



## AHA Team Training

# IMPROVING MATERNAL & NEONATAL SAFETY

Using Evidence-Based Best Practice, Teamwork & Simulation,  
and Quality Improvement

October 11, 2023



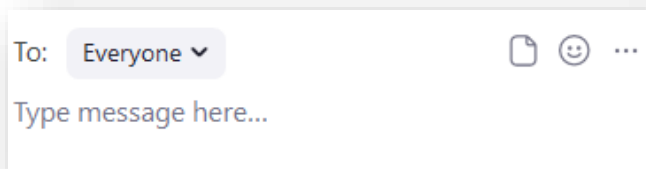
AHA CENTER FOR HEALTH

**INNOVATION**

# Rules of Engagement

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- **Audio for the webinar can be accessed in two ways:**
  - Through your computer
  - Or through the phone (\*Please mute your computer speakers)
- **Q&A session will be held at the end of the presentation**
  - Written questions are encouraged throughout the presentation
  - To submit a question, type it into the Chat Area and send it at any time
- **Other notable Zoom features:**
  - This session is being recorded, the chat will not be included in the recording
  - Utilize the chat throughout the webinar. To chat everyone, make sure your chat reflects the picture below:



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- **Create a Duke OneLink account.** You only need to create an account once – you may use it for all future webinars. Instructions will be chatted in and/or you may find them in your registration confirmation email.
  - Step 1: Register for a OneLink account
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- **Text **VOFDAG** to (919) 213-8033 after 1:00 pm ET today – 24-hour window**

In support of improving patient care, the Duke University Health System Department of Clinical Education and Professional Development is accredited by the American Nurses Credentialing Center (ANCC), the Accreditation Council for Pharmacy Education (ACPE), and the Accreditation Council for Continuing Medical Education (ACCME), to provide continuing education for the health care team.



# Upcoming Team Training Events

## ***Courses & Workshops***

- [In-person TeamSTEPPS Master Training](#)
  - Houston Methodist – October 31- November 1
  - Tulane – December 4-5
  - UCLA – December 11-12

## ***Webinars***

- November 8 webinar details coming soon!
- Bonus Webinar: [Strategic Onboarding: Maximize Employee Retention from Day One](#) – November 15, sponsored by Relias

# Upcoming Team Training Events Cont.

## *Custom TeamSTEPPS Advisory Services at Your Organization*

### TeamSTEPPS Master Training Course

Using a train-the-trainer model, **we give you the foundational tools** and concepts, and train your staff through this **two-day training** program. You will gain a team of Master Trainers ready to teach others in your organization.

### Comprehensive TeamSTEPPS Programs

**We help you along the way.** After delivery of the two-day Master Training course, we continue to work with your team for **3-6 months**, building the internal capacity to hardwire TeamSTEPPS throughout your organization.

[Learn More »](#)

“Our relationship with the TeamSTEPPS faculty and the on-site trainings were both phenomenal. **They did a great job of meeting us where we were** and customized a program that really helped us gain clarity about the problem we’re trying to solve.”

– **Melissa Riffe-Guyer**  
Executive Director,  
Culture Cone Health

# IMPROVING MATERNAL & NEONATAL SAFETY

USING EVIDENCE-BASED BEST PRACTICE, TEAMWORK & SIMULATION, AND  
QUALITY IMPROVEMENT



Dr. Stephanie  
Bruce, MD, MAS,  
FACOG



Sharon Patagoc,  
MSN, RNC-OB,  
C-ONQS



Dr. Rakhi Dimino,  
MD, MMM CPE,  
FACOG



Dr. Stacy Norton,  
MD, FACOG



Dr. Athi  
Arunachalam,  
MD, MBA





## THE VISION FOR THE SECOND CENTURY

Houston Methodist will set a new standard for leading academic medical centers through ***unparalleled safety, quality, service and innovation.***

