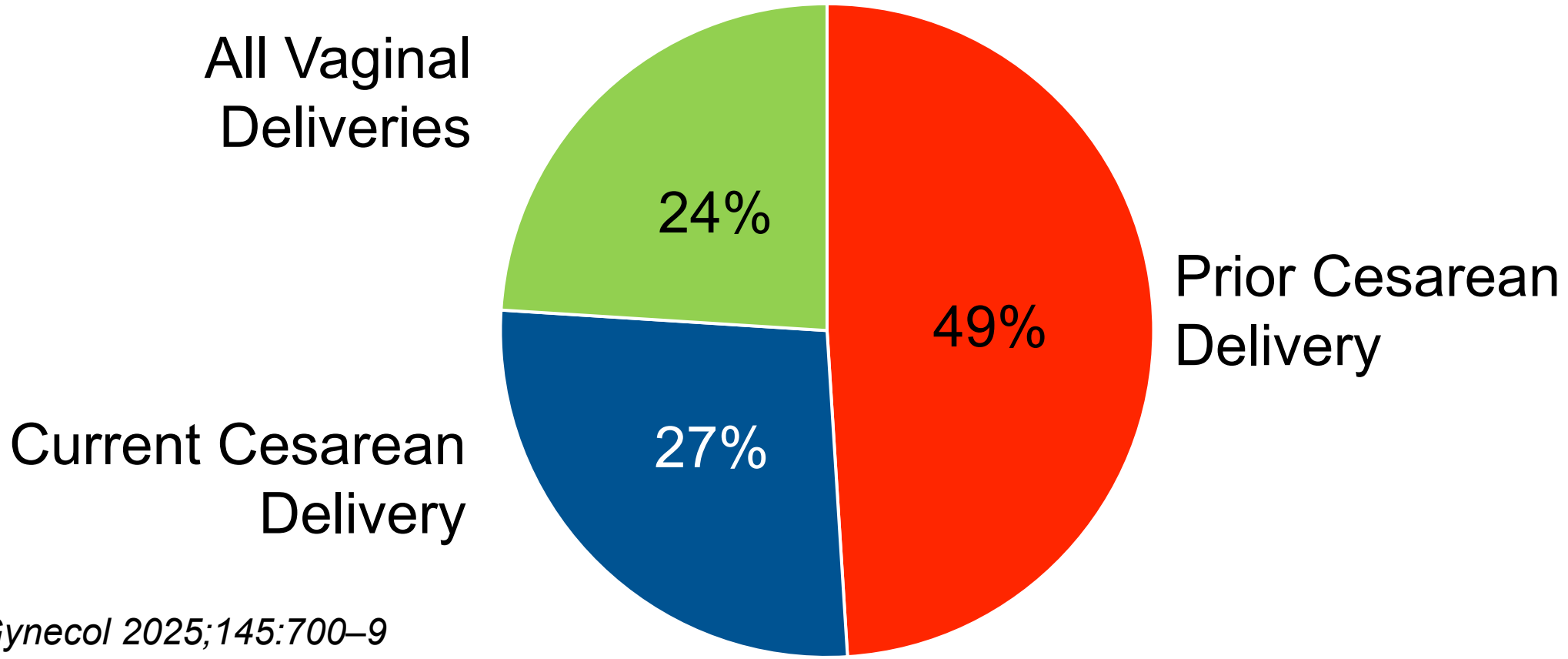
8/21/2017

(Healthy woman with major complications during "routine" repeat Cesarean: "Near Miss" now with PTSD)

Maternal Deaths form Hemorrhage; California 2014-2018

Data from the California Pregnancy-Associated Mortality Review Committee

49 pregnancy-related hemorrhage deaths



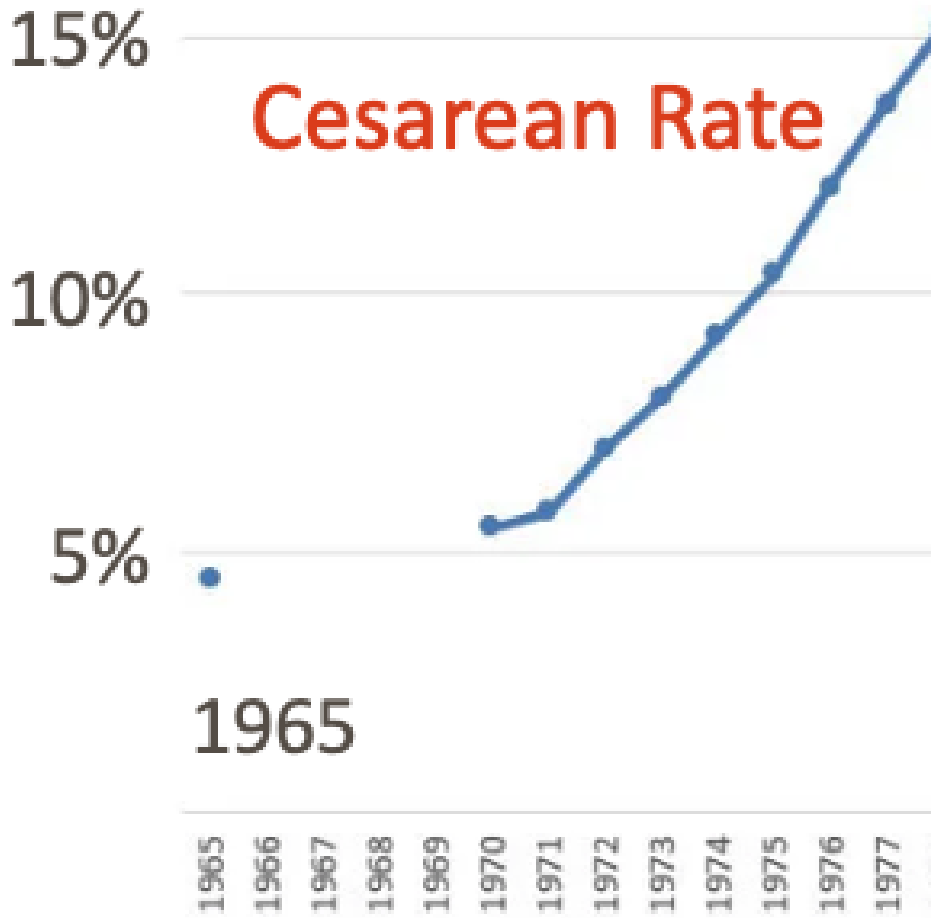
Obstet Gynecol 2025;145:700–9

Which cesarean measure should we use?

In the Beginning…

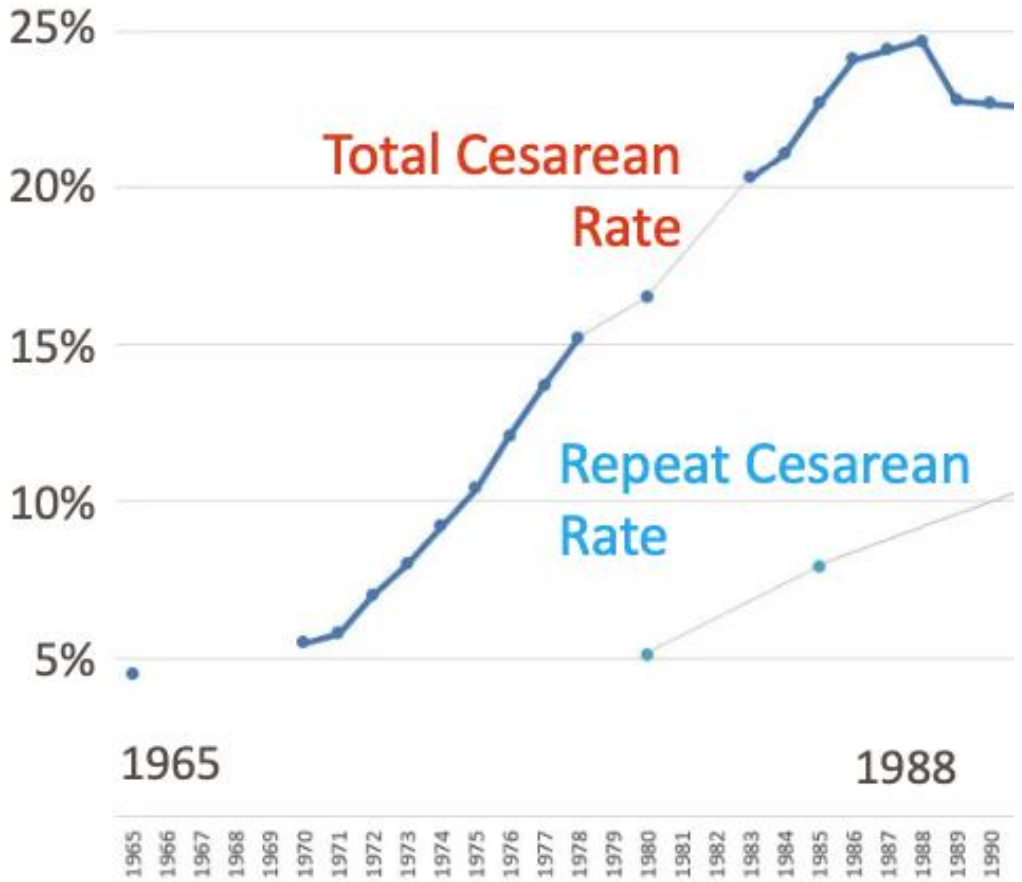
There was Only One Cesarean Rate…

U.S. Cesarean Rates
(CDC NCHS reports)

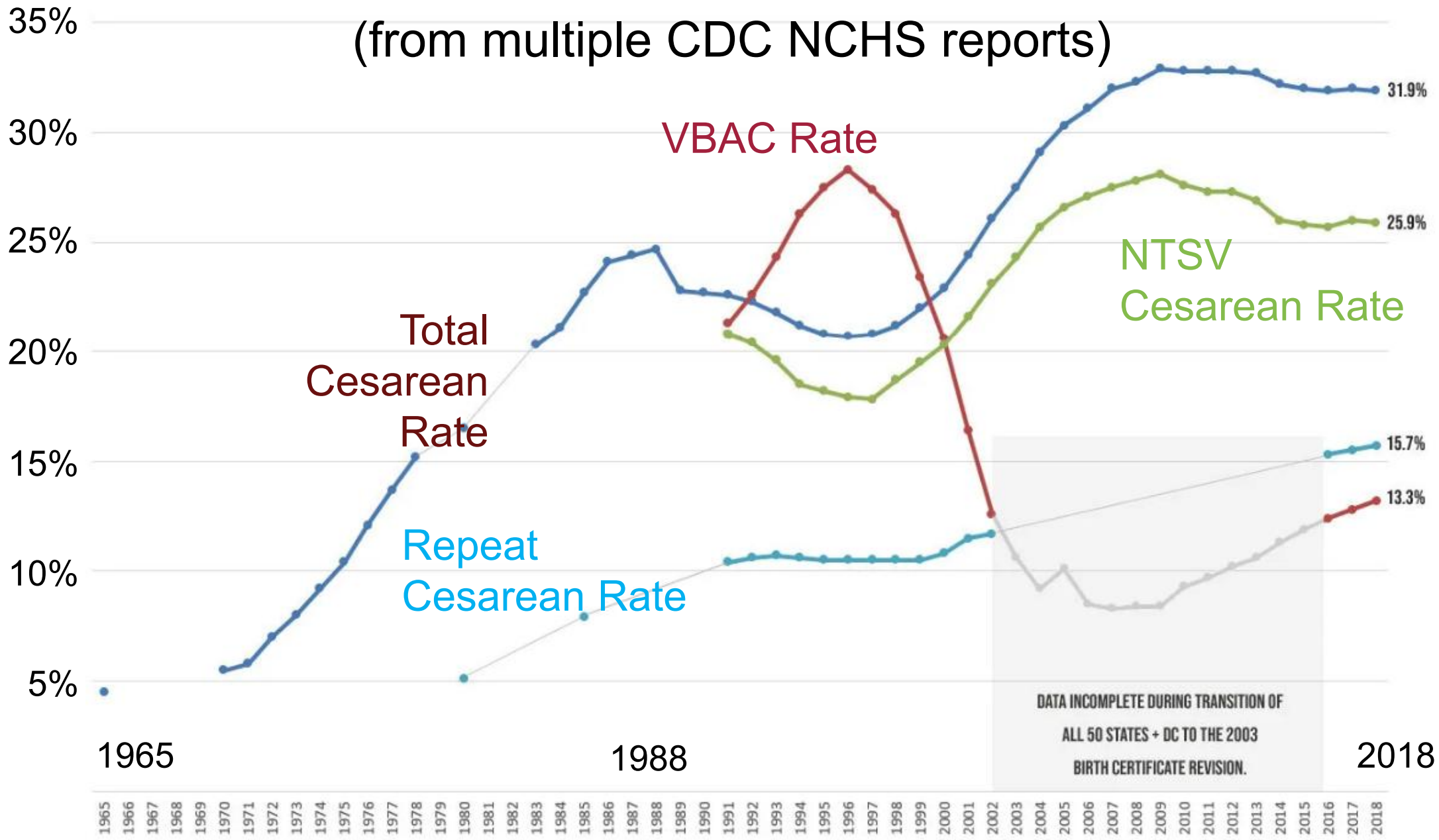


And then there were Two…

U.S. Cesarean Rates
(CDC NCHS reports)



U.S. Cesarean Rates
(from multiple CDC NCHS reports)



Where to focus our attention?

- Primary Cesarean Rate is where the action is
- But hard to interpret and NOT useful for hospital comparisons
  - Cesarean rate in multips was much lower than in nullips
  - Rate for multiple gestations and preterm births was much higher AND the frequency of these birth was not evenly distributed
- Enter the concept of a Standard Nullipara
  - Nulliparous, Term, Singleton, Vertex focuses on labor and issues more under medical management

What Are The Most Impactful Risk Factors among Primary Cesareans?

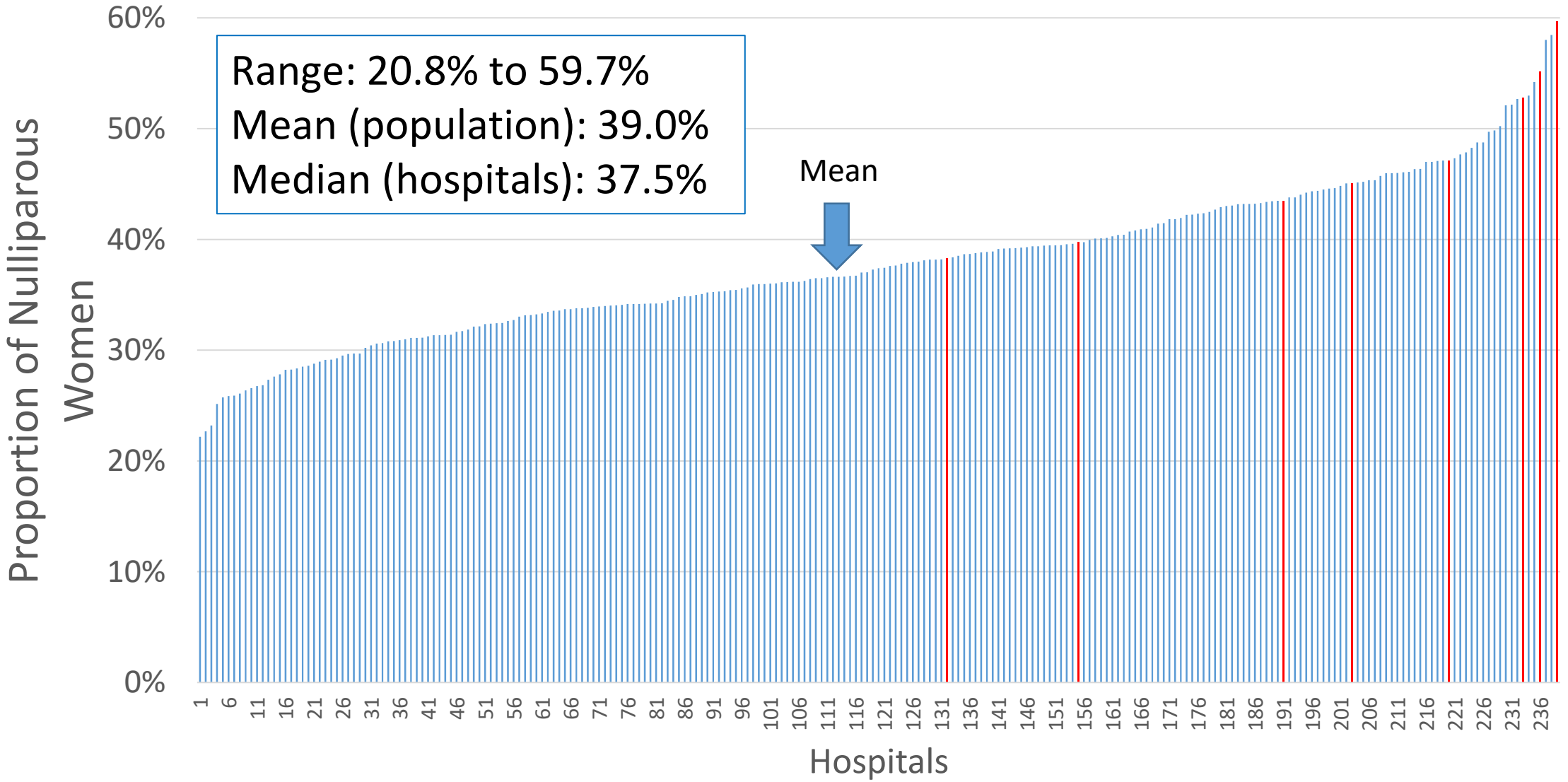
What proportion of the Cesarean Rate can be attributed to this risk factor?