HOUSTON  
**Methodist**  
LEADING MEDICINE

# Houston Methodist Willowbrook Hospital



358 Beds

3,500+ Births

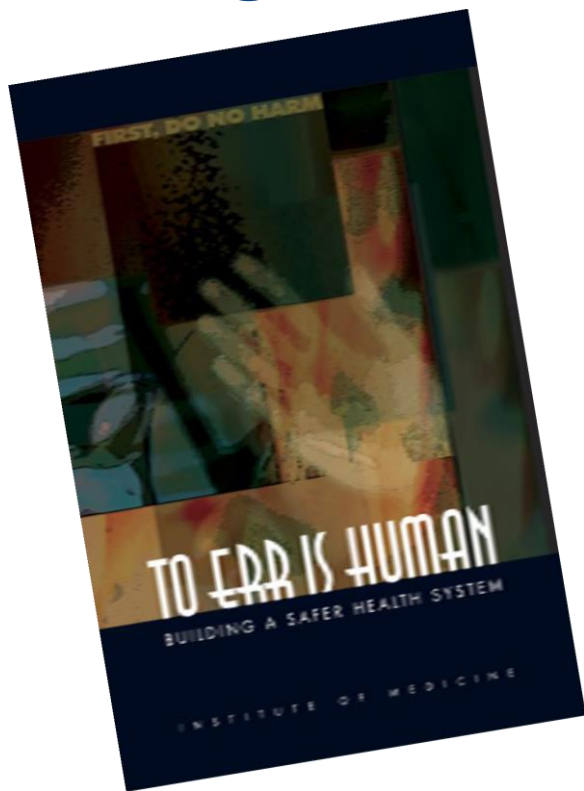
Level III Maternal Designation

Level III NICU

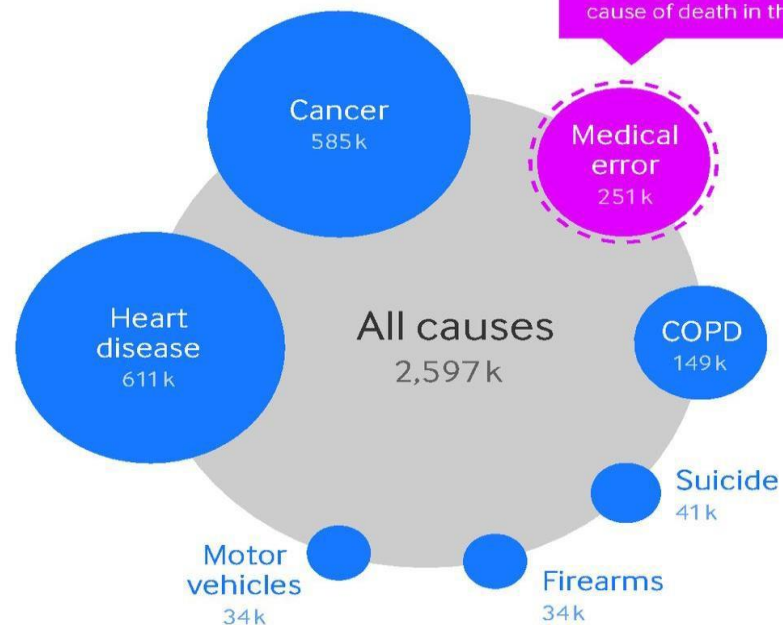


# MEDICAL ERRORS

## Third Leading Cause of Death in U.S.A.



Causes of death, US, 2013



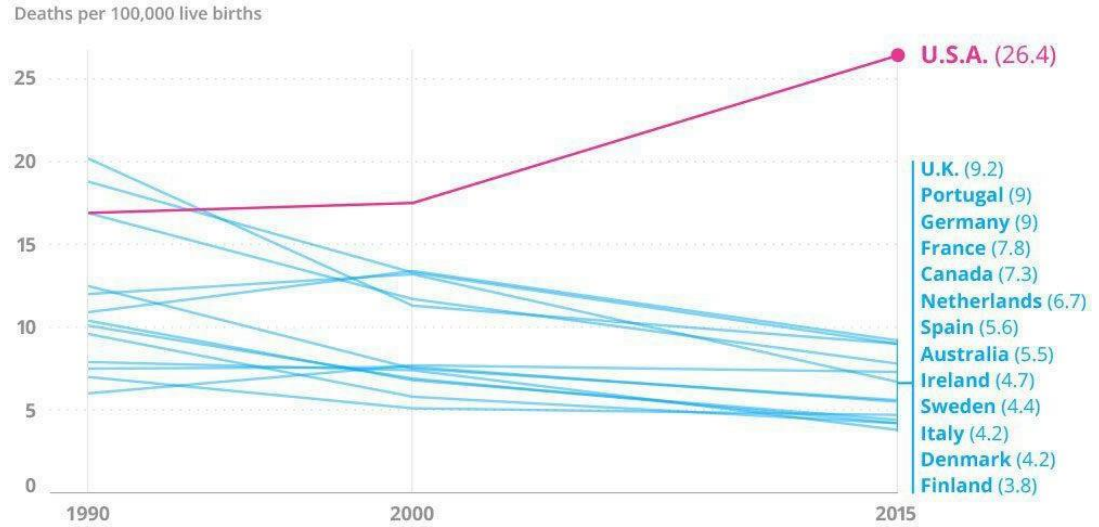
Based on our estimate, medical error is the 3rd most common cause of death in the US

However, we're not even counting this - medical error is not recorded on US death certificates