Risk Factor	Population Frequency (Among no prior CS)	Cesarean Rate for Risk Factor	Relative Risk	Population Attributable Fraction
Preterm	9.1%	39.3%	2.3	10.6%
Multiple Gestation	3.2%	61.2%	3.5	7.4%
Non-Vertex	3.1%	96.1%	5.6	12.5%
Nulliparity	47.3%*	29.5%	2.9	47.9%

*Higher rate than the general population because repeat cesareans have been removed

Population Frequency and Relative Risk were drawn from California data 2016-2017 (ICD-10)

Nulliparity Rate Among California Hospitals



What Are Impact of the SMFM Risk Factors among Primary TSV Cesareans?

Risk Factor	Population Frequency (Among Primary TSV)	Cesarean Rate for Risk Factor	Relative Risk	Population Attributable Fraction
HIV	0.05%	30.2%	2.0	0.05%
Eclampsia	0.10%	38.7%	2.5	0.15%
Fetal CNS abnl	0.16%	30.2%	2.0	0.16%
CV Disease	1.37%	24.3%	1.6	0.79%
Occ. Posterior Attem. forceps Cord prolapse	1.64% 1.34% 0.24%	73.8% 39.9% 83.4%	4.9 2.6 5.5	6.0% 2.1% 0.7%
Previa	0.68%	71%	4.7	2.5%
Nulliparity	47.5%	29.5%	4.1*	59.5%

*This is higher than in Primary CS as the population is now TSV, no prior CS

Nulliparous, Term, Singleton, Vertex (NTSV) aka Low-risk Cesarean Delivery Rate

- Widely adopted nationally (>20 years experience)
  - ACOG: Task Force on Cesarean Section rates (2000)
  - HHS: Healthy Person 2010, 2020, 2030 (Low-risk First-birth CS)
  - NQF endorsed, The Joint Commission Perinatal Core Measure (PC-02), CMS Core Measure Set, LeapFrog, US News & World Report
- National and state data and trends available (annual NCHS)
- States can use rapid-cycle BC data and come within 0.1-0.2% of TJC PC-02
- CMS has adopted this metrics for public reporting for all US birthing hospitals—starting in 2027, it will be part of the Birthing Friendly Designation

The Joint Commission PC-02 Measure for NTSV

- Collected either as a “chart measure” (using ICD-10 codes and a few clinical parameters--parity and GA) or as an eCQM (direct from the EHR)
- PC-02 has added a few extra exclusions:
  - Placenta Previa (but many are in multips or delivered by 37wks)
  - Vasa Previa (very rare at term)
  - Active Herpes lesions (also uncommon, as opposed to history of herpes)

Importance of the First Birth

If a woman has a vaginal birth in the first labor,
over 90% of ALL subsequent births will be vaginal births

If a woman has a Cesarean birth in the first labor, over 90%
of ALL subsequent births will be Cesarean births

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What accounts for the variation in cesarean rates?

QUALITY OF CARE

By Katy Backes Kozhimannil, Michael R. Law, and Beth A. Virnig

Cesarean Delivery Rates Vary Tenfold Among US Hospitals; Reducing Variation May Address Quality And Cost Issues

DOI: 10.1377/hlthaff.2012.1030
HEALTH AFFAIRS 32,
NO. 3 (2013): 527–535

ABSTRACT **Cesarean delivery is the most commonly performed surgical procedure in the United States, and cesarean rates are increasing. Working with 2009 data from 593 US hospitals nationwide, we found that cesarean rates varied tenfold across hospitals, from 7.1 percent to 69.9 percent. Even for women with lower-risk pregnancies, in which more limited variation might be expected, cesarean rates varied fifteenfold, from 2.4 percent to 36.5 percent. Thus, vast differences in practice patterns are likely to be driving the costly overuse of cesarean delivery in many US hospitals. Because Medicaid pays for nearly half of US births, government efforts to decrease variation are warranted. We focus on four promising directions for reducing these variations, including better coordinating maternity care, collecting and measuring more data, tying Medicaid payment to quality improvement, and enhancing patient-centered decision making through public reporting.**

Katy Backes Kozhimannil (kbk@umn.edu) is an assistant professor in the Division of Health Policy and Management, School of Public Health, University of Minnesota, in Minneapolis.

Michael R. Law is an assistant professor in the Centre for Health Services and Policy Research, School of Population and Public Health, at the University of British Columbia, in Vancouver.

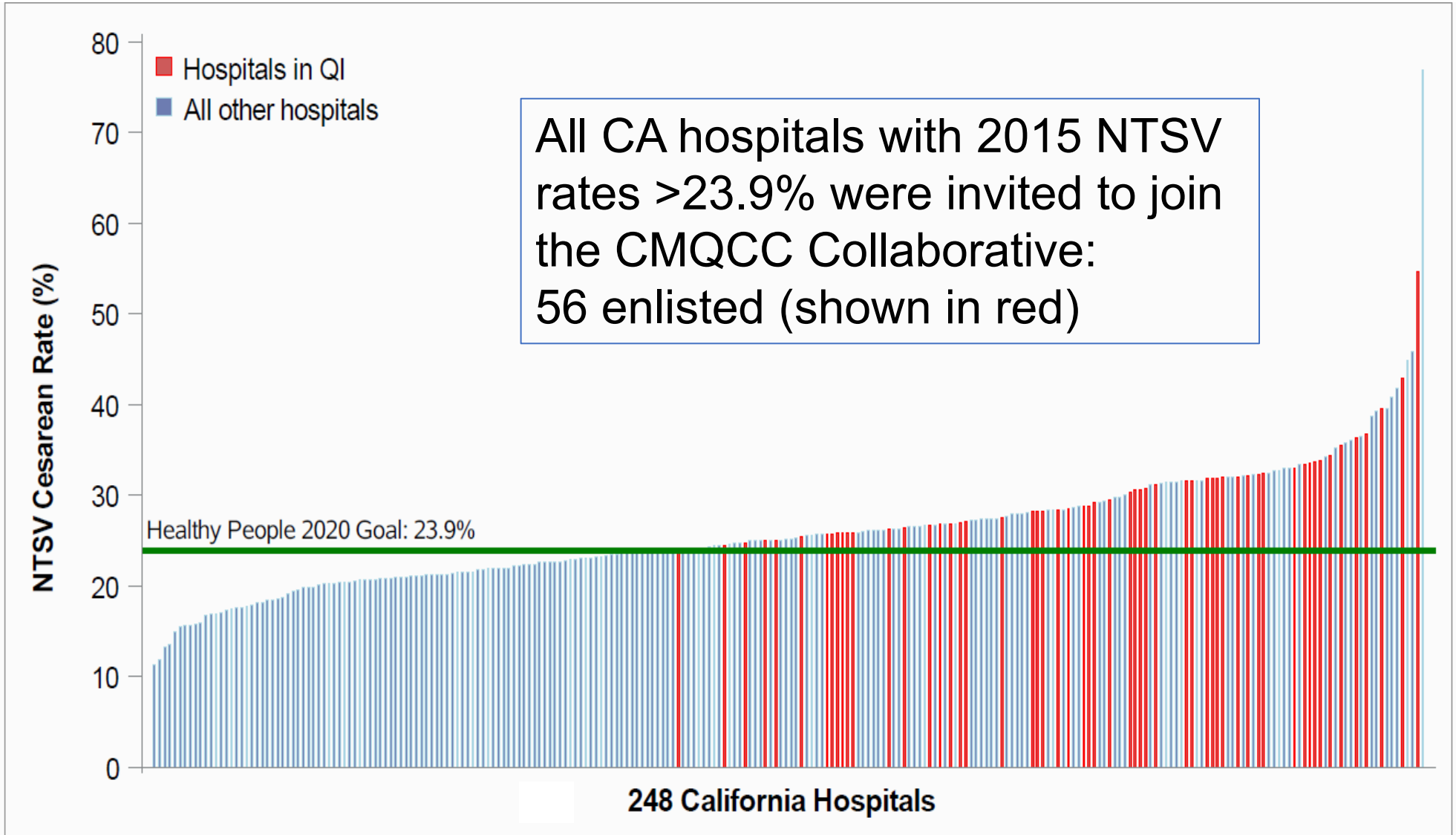
Beth A. Virnig is associate dean of research and a professor at the School of Public Health, University of Minnesota.

State-Level NTSV Cesarean Rates: 2022

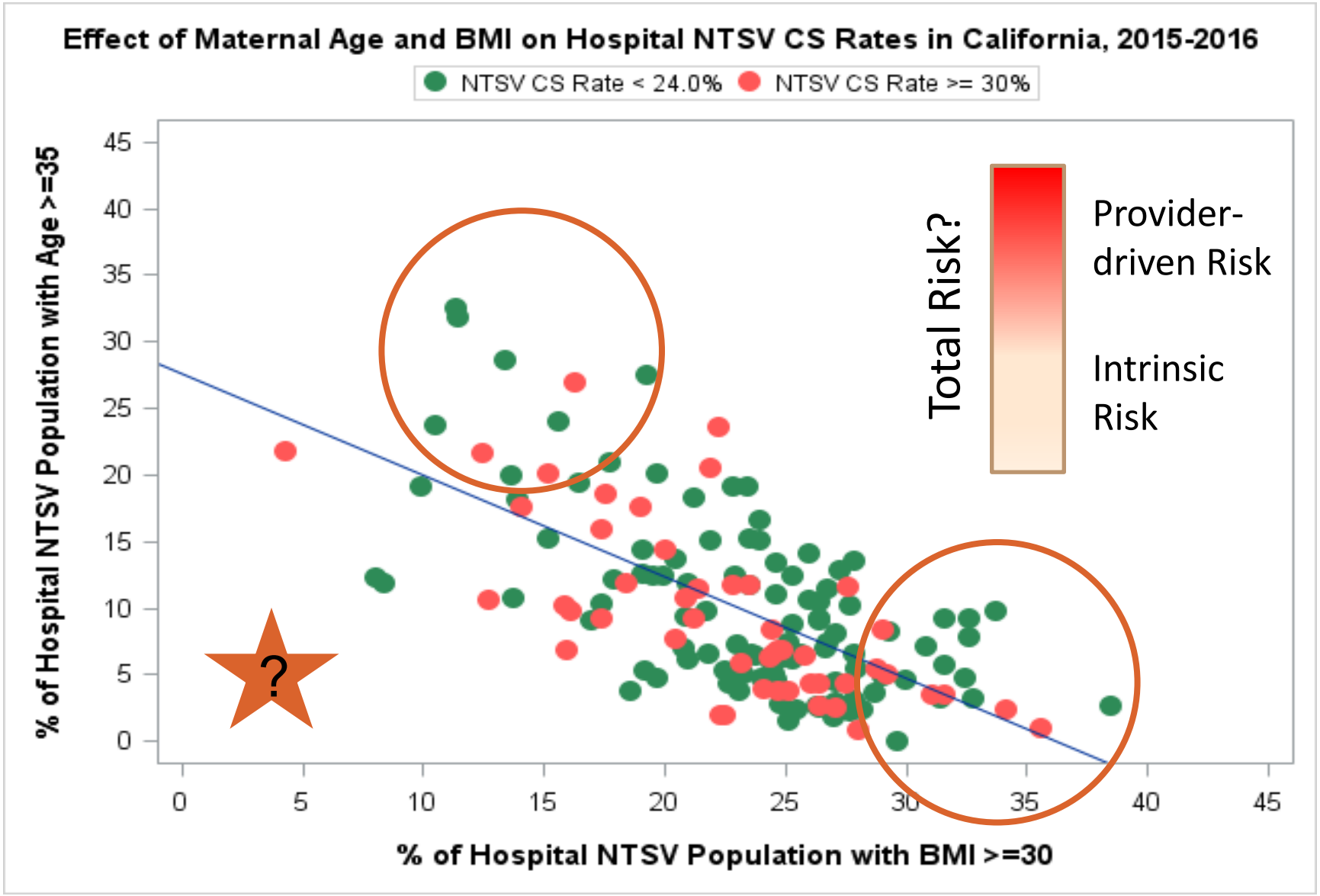
United States	26.3	Kansas	24.6	North Carolina	24.5
Alabama	28.3	Kentucky	27.3	North Dakota	18.6
Alaska	16.7	Louisiana	27.9	Ohio	25.8
Arizona	23.4	Maine	25.6	Oklahoma	25.4
Arkansas	27.9	Maryland	30.0	Oregon	24.8
California	25.2	Massachusetts	27.3	Pennsylvania	25.6
Colorado	23.0	Michigan	27.7	Rhode Island	30.5
Connecticut	29.2	Minnesota	26.6	South Carolina	24.8
Delaware	25.7	Mississippi	30.8	South Dakota	18.3
DC	29.3	Missouri	24.5	Tennessee	26.3
Florida	29.1	Montana	21.2	Texas	27.7
Georgia	28.9	Nebraska	22.6	Utah	19.6
Hawaii	24.4	Nevada	27.3	Vermont	22.4
Idaho	20.3	New Hampshire	27.9	Virginia	26.7
Illinois	24.9	New Jersey	26.3	Washington	25.4
Indiana	24.6	New Mexico	22.8	West Virginia	28.3
Iowa	23.0	New York	29.5	Wisconsin	23.2
				Wyoming	20.6
	= Under 23.6% (HP 2030), N=14				
	= Between 23.6% and 25.9%, N=14				

Osterman MJK, etal. Births: Final data for 2022. NVSR 2024; 73. https://dx.doi.org/10.15620/cdc:145588.

Variation in NTSV Cesarean Rate among CA Hospitals (2015)



Overlap of High and Low NTSV CS Hospitals for Similar Age and BMI Populations



The selection of the best performance hospitals:

Below the median for NTSV CS and the median for Severe Unexpected Newborn Complications

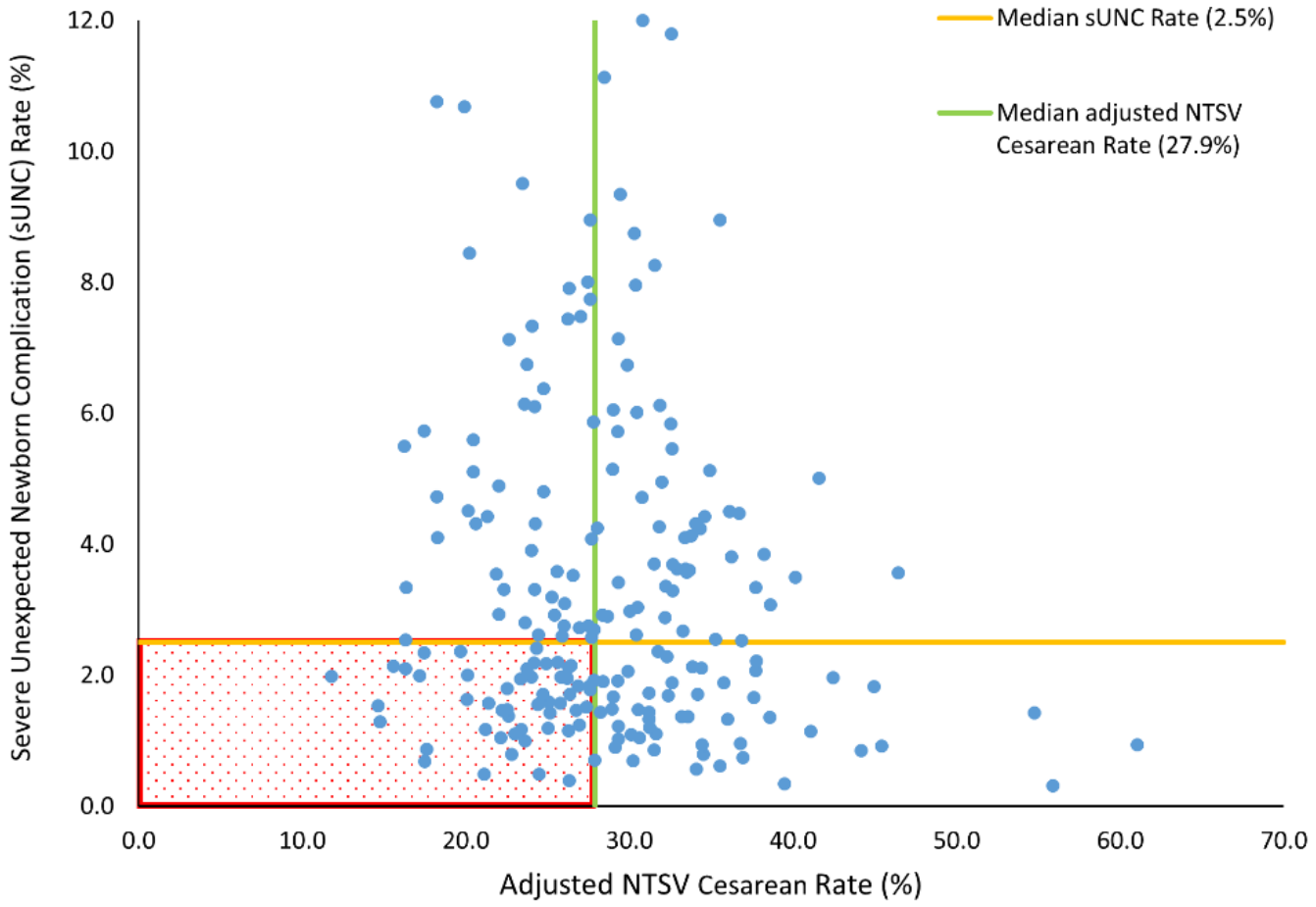
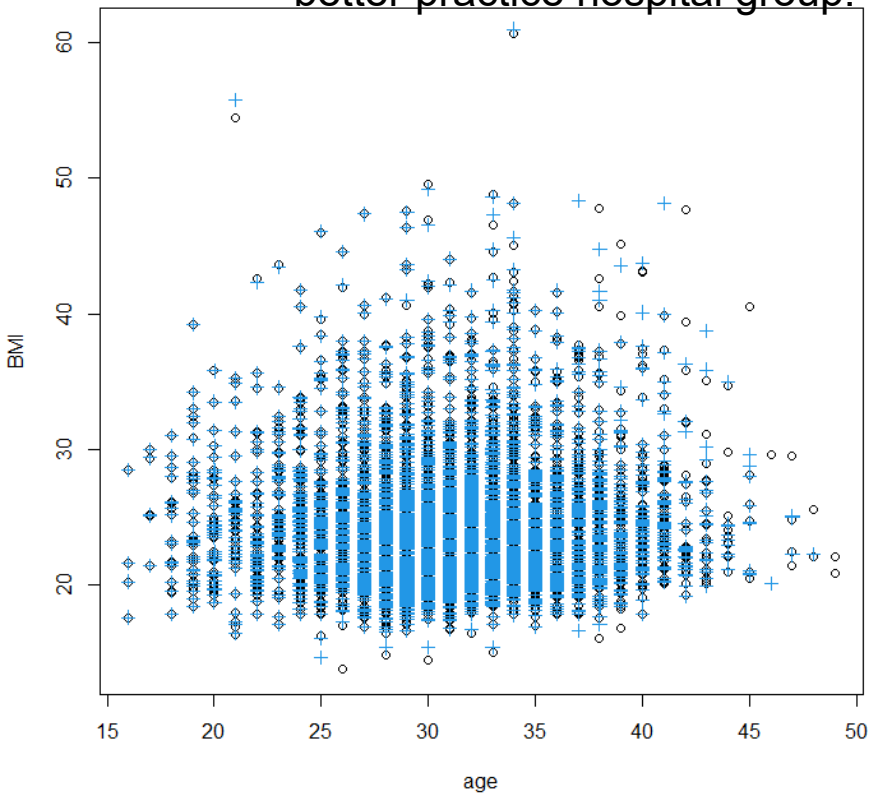


Figure X: Hospital examples of the matching methodologies. Each NTSV patient in the index hospital (shown as "+") was matched by age and BMI to a patient in the better practice hospital group (shown as "o") using two techniques, and the cesarean rate was then recalculated as if the patient delivered in the better practice hospital group.

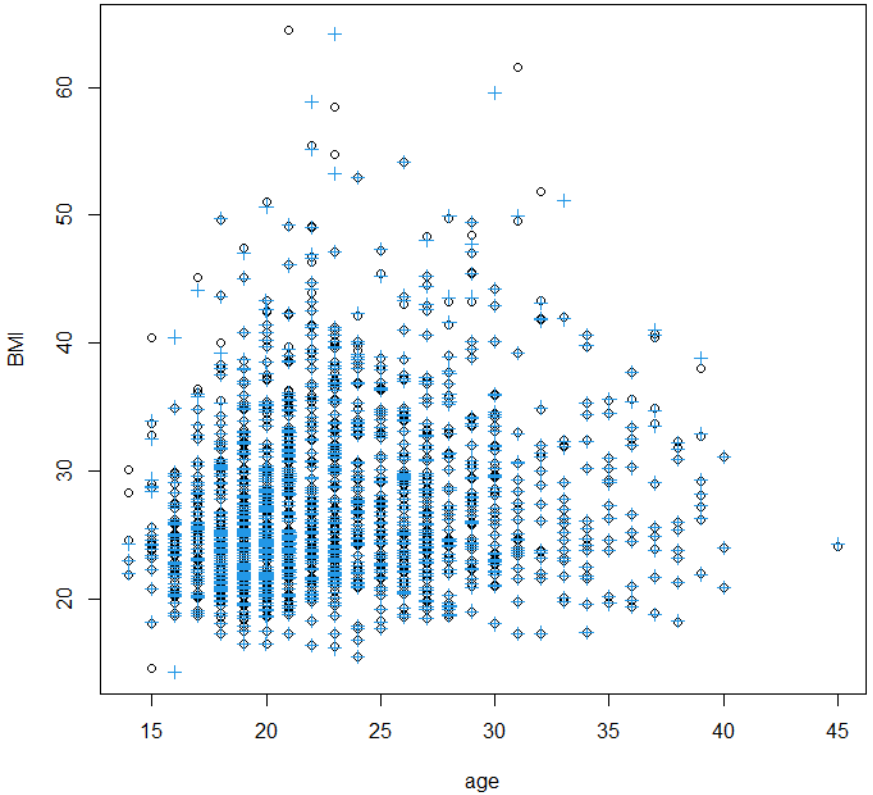


Hospital A: 5,533 NTSV deliveries over 4 years with observed cesarean rate of 33.6%.

Estimated cesarean rate if same patient population (matched for maternal age and BMI) delivered in the better performing hospital group using:

Doubly Robust method: 26.1%

Random Matching method: 26.0%



Hospital B: 1,451 NTSV deliveries over 4 years with observed cesarean rate of 32.9%.

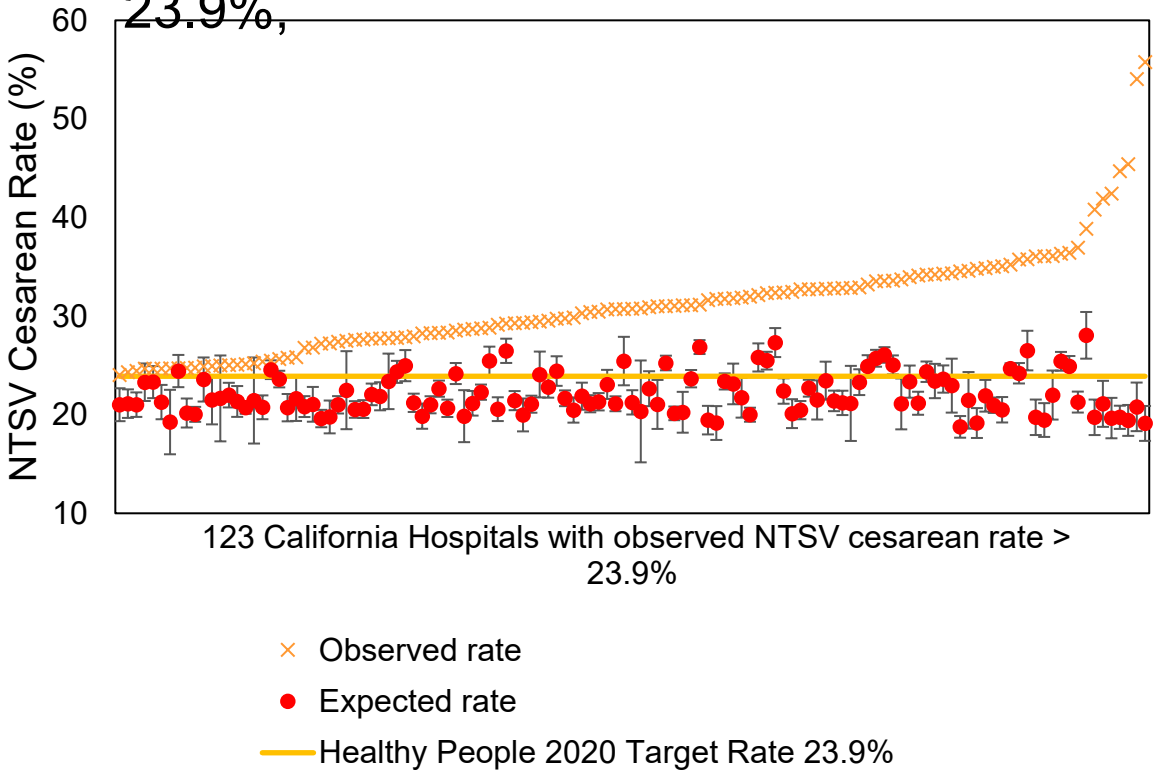
Estimated cesarean rate if same patient population (matched for maternal age and BMI) delivered in the better performing hospital group using:

Doubly Robust method: 21.2%

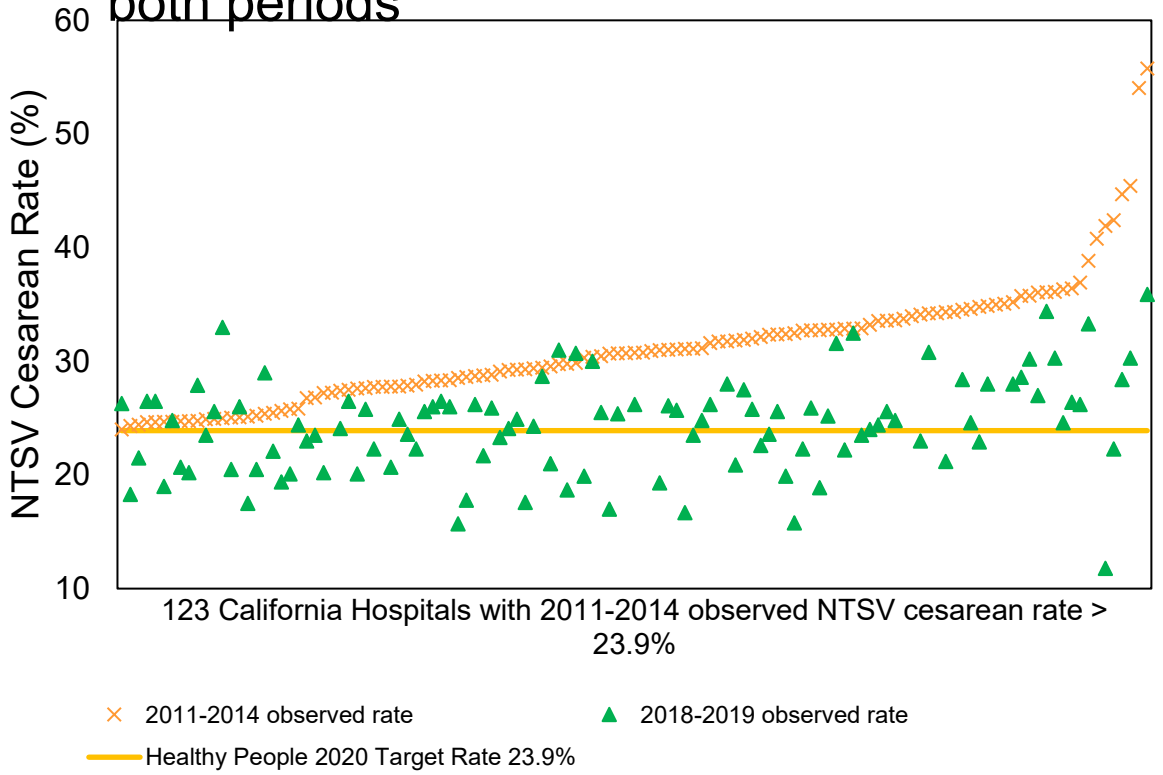
Random Matching method: 21.4%

What if the patients at higher NTSV Cesarean Hospitals delivered in an **Age and BMI matched** "Best Practice" facility?

A. 2011-2014 **observed and expected** NTSV Cesarean rate among 123 California hospitals with 2011-2014 observed rate > 23.9%,

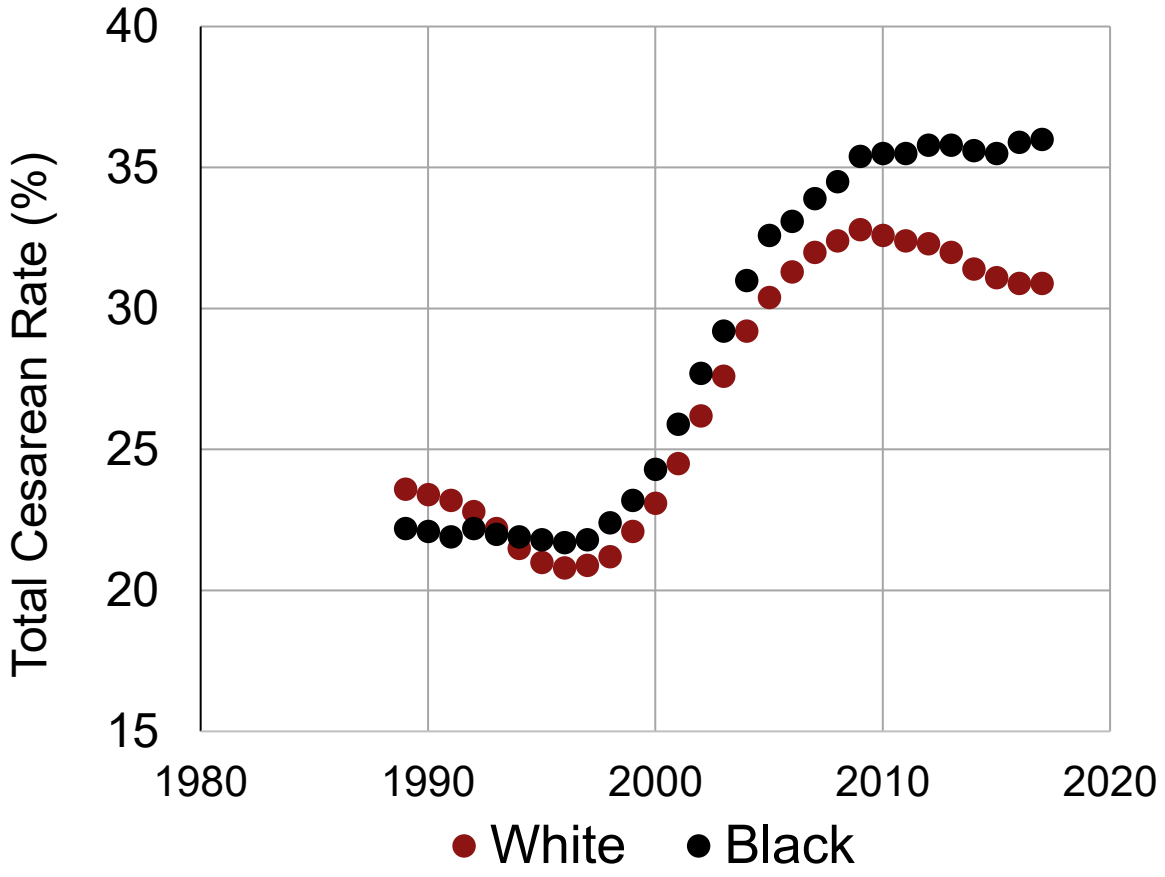


B. 2011-2014 **observed** versus 2018-2019 **observed rates** among 109 California hospitals (109/123 hospitals had data for both periods