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**Data source:**  
[http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64\\_02.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf)

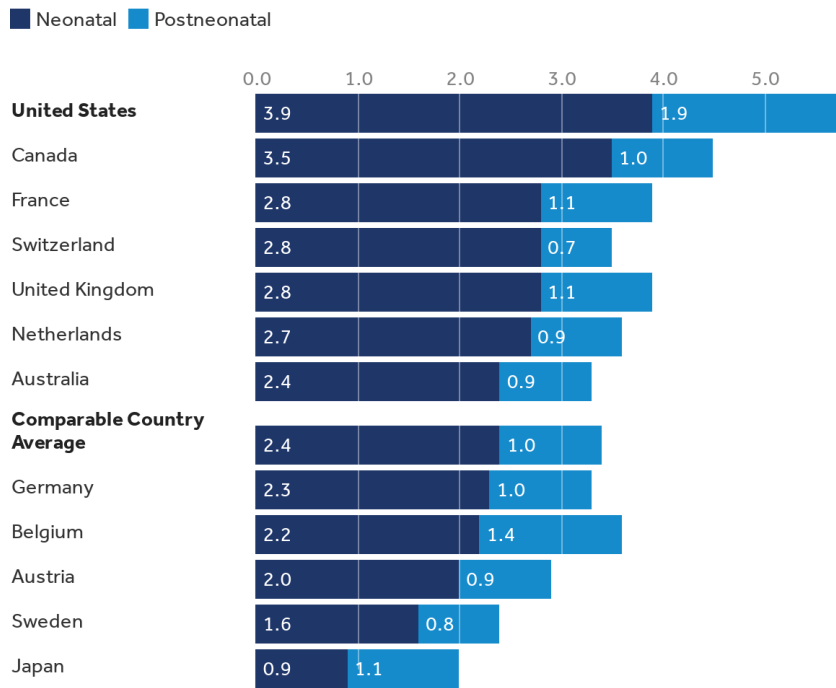
# MATERNAL MORTALITY 2015: U.S.A. vs. other Developed Nations



Data Source: "Global, regional, and national levels of maternal mortality, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015" *The Lancet* (Propublica graphic)

# NEONATAL MORTALITY 2017: U.S.A. vs. other Developed Nations

Neonatal and postneonatal mortality rates (deaths per 1,000 live births), by country, 2017