U.S. Cesarean Birth Rates by Race (NCHS-NVSR Reports)

- Until 1995 Black patients had lower Total Cesarean rates than White patients
- The Black:White Cesarean rate disparity has actually worsened since 2010



National Vital Statistics Reports,
Vol. 66, No. 1, January 5, 2017
(Data for 1989-2015: Table 21)

National Vital Statistics Reports,
Vol. 72, No. 1, January 31, 2023
(Data for 2016-2021: Table 17)

Stanford MEDICINE

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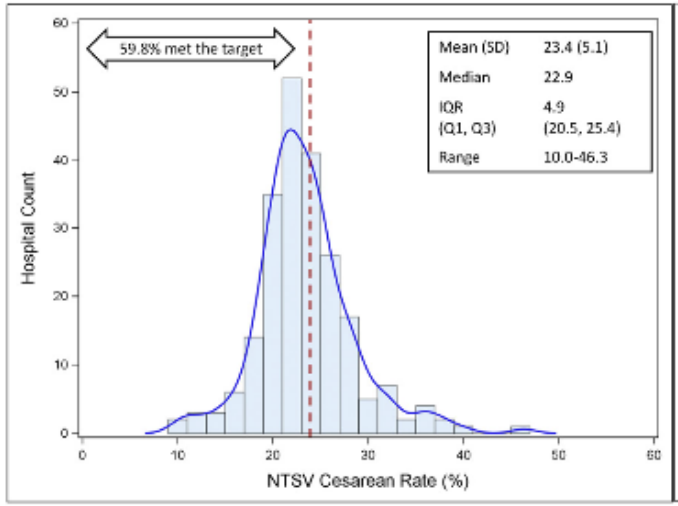
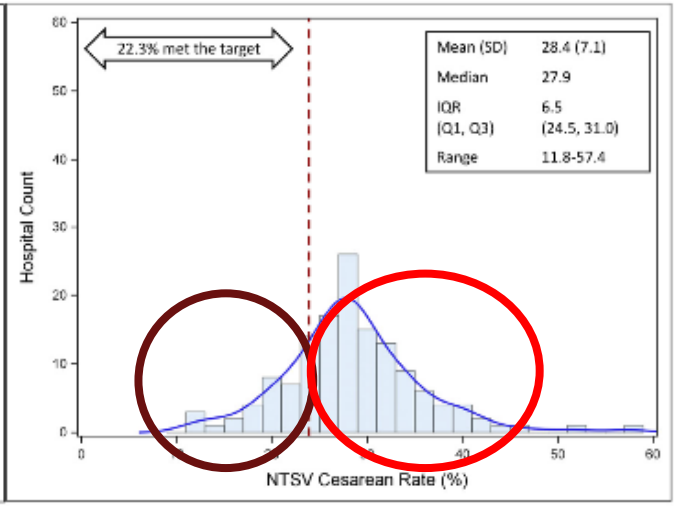
FIGURE 2
Variation in hosptial NTSV rates by race and ethnicity

White



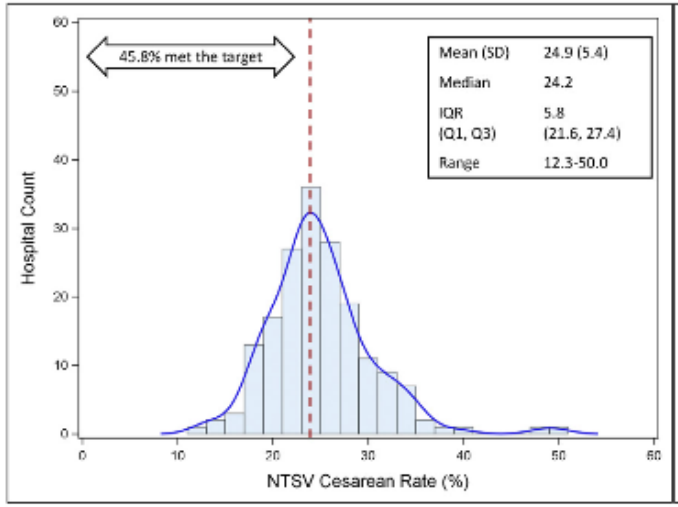
a) White (221 hospitals with at least 30 NTSV births)
Mean number of White NTSV births per hospital = 591

Black



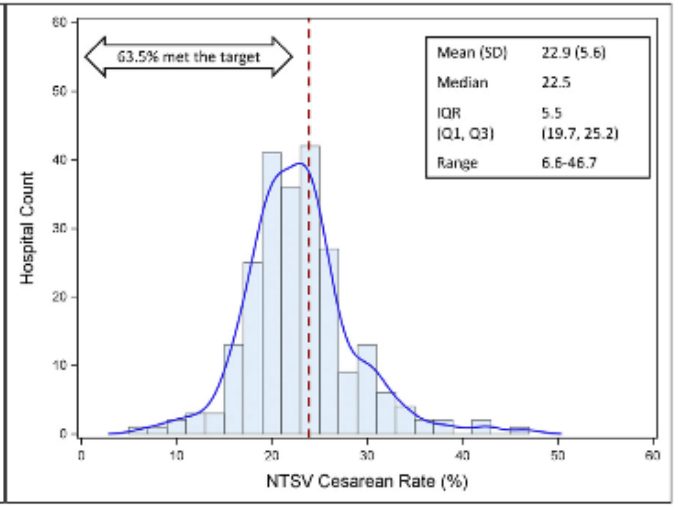
b) Black (139 hospitals with at least 30 NTSV births)
Mean number of Black NTSV births per hospital = 151

Asian



c) Asian (179 hospitals with at least 30 NTSV births)
Mean number of Asian NTSV births per hospital = 434

Hispanic



d) Hispanic (233 hospitals with at least 30 NTSV births)
Mean number of Hispanic NTSV births per hospital = 772

Data were restricted to hospitals with at least 30 NTSV births within each race/ethnic group. *P* value from the Levene test ($P=.01$) and Brown–Forsythe test ($P<.01$) suggested that hospital variance of NTSV CD rates was different across the groups.

CD, cesarean delivery; *IQR*, interquartile range; *NTSV*, nulliparous term singleton vertex.

Main. Hospital variation in cesarean delivery rates in Black patients. Am J Obstet Gynecol MFM 2023.

What is the Source of the Variation?

- Multiple studies show that the source of the variation are the labor management indications:
- Non-reassuring Fetal Heart Rate Pattern
- Failure to Progress/labor Obstruction
- These were also the source of the rise in cesarean rate and have the most subjectivity
- They are also related to unit and provider culture and level of support for vaginal birth

Part 2. How to safely support vaginal birth?

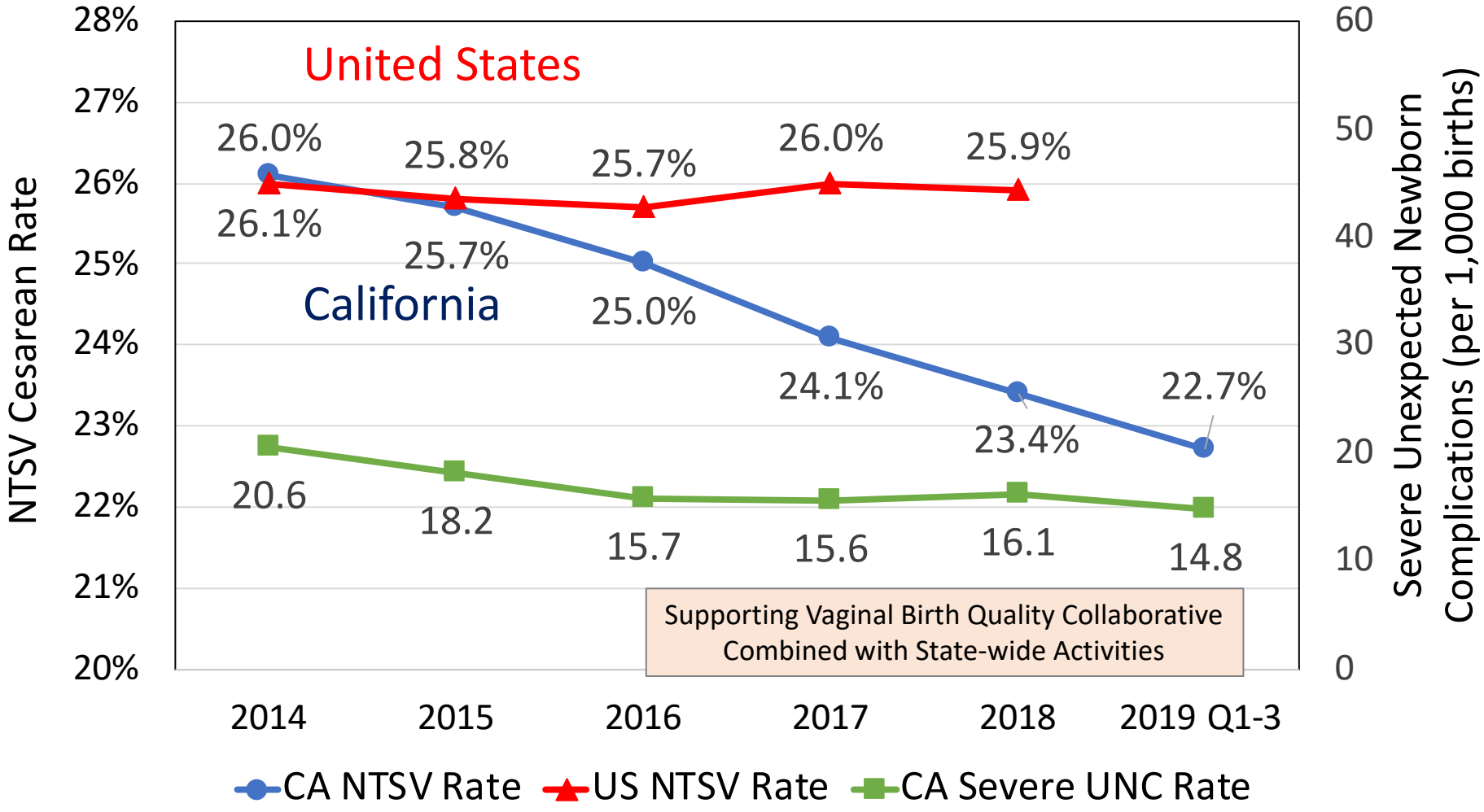
Can NTSV cesarean rates be reduced safely?

How can I support vaginal birth in my hospital?

How can I address disparities in NTSV Cesarean rates?

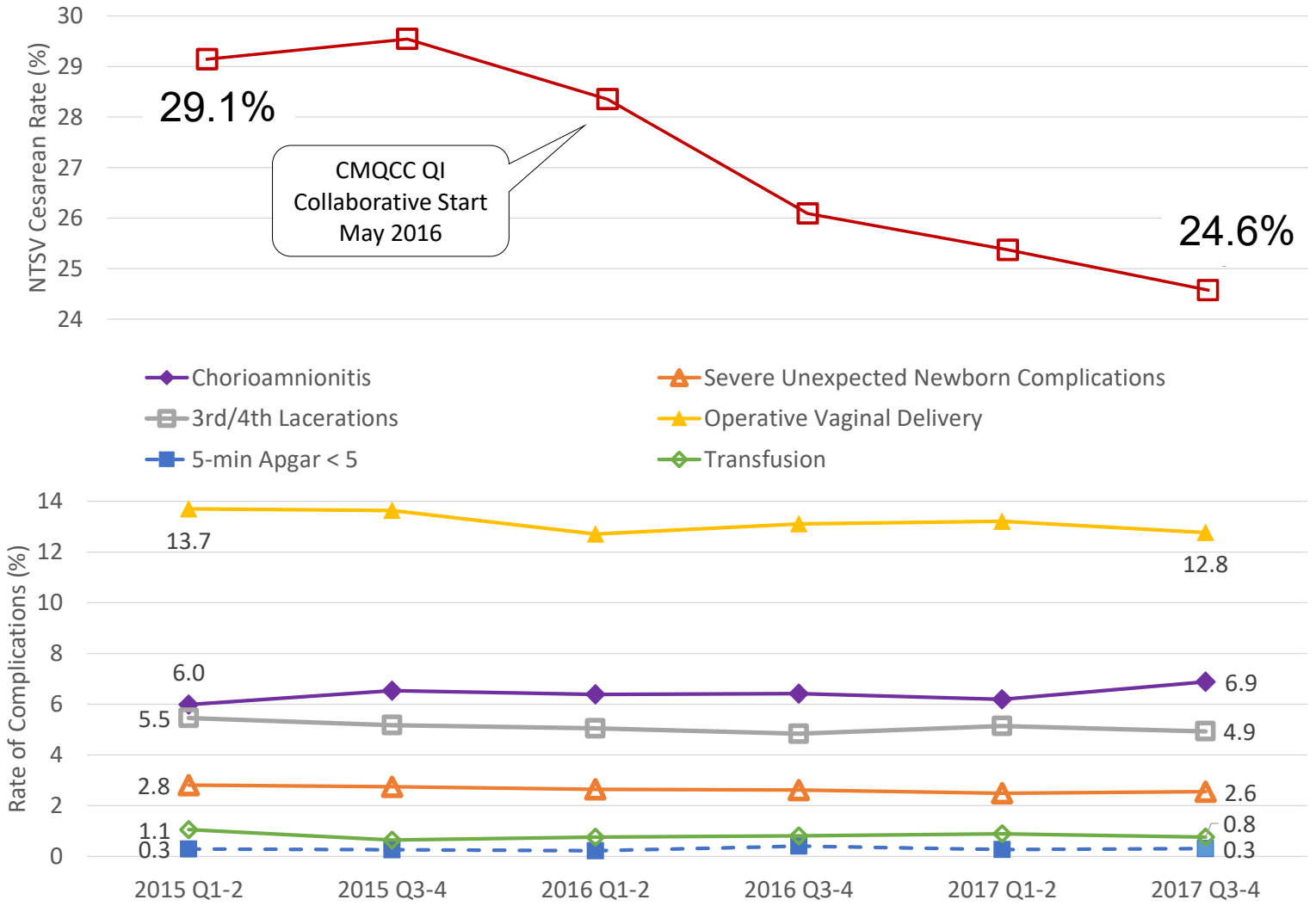
Can NTSV cesarean delivery rates be reduced safely?

Yes!!



Rosenstein MG, Chang S-C, Sakowski C, Markow C, Teleki S, Lang L, Logan J, Cape V, Main EK. Hospital Quality Improvement Interventions and Statewide Policy Initiatives and Rates of Nulliparous Term Singleton Vertex Cesarean Deliveries in California. JAMA 2021. Apr 27;325(16):1631-1639.

Trendlines for NTSV Cesarean and Safety Measures Rates (6 month blocks)



Main E. etal. Obstet Gynecol 2019;133:613-23.

Early results in these 56 hospitals showed promising reductions and safety!

All Balancing (safety) metrics showed no harm from lowering the NTSV CD rate

In fact, baby outcomes were better!