Note: Some 2017 data for Japan and Belgium estimated using 2016 data

Source: KFF analysis of OECD data

Peterson-Kaiser  
**Health System Tracker**

# IN THE MEDIA: Maternal & Neonatal Mortality

Forbes

## U.S. Maternal And Infant Mortality: More Signs Of Public Health Neglect

Joshua Cohen Contributor

In 2020, the Covid-19 pandemic led to the largest decline in U.S. life expectancy since the Second World War. Yet, prior to the pandemic, the U.S. was already experiencing a decrease in life expectancy, unlike any of its peer nations with comparable Gross Domestic Product (GDP) per capita. Among many factors contributing to this long-term trend is infant and maternal mortality.

The U.S. is the only industrialized nation in the world where maternal mortality is rising. And, the U.S. has nearly the highest maternal mortality rate among high-income countries. Each year, approximately 700 American women die during pregnancy, childbirth or subsequent complications.



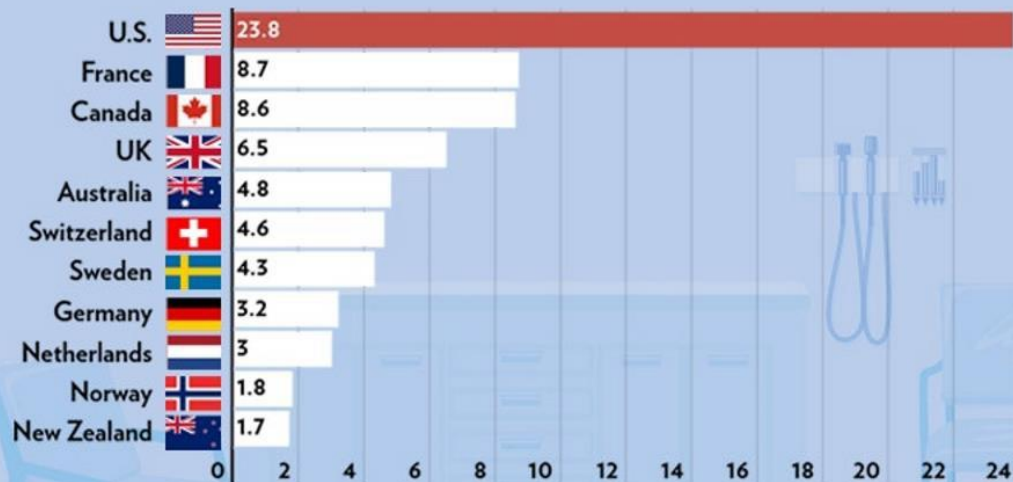
*"Among many factors contributing to this long-term trend [decrease in life expectancy] is infant and maternal mortality"*