Improvements seen in all groups

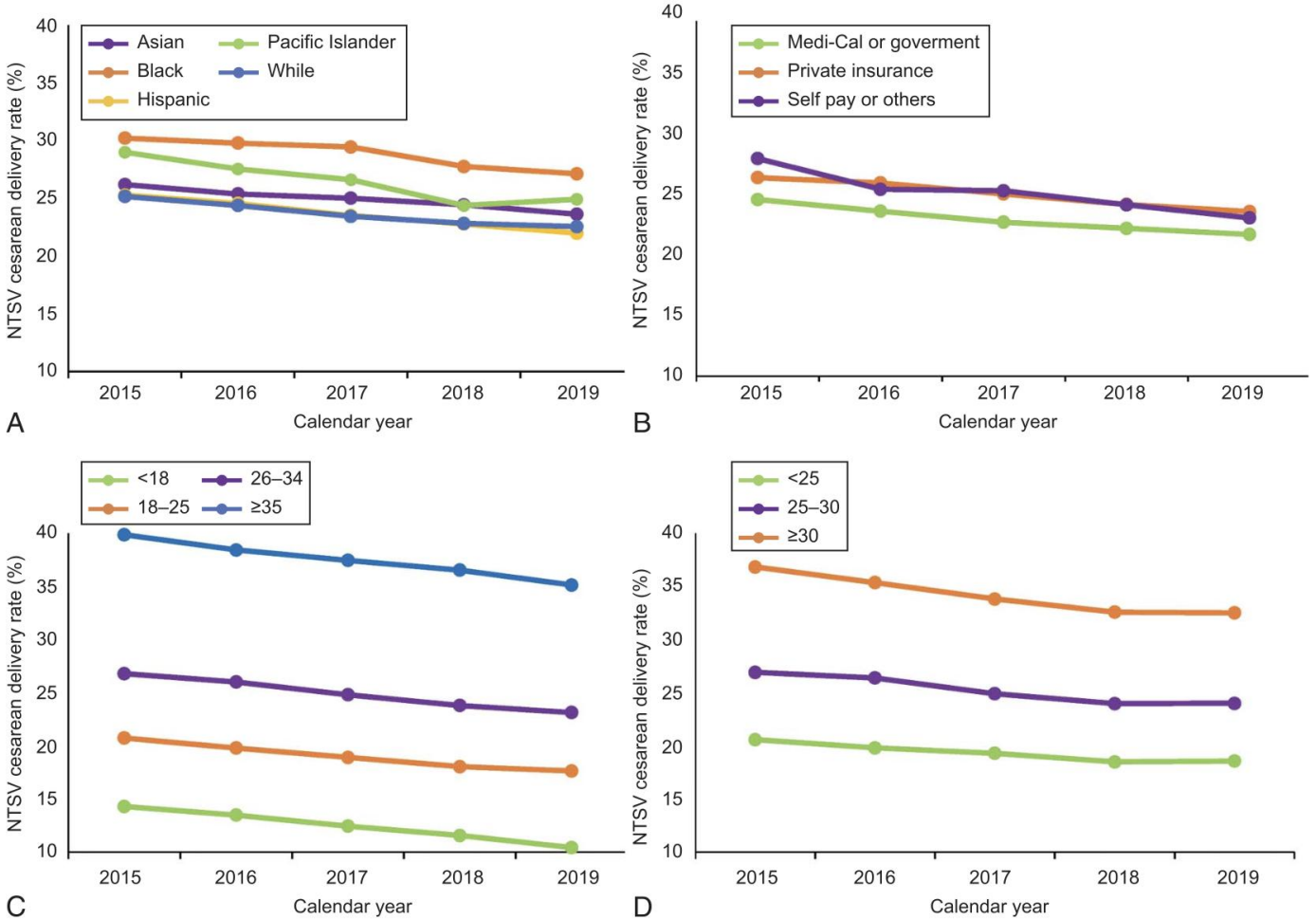


Fig. 2. Time trend of nulliparous term singleton vertex (NTSV) cesarean delivery rate by maternal race and ethnicity (**A**), payer at delivery (**B**), maternal age at delivery (**C**), and maternal prepregnancy body mass index (BMI) (**D**), in California, 2015–2019.

Rosenstein. California NTSV Cesarean Delivery Rates. Obstet Gynecol 2024.

Most hospitals improved, especially with support

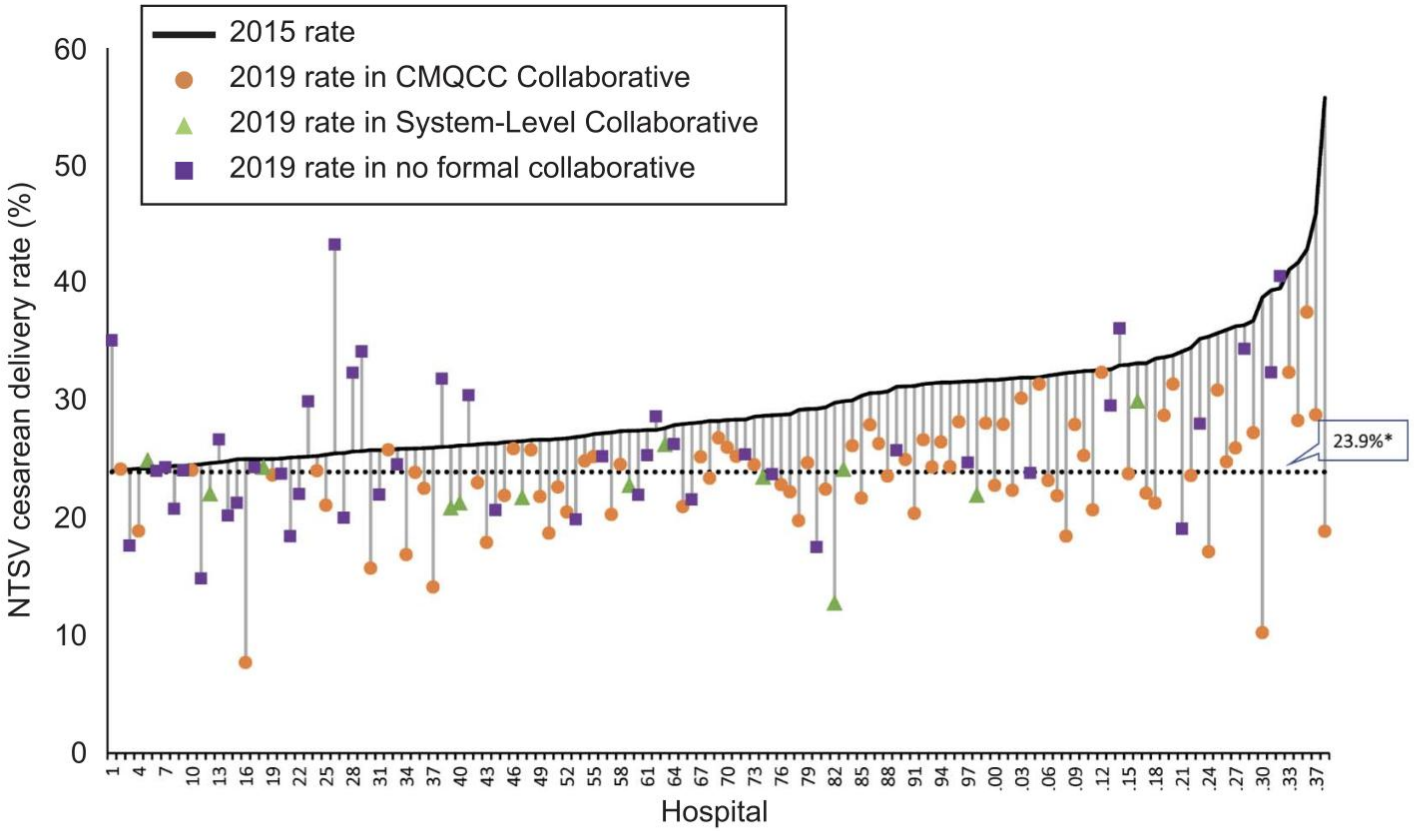
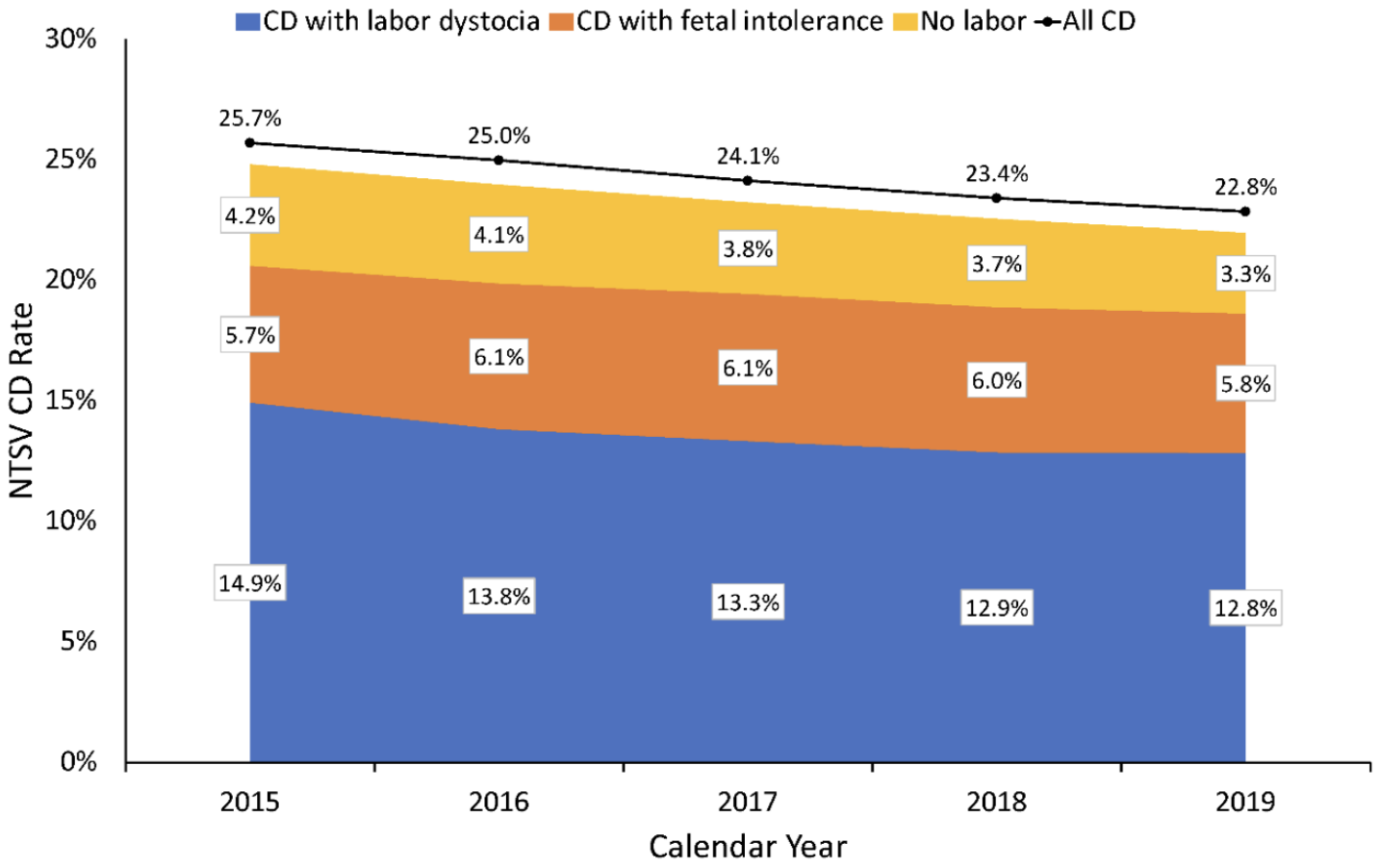


Fig. 3. Change of hospital-specific nulliparous term singleton vertex (NTSV) cesarean delivery rates from 2015 to 2019 among hospitals that started with rates higher than 23.9% (*Healthy People 2020 goal), with collaborative participation identified. CMQCC, California Maternal Quality Care Collaborative.

Rosenstein. California NTSV Cesarean Delivery Rates. Obstet Gynecol 2024.

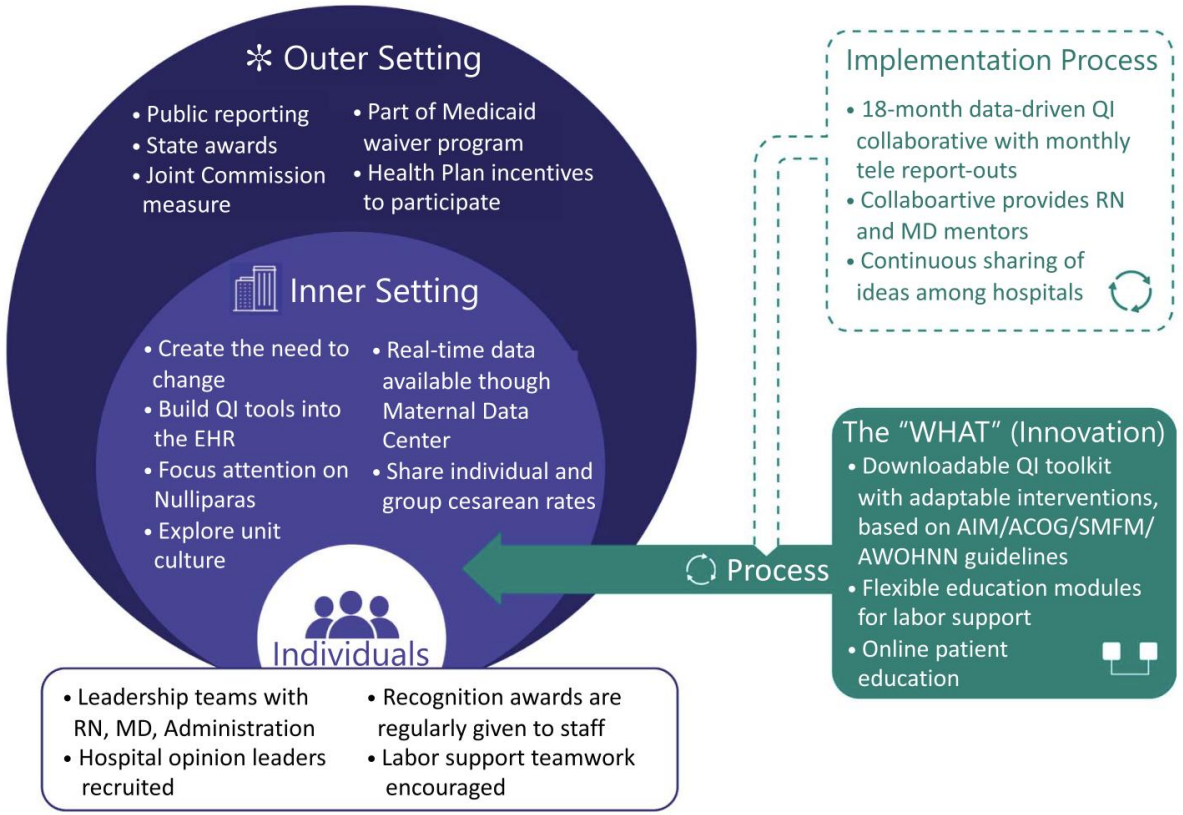
Reductions largely in labor dystocia

Appendix 1. Time trend of nulliparous term singleton vertex cesarean delivery (CD) indications in California, 2015–2019.



How can I help support vaginal birth in my hospital?

How did it happen?



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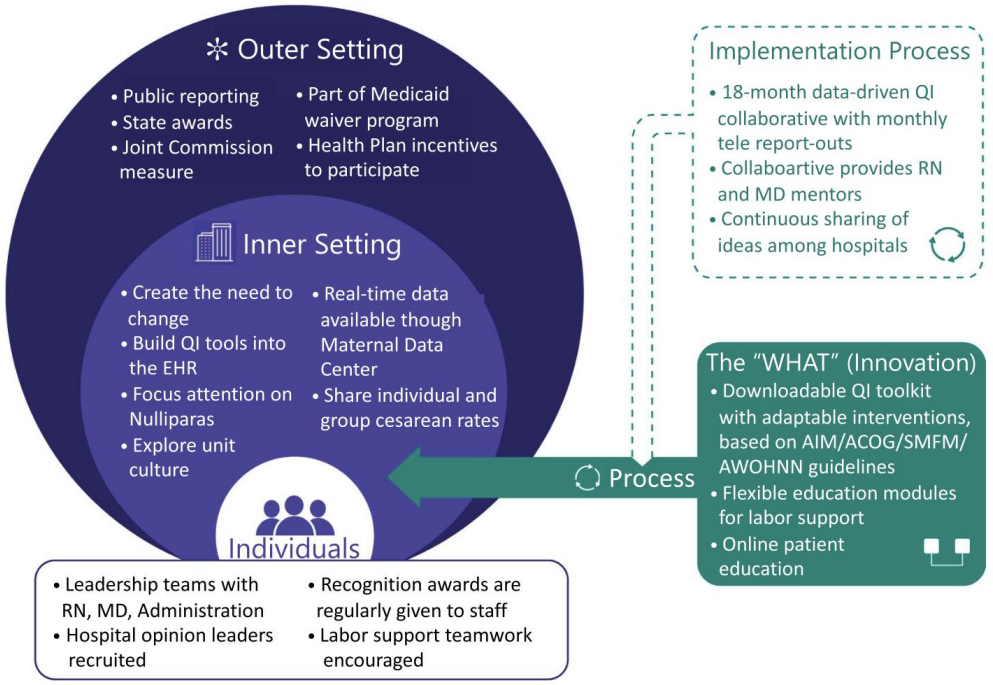
Rosenstein. California NTSV Cesarean Delivery Rates. Obstet Gynecol 2024.

Lessons from California – Outer Setting

- Health Plan and Purchasers
- Medi-Cal Waiver Program
- Public Reporting
- State Awards



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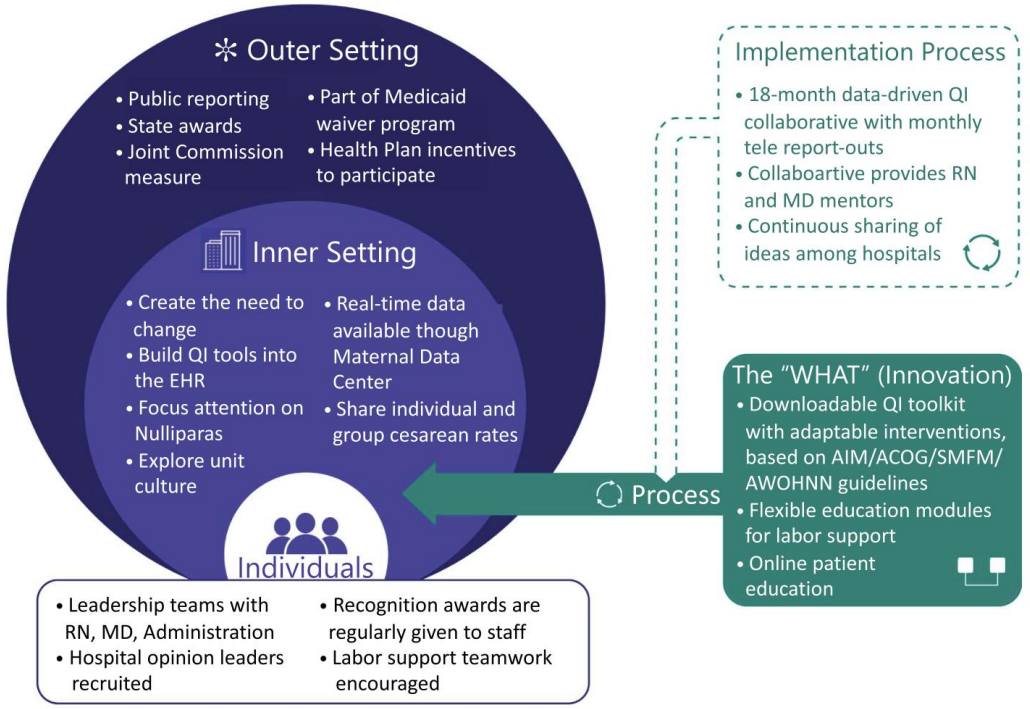
Rosenstein. California NTSV Cesarean Delivery Rates. Obstet Gynecol 2024.

Lessons from California - Inner Setting

- Focus on unit culture
- Share data transparently



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Rosenstein. California NTSV Cesarean Delivery Rates. Obstet Gynecol 2024.

Celebrate the positive!

- Star in the jar (raffle for successful NTSV Vaginal births)
  - Provider/RN team or whole shift!
- One Good Thing at shift change
  - Reminds team of vaginal deliveries to counter negativity bias
- Celebrate high performers

Balancing Measures

- Review cases of unexpected newborn complications with pediatricians, looking for any areas for improvement
  - Not all UNC cases are due to poor obstetric care!
  - Joint case review improves relationships and collaboration
- Multidisciplinary FHR strip reviews
  - Encourage collection of cord gases
  - Discuss management and review outcomes (good and bad)
  - Will also improve RN and provider collaboration

What if you don't have a data center?

- Case Reviews can be very helpful (even with data center)
  - Multidisciplinary group
- Review all NTSV CD to look for
  - Induced, spontaneous labor, no labor
  - Indication: Fetal, Labor dystocia (Failed IOL, 1st, 2nd stage)
  - Induction methods/criteria
  - Race/Ethnicity/Payor/Language
  - Compliance with guidelines: Use AIM checklist, local protocol
  - Review entire course and ask: could this have been prevented?

Share Unblinded Data

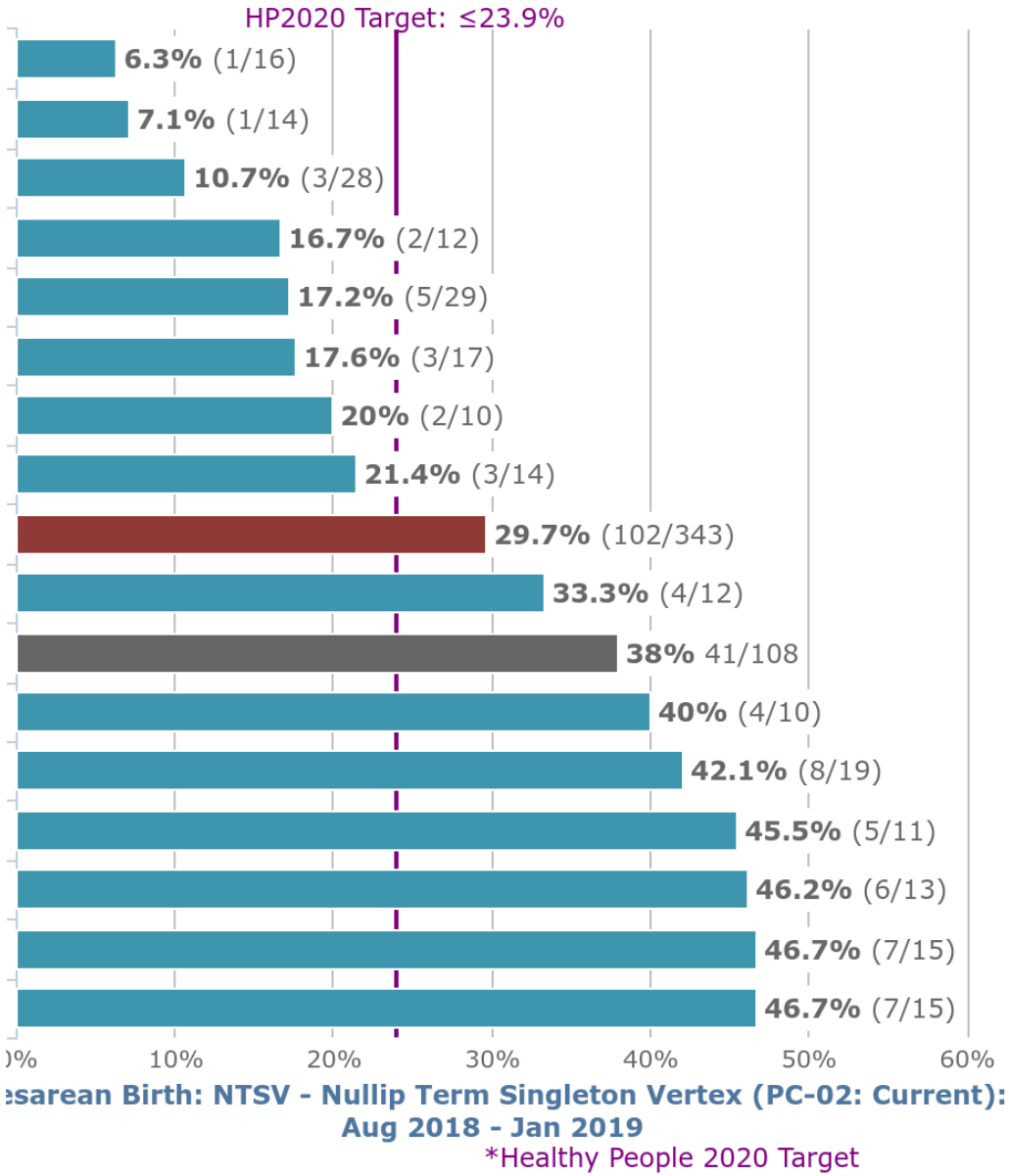
CMQCC
California Maternal
Quality Care Collaborative

Guidance for Understanding and Unblinding Provider-Level NTSV Cesarean Rates

At Start of Project

Before the process of unblinding NTSV cesarean rates begins, it is important for teams to have a baseline understanding of their underlying practices. This can be determined through an examination of the drivers for primary cesarean rates, followed by a chart review of a sample to assess how well the providers follow the national ACOG guidelines for Failure to Progress and other key primary cesarean indications. Ongoing monthly review for consistency with guidelines is also quite useful (recognizing that not every case will follow the guidelines perfectly). The Readiness Assessment and Structure Measures Checklist will assist with this baseline review. Success of the project hinges upon system improvements that support providers in reducing individual rates.

The Readiness Assessment, Structure Measures Checklist (both are found in the Implementation Guide), and Chart Audit Tool are all located on the collaborative resources page at https://www.cmqcc.org/projects/toolkit-and-collaborative-support-vaginal-birth-and-reduce-primary-cesareans/collaborative

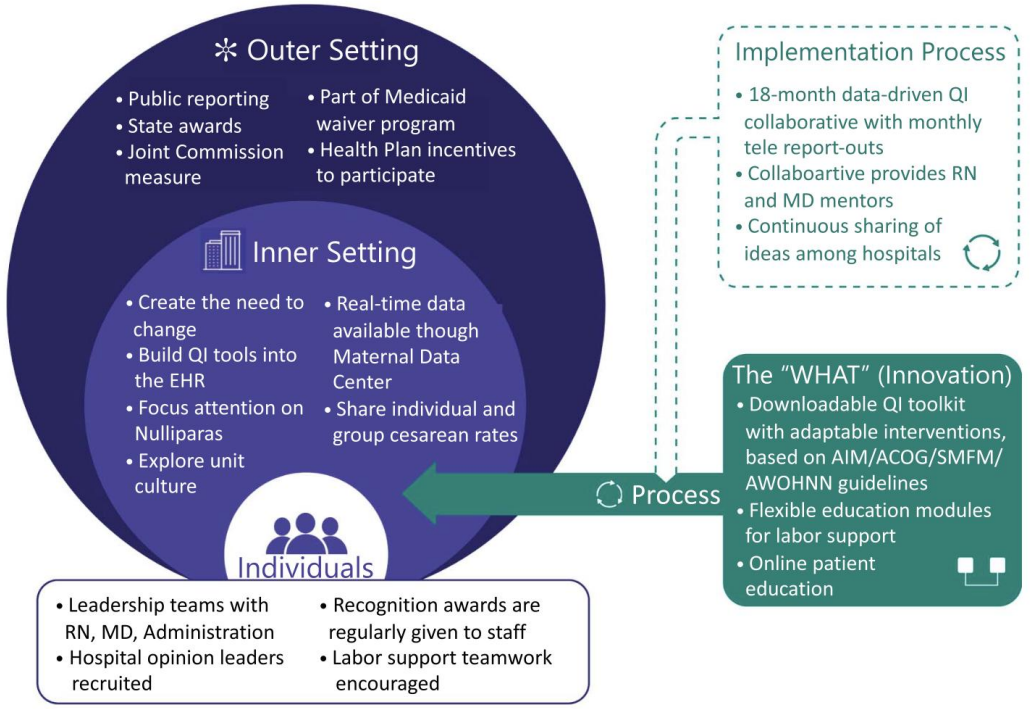


Sharing Unblinded Data

- Move slowly, gather buy-in
- Share rates individually, allow for questions/clarifications
- Share blinded data first
- Celebrate high performers publicly
- Does not need to be shared widely on unit, just among providers

Lessons from California - Innovation

- So many options!
- Tailor interventions to primary drivers
  (from case reviews)



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A Wide Variety of Specific Interventions Were Used by Hospitals

Specific Interventions by Hospitals (n=91)	Implementation (%)
Provider Education	**90 (99%)**
Physician/Nurse Education on Labor	90 (98%)
Manual Rotation of Occiput Posterior	41 (45%)
Operative Vaginal Deliveries	2 (2%)
Labor Support Activities	**82 (90%)**
Peanut Balls*	48 (53%)
Doula program	30 (33%)
Coping with Labor Algorithm	9 (10%)
Nitrous Oxide	4 (4%)
Labor Management	**78 (86%)**
Labor Dystocia Checklist	59 (65%)
Active Phase Huddle	41 (45%)
Latent Labor Management	41 (45%)
2nd Stage Management	16 (18%)
Electronic Medical Record Order Sets	22 (24%)

Specific Interventions by Hospitals (n=91)	Implementation (%)
Sharing Unblinded Provider NTSV CS Rates	**77 (85%)**
Labor Induction	**48 (53%)**
Induction Scheduling Form	31 (34%)
Induction Algorithm	20 (22%)
Outpatient Cervical Ripening	17 (19%)
Patient Education	**43 (47%)**
Prenatal Childbirth Education	7 (8%)
Patient Education During Triage/Labor	41 (45%)
Patient Support after Traumatic Birth Experience	24 (26%)
L&D Staff Model	**12 (13%)**
Addition of Laborists	8 (9%)
Addition of Midwives	4 (4%)

*Peanut ball is an inflated exercise ball shaped like a large peanut used between the thighs during late labor to help open the pelvis

Lean on ACOG!

ACOG
The American College of Obstetricians and Gynecologists

ACOG COMMITTEE STATEMENT

NUMBER 17

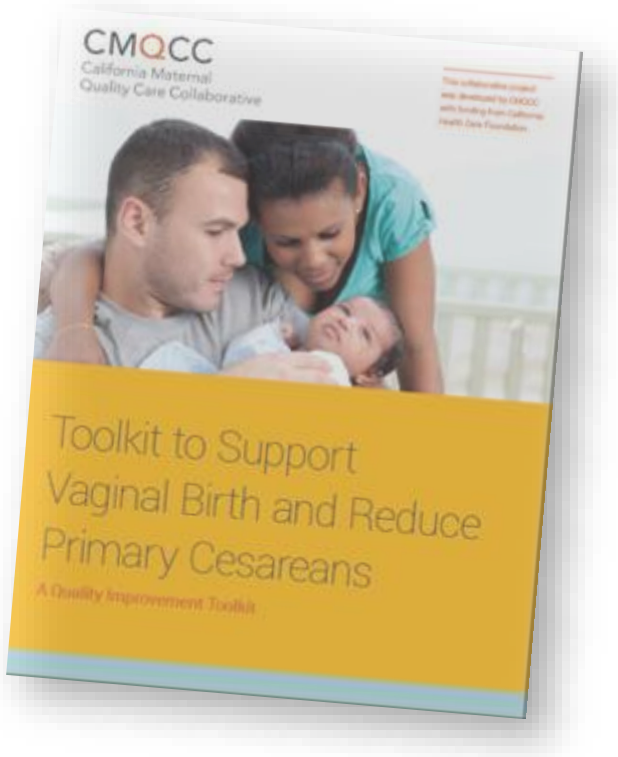
MAY 2025

Quality-Improvement Strategies for Safe Reduction of Primary Cesarean Birth

This Committee Statement was developed by the American College of Obstetricians and Gynecologists' Quality and Safety Initiatives Delegation in collaboration with Niraj Chavan, MD, Allison A. Eubanks, MD, Arthur Ollendorff, MD, Stephanie Radke, MD, and Paula White, MD.