## MAJOR CONTRIBUTING FACTORS:

- Social Disparities
- Access to Care
- Chronic Diseases

# MATERNAL MORTALITY 2020: U.S. vs. other Developed Nations

## Maternal Mortality in the U.S. Far Outstrips That of Other Industrialized Nations



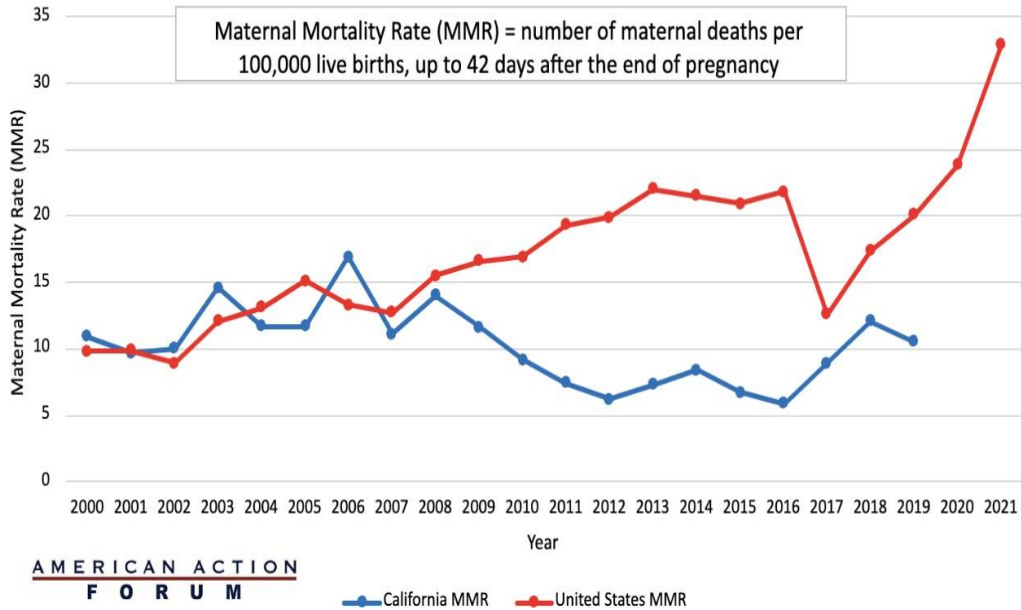
\*Deaths per 100,000 live births

Source: <https://www.cdc.gov/nchs/data/hestat/maternal-mortality/2020/maternal-mortality-rates-2020.htm>



# California Maternal Quality Care Collaborative

## United States vs. California Maternal Mortality Rate



- Established in 2006 by Stanford University School of Medicine and the State of California
- Multi-stakeholder organization committed to ending preventable M&M and racial disparities
- Has seen a 65% decline in maternal mortality between 2006 and 2016



# Combating Maternal Morbidity and Mortality

Alliance for Innovation on Maternal Health (AIM)

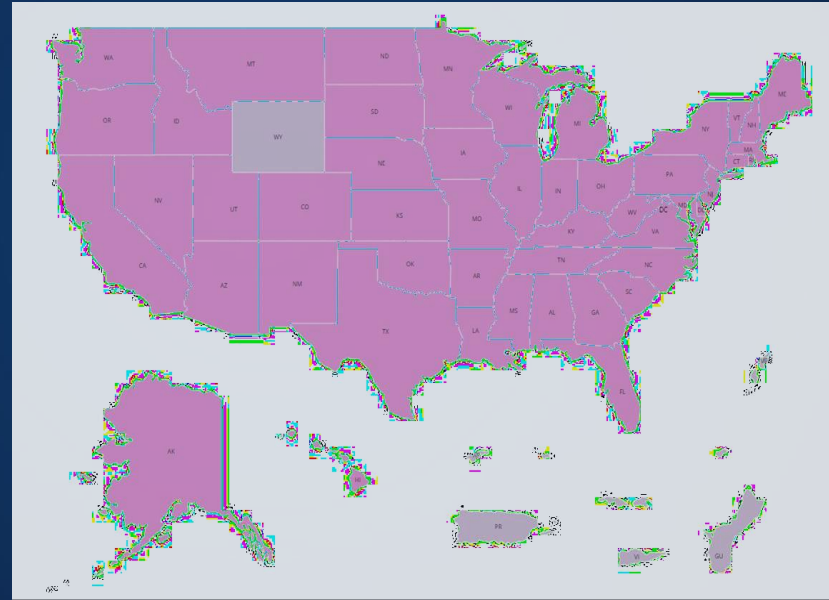
Commitment to Changing the Culture of Medicine

Optimizing Postpartum Care

Levels of Maternal and Neonatal Care

Extend PP Medicaid Coverage

Maternal Health Awareness Day



# Texas and Other States Adopted ACOG's AIM & Selected Maternal Safety Bundles

**TexasAIM** Safe Care for Every Mother

*A program of the Texas Department of State Health Services*



Obstetric Hemorrhage

Severe HTN  
in Pregnancy

Substance  
Use Disorder

# HIGH RELIABILITY

## Helpful Habits and Highlights

An iceberg floating in the ocean. The tip of the iceberg is visible above the water surface, while the much larger, jagged base is submerged underwater. The sky is blue with some clouds, and the water is a deep blue.