Lessons from California – Innovation
The CMQCC Toolkit

- Comprehensive, evidence-based "How-to Guide" to reduce primary cesarean delivery in the NTSV population
- 159 pages (now 191)
- Resource foundation for the CA QI collaborative project
- The principles are generalizable to all women giving birth
- Released on the CMQCC website April 28, 2016 (**updated 2022!**)
- Has a companion *Implementation Guide*



65

Stanford MEDICINE

UCSF

Communication Tool for Labor Dystocia or Failed Induction

Πατιεντ Ναμ ε:_____ MP#: _____

Γεστατιοναλ Αγε: _____ Δατε οφ Χ-σεχτιον: _____;

Τιμ ε: _____

Οβστετριχιαν: _____ ; Ινιτιαλ: _____

Βεδσιδε Νυρσε: _____ ; Ινιτιαλ: _____

Indication for Primary Cesarean Delivery:

____ Failed Induction (must have both criteria if cervix unfavorable, Bishop Score < 8 for nullips and <6 for multips)

___ Cervical Ripening used (when starting with unfavorable Bishop scores as noted above). Ripening agent used: _____Reason ripening not used if cervix unfavorable: _____ _____

AND

___ Unable to generate regular contractions (every 3 minutes) and cervical change after oxytocin administered for at least 12-18 hours after membrane rupture." *Note: at least 24 hours of oxytocin administration after membrane rupture is preferable if maternal and fetal statuses permit

____ Latent Phase Arrest <6 cm dilation (must fulfill one of the two criteria)

___ Moderate or strong contractions palpated for > 12 hours without cervical change

OR

___ IUPC > 200 MVU for > 12 hours without cervical change

____ Active Phase Arrest ≥ 6 cm Dilation (must fulfill one of the two criteria)

Membranes ruptured (if possible), then:

___ Adequate uterine contractions (e.g. moderate or strong to palpation, or ≥ 200 MVU, for ≥ 4 hours) without improvement in dilation, effacement, station or position

OR

___ Inadequate uterine contractions (e.g. < 200 MVU) for ≥ 6 hours of oxytocin administration without improvement in dilation, effacement, station or position

____ Second Stage Arrest (must fulfill any one of four criteria)

___ Nullipara with epidural pushing for at least 4 hours

OR

___ Nullipara without epidural pushing for at least 3 hours

OR

___ Multipara with epidural pushing for at least 3 hours

OR

___ Multipara without epidural pushing for at least 2 hours

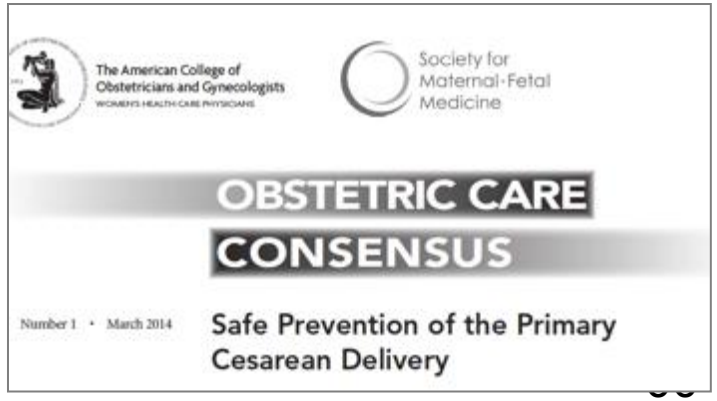
____ Although not fulfilling contemporary criteria for labor dystocia as described above, my clinical judgment deems this cesarean delivery indicated

___ Failed Induction: Duration in hours: _____
Latent-Phase Arrest: Duration in hours: _____
Active-Phase Arrest: Duration in hours: _____
Second-Stage Arrest: Duration in hours: _____

Χομ μ εντσ:

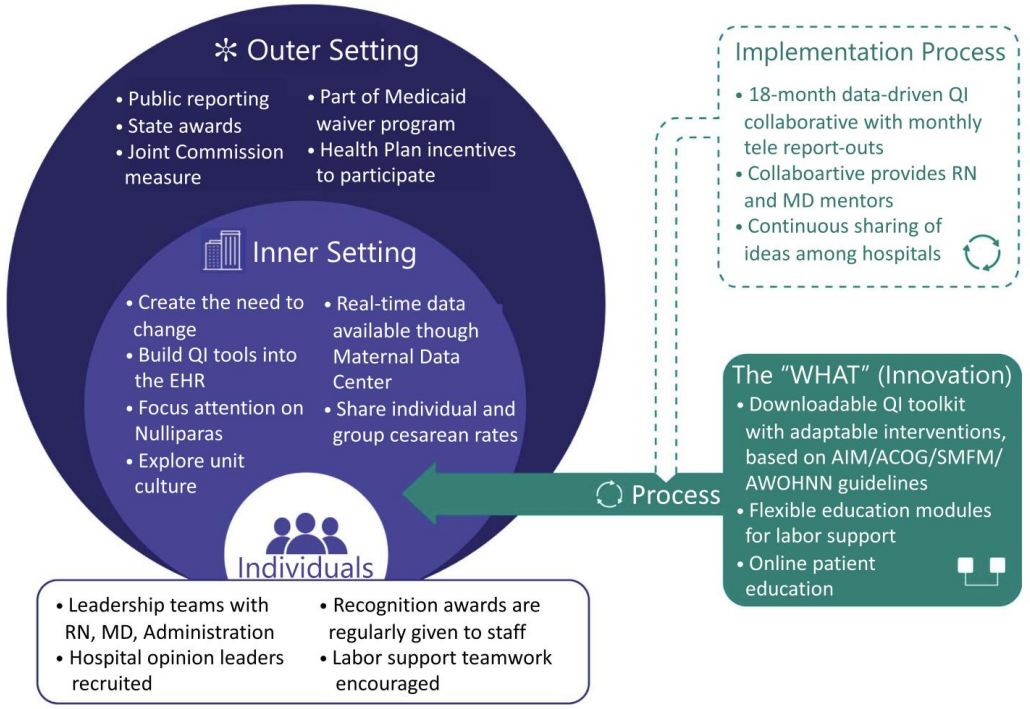
Ideal use is in real-time as a guide for communication throughout the labor. Should be used for ALL NTSV patients.

Criteria taken from:



Lessons from California - Individuals

- Patient engagement
- Targeted education
  - Labor support
  - Management of OP
  - Best practice for induction



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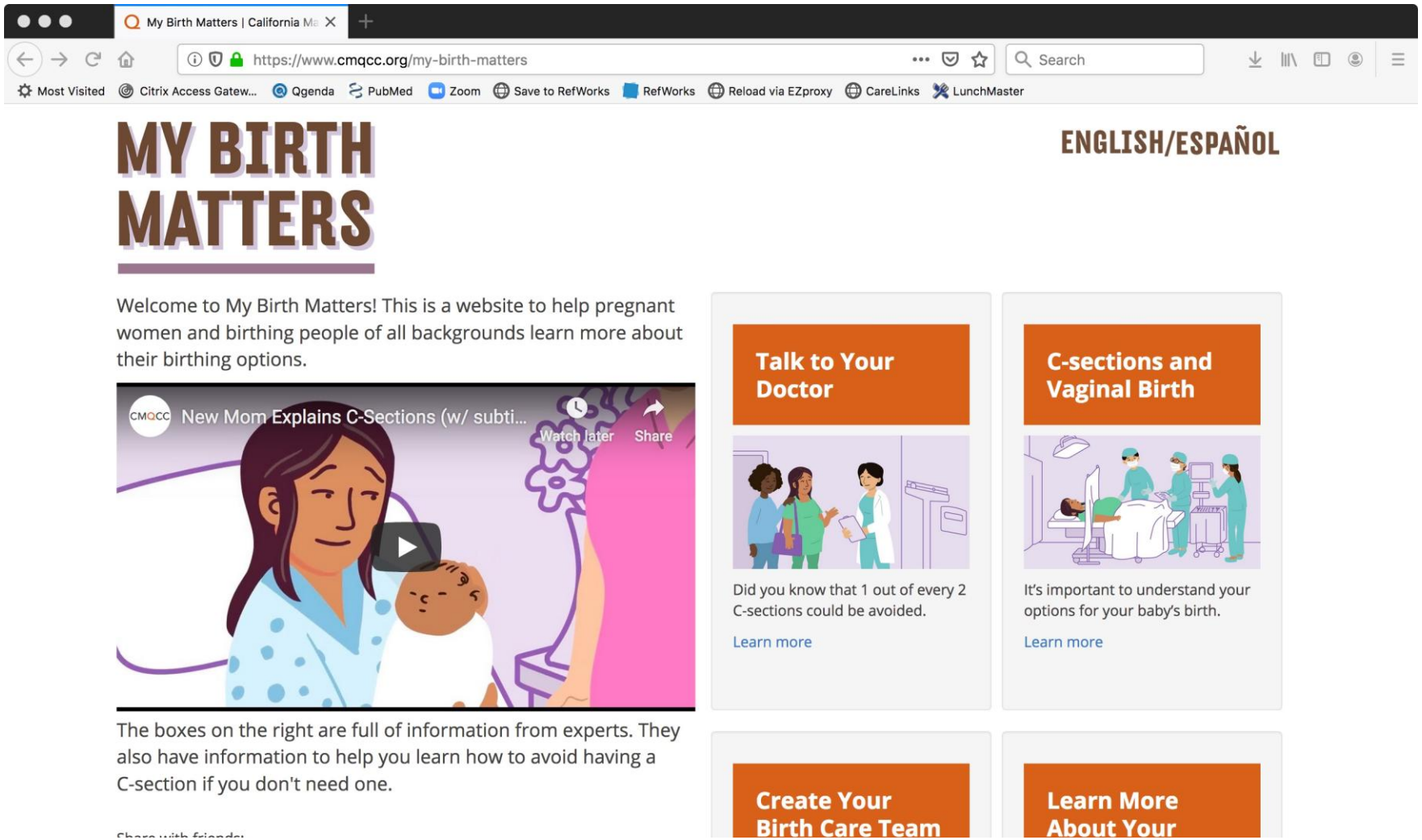
Rosenstein. California NTSV Cesarean Delivery Rates. Obstet Gynecol 2024.

Patient Engagement



Engage with patients

- Doula integration
  - Mutual support for our patients
- Early labor walk
  - Help patients cope with early labor and feel supported
- Work with prenatal care providers to build confidence and capacity with labor
- Early education on labor induction methods, even for those who don't plan one

Train the trainer model

- Most units can't afford to send every nurse to labor support training
- Those who go become champions, train their colleagues
- Offer support during challenging labors, suggestions, "fresh air"

Relationship between IOL frequency and NTSV CD rate

We should not focus on
"To Induce or Not To Induce"
(That is not the question)

BUT rather it is
How do you actually do the Induction!

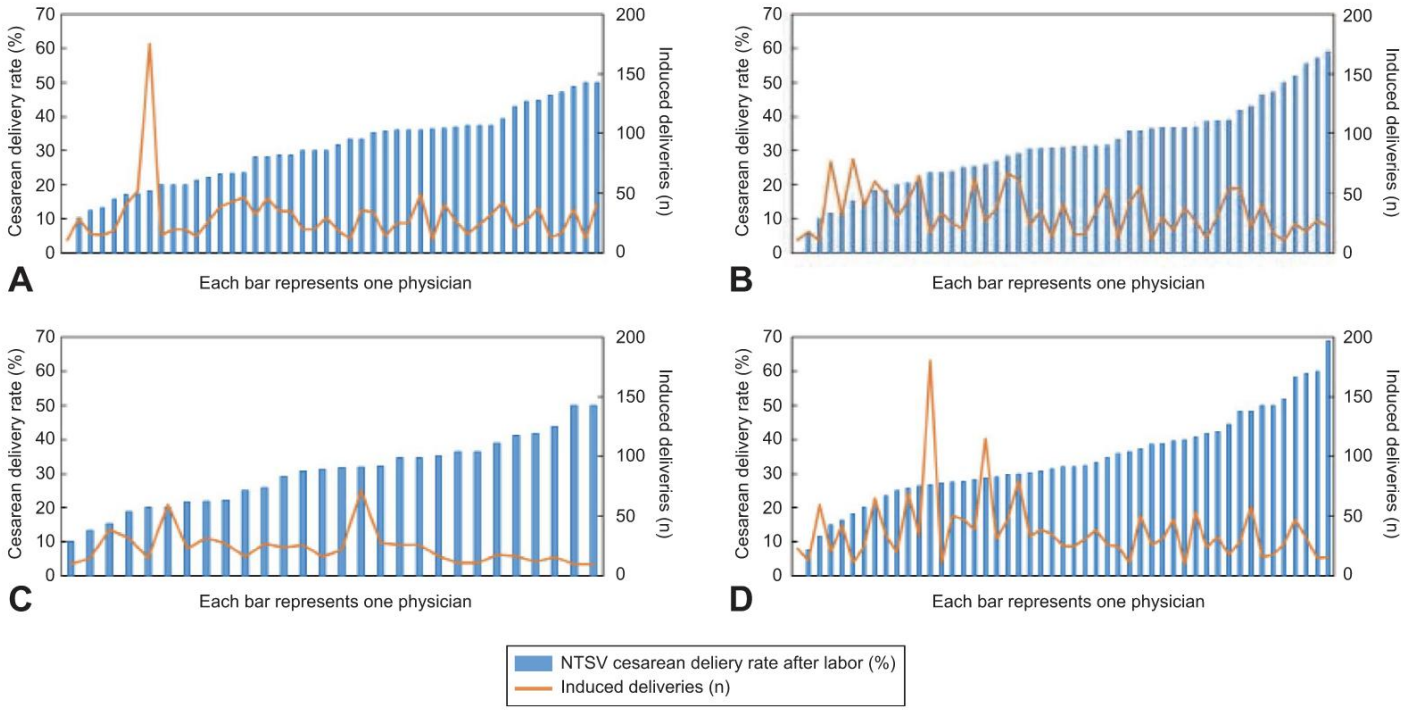
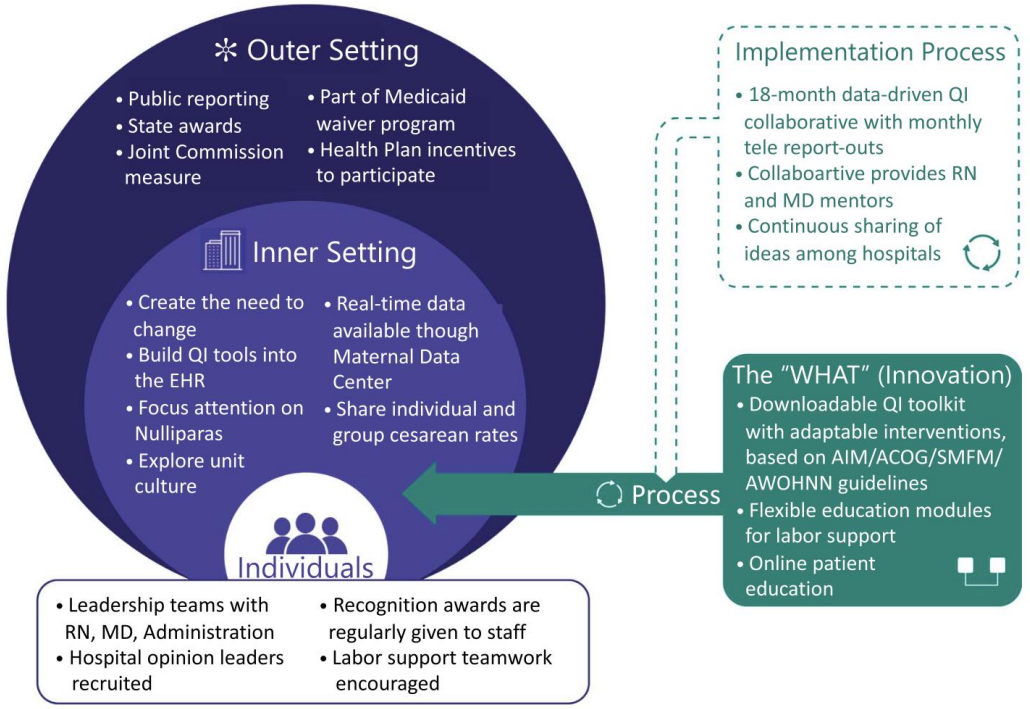


Fig. 2. Variation of physician-level nulliparous, term, singleton, vertex (NTSV) cesarean delivery rates after labor induction in four large community hospitals where no midwives or family doctors had obstetric privileges. Only physicians with a minimum NTSV induced labor volume of 10 during 2016–2017 were included. Hospital A (**A**), hospital B (**B**), hospital C (**C**), and hospital D (**D**).

Main. Cesarean Delivery Rate Variation After Induction. Obstet Gynecol 2020.

Lessons from California – Implementation Process

- Work in teams
- Share with other hospitals!
  - Work with your PQC, system



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Rosenstein. California NTSV Cesarean Delivery Rates. Obstet Gynecol 2024.

Pearls from Hospitals

Build the Team before you Build the Plan

- Team Members
  - Provider Leaders – OB, MFM, Midwives
  - Nurse Leaders – Director, Manager, CNS/Educator
  - Informal Leaders
  - Data Colleagues
    - Quality Staff
    - Patient Safety/Risk Management
    - Health Information Management Staff
    - Analyst
- Set the expectation that bedside staff is integral
- Communication
- Prepare for scheduled meetings

How can I address disparities in NTSV cesarean?