### DEFERENCE TO EXPERTISE:

Using Best Practice that is Evidence-based

### HIGH PERFORMANCE PRACTICES:

Teamwork, Standard Communication,  
and Simulation

### CONTINUOUS PROCESS IMPROVEMENT:

Using data and front-line staff to drive  
Quality Initiatives

# Dr. Rakhi Dimino

- Maternal Medical Director, HMWB
- Medical Director of Operations & Hospitalist, OB Hospitalist Group
- President-Elect, Board of Directors, Society of OB/GYN Hospitalists
- Chairman of Reproductive and Perinatal Health, Texas Medical Association
- Faculty, TexasAIM
- Chair of Board of Directors, Pre-Eclampsia Foundation





# Practice Variation



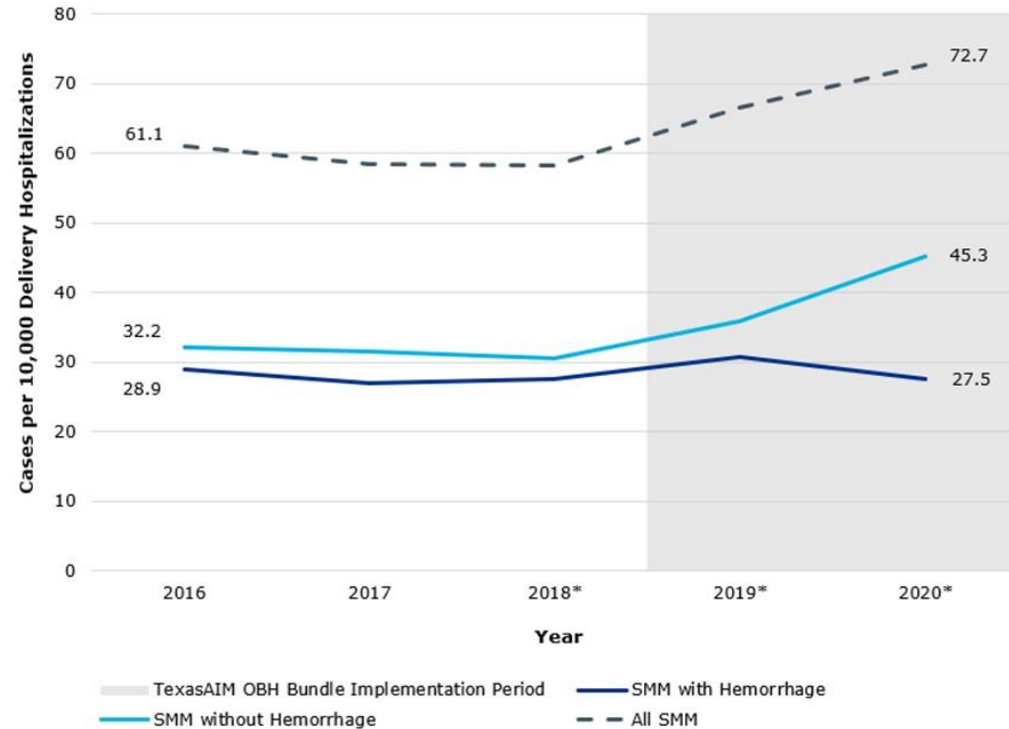
[This Photo](#) by Unknown author is licensed under [CC BY-ND](#).

# Ob Hospitalist Group

Reduction of  
Nulliparous, Term,  
Singleton, Vertex  
C-sections



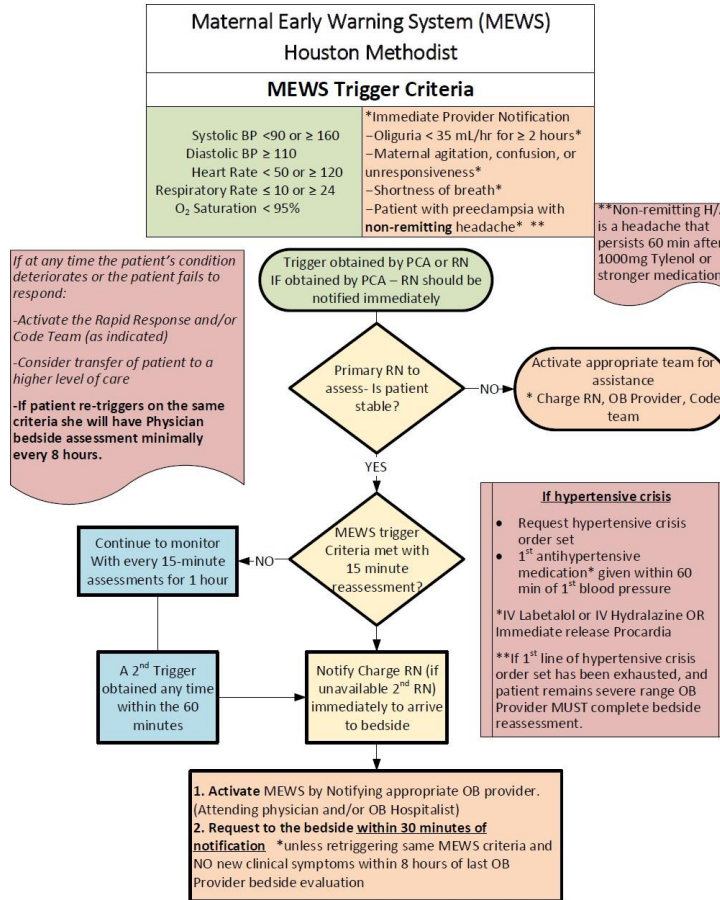
# SMM\* Among Obstetric Hemorrhage Cases During TexasAIM Implementation period



**Texas SMM Among In-Hospital Deliveries with or without Obstetric Hemorrhage per 10,000 Delivery Hospitalizations, 2016-2020**

\*SMM – Severe Maternal Morbidity

# Houston Methodist: Hypertensive Emergency in Pregnant & Postpartum Patients





# Best Practice Committee

Subcommittee of Department

## Who:

**Chairman:** MMD

**Executive Sponsor:** ACQO

### **Physician Members**

- HMWB CQO
- System Ob/Gyn Dept Chair
- HMWB Chief of Staff
- HMWB Department Chair
- NICU Medical Director
- MFM
- Anesthesia Lead
- Physician Group Representatives- PO, NWWC, Kelsey, Independent, Midwife

### **Nurse Members**

- ACNO/ Executive Sponsor Women's Services
- Women's Services Leader-Director/Manager
- MPM
- PPL
- RN4

### **Quality Department Members**

- HMWB Quality Rep
- System Quality Rep

## Why:

To decrease Maternal Morbidity and Mortality by improving Patient Safety and Quality Outcomes in Maternal Care through Standardization of Care using evidence-based medicine.

## What:

- Decreased NTSV Rate
- Decreased Infections
- Decreased PP Hemorrhage
- Improved Diabetes Management
- Improved HTN Management
- Decreased Maternal Mortality (1<sup>st</sup> & 2<sup>nd</sup> trimesters and PP)
- LOS



# Dr. Stacy Norton

- Chief-of-Staff, HMWB
- Faculty, AHA for TeamSTEPPS
- Leader of TeamSTEPPS and Simulation, Houston Methodist
- Faculty, Texas A&M School of Medicine
- Practicing Gynecologist



# Turning you team of Experts into an Expert Team!

- TeamSTEPPS
  - Evidence Based
  - Framework/ Common Language/ Teachable Learnable Skills
- Simulation
  - Allows Practice
  - Teamwork
  - High Risk Low Frequency Events

# TEAM

**T**ogether

**E**veryone

**A**chieves