Decision to perform CD is always subjective

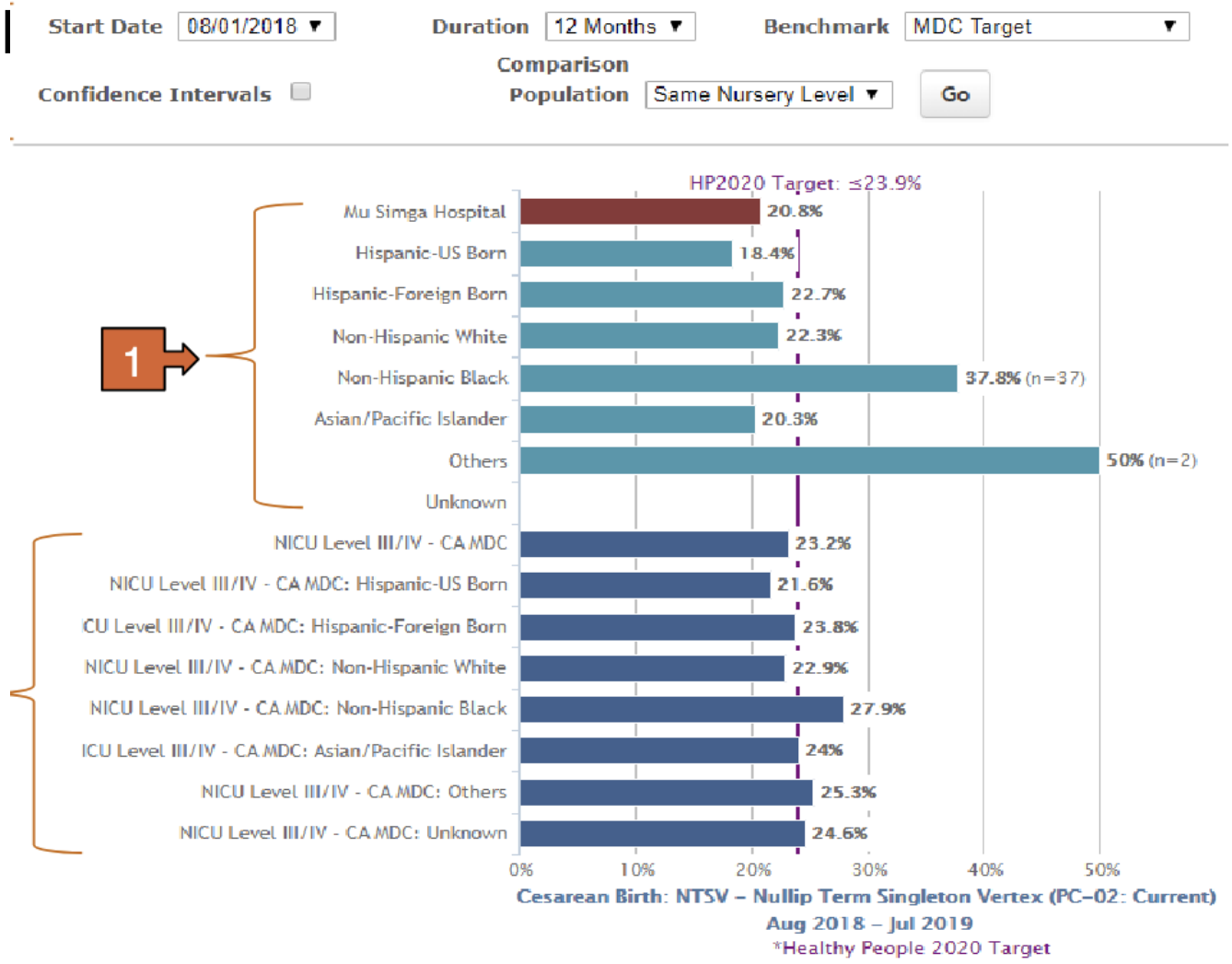
- Different type of outcome measure – doesn't occur until we do it.
- All diagnoses are subjective
  - Failure to progress
  - Failed induction
  - Fetal intolerance
- We always mean to do the best for our patient, but "the best" is often different for different patients.

Physicians Treating Physicians

- We are 10% less likely to do a CD on a physician-mother compared with similarly educated women
- We particularly do fewer CD for “most informed” physician-mothers (OB, peds, family, anesthesiology)
- We also do fewer cesareans on children of physician-fathers with most-relevant medical knowledge

Johnson EM and Rehavi MM, Am Economic Journal, Economic Policy 2016

Review


Start Date 08/01/2018
Duration 12 Months
Benchmark MDC Target
Comparison Population Same Nursery Level
Confidence Intervals
Go
HP2020 Target: ≤23.9%
Mu Simga Hospital 20.8%
Hispanic-US Born 18.4%
Hispanic-Foreign Born 22.7%
Non-Hispanic White 22.3%
Non-Hispanic Black 37.8% (n=37)
Asian/Pacific Islander 20.3%
Others 50% (n=2)
Unknown
1
NICU Level III/IV - CA MDC 23.2%
NICU Level III/IV - CA MDC: Hispanic-US Born 21.6%
CU Level III/IV - CA MDC: Hispanic-Foreign Born 23.8%
NICU Level III/IV - CA MDC: Non-Hispanic White 22.9%
NICU Level III/IV - CA MDC: Non-Hispanic Black 27.9%
ICU Level III/IV - CA MDC: Asian/Pacific Islander 24%
NICU Level III/IV - CA MDC: Others 25.3%
NICU Level III/IV - CA MDC: Unknown 24.6%
0% 10% 20% 30% 40% 50%
Cesarean Birth: NTSV – Nullip Term Singleton Vertex (PC-02: Current)
Aug 2018 – Jul 2019
*Healthy People 2020 Target

Conceptual model linking racism -> adverse outcomes

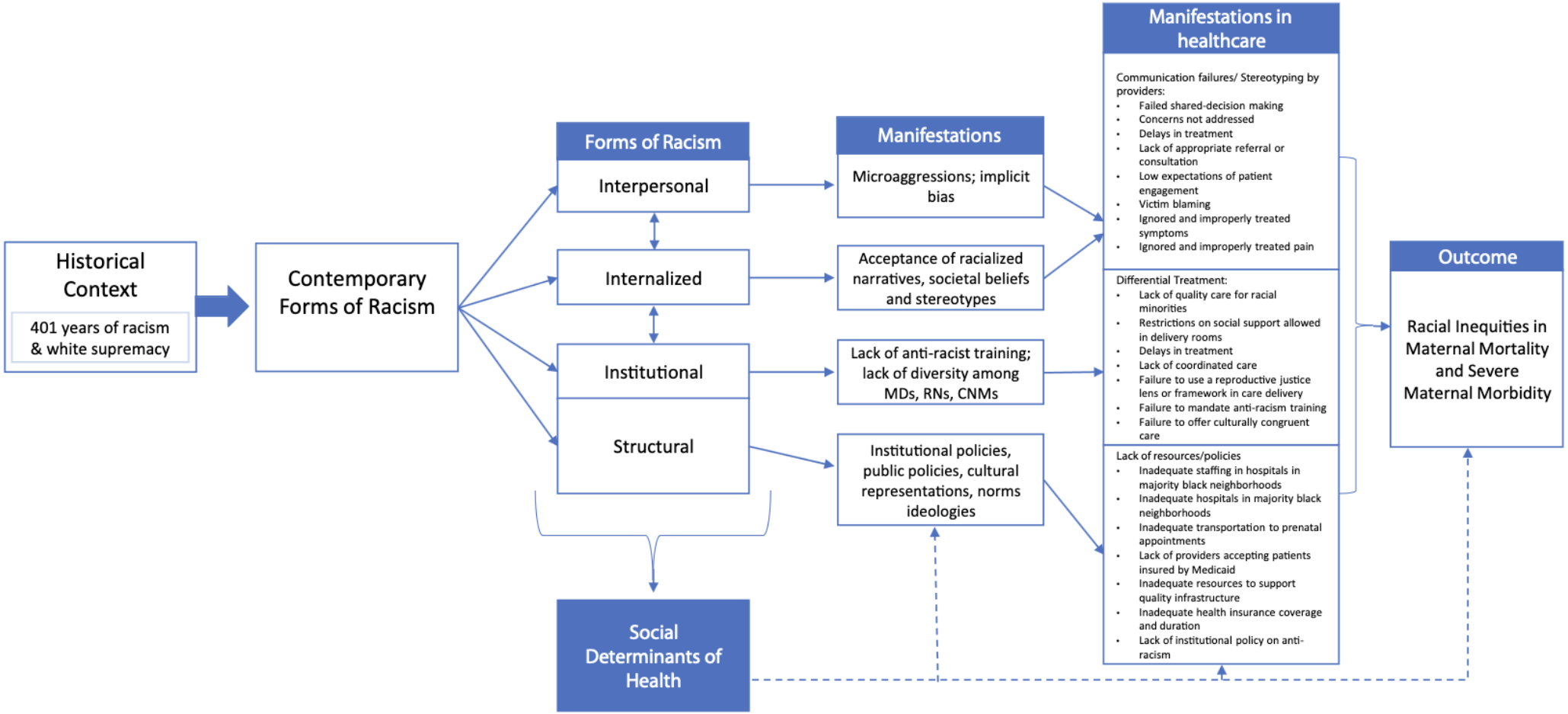


Fig. 1 A Conceptual Model of how Racism Operates and Results in Inequities in Maternal Morbidity and Severe Maternal Mortality

Hardeman RR et al Developing Tools to Report Racism in Maternal Health for the CDC Maternal Mortality Review Information Application (MMRIA): Matern Child Health J. 2022 Apr;26(4):661-669. doi: 10.1007/s10995-021-03284-3.

Birth Equity

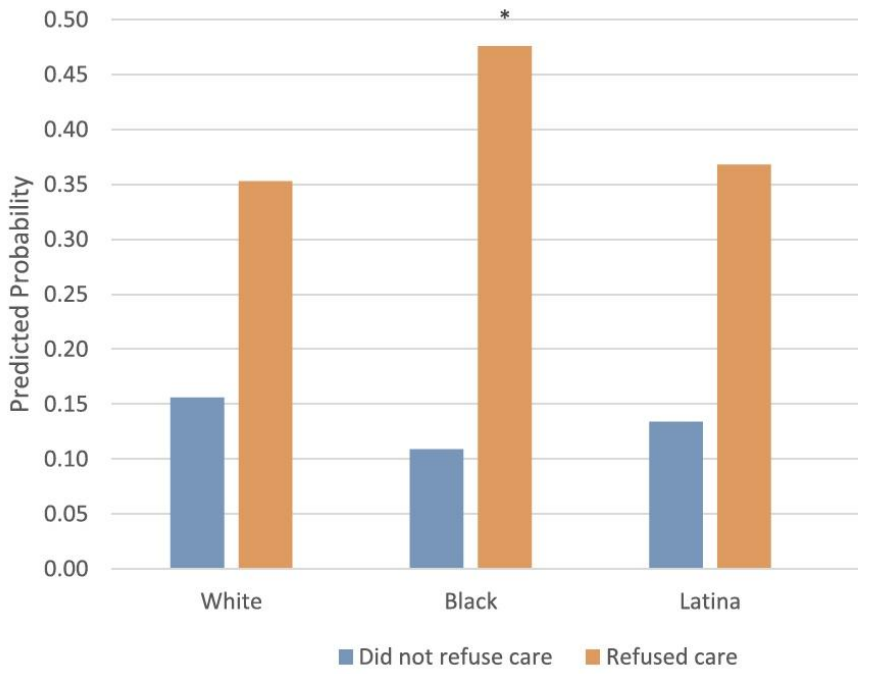
"The assurance of the conditions of optimal births for all people with a willingness to address racial and social inequalities in a sustained effort."

– Joia Crear Perry, MD, FACOG
Founder, National Birth Equity Collaborative

- Utilizes strategies that consider the root causes of disparities
- Considers community needs/wants (patient and community-centeredness)
- Humility to accept that what we are doing right now isn't working for everyone
- Bringing all pressure points to bear; using all tools in the toolbox

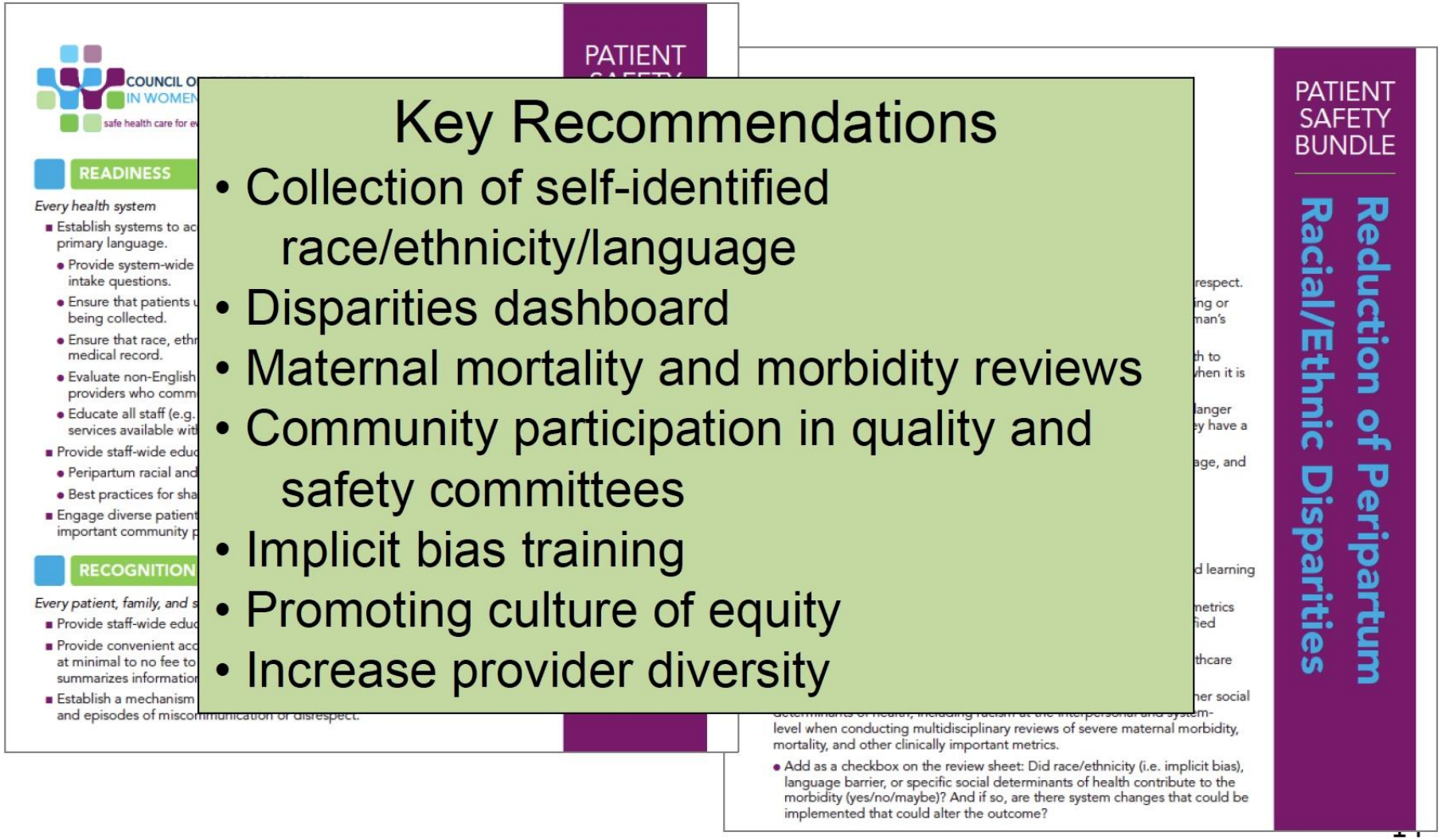
Black women experience more discrimination if they decline interventions

- Black, White, Latina women equally likely to decline interventions (~ 20%)
  - Black women are more likely to experience poor treatment based on this difference of opinion
  - Having declined care is associated with 5x greater odds of experiencing poor treatment based on race/ethnicity/language



Attanasio LB & Hardeman RR, 2019

Translate the AIM Equity Bundle into a QI Toolkit



Key Recommendations

- Collection of self-identified race/ethnicity/language
- Disparities dashboard
- Maternal mortality and morbidity reviews
- Community participation in quality and safety committees
- Implicit bias training
- Promoting culture of equity
- Increase provider diversity

Strategies to Support Vaginal Birth and Equity

- Listen to patients
- Pay attention to social determinants of health
- Be sensitive to mistrust that may exist, work to overcome, be humble
- Advocate for anti-racism training
- Encourage doulas
- Collaborate with community groups
- Review data by race/ethnicity

Reducing NTSV CD can be done!

- Reducing NTSV CD is safe
- Much easier with external pressures – lean on them!
- Multidisciplinary teamwork is key
- It takes time (12 ->18 months!!)
- The tools are already available
- Don’t be afraid to share unblinded provider level data!!
- Focus on birth equity in this and every QI project

Questions?

Please enter your questions in the Q&A box at the bottom of your screen.

ACOG FOUNDATION

Advancing ob-gyn care for all.

Thank You!

Please send any questions to alliance@acog.org

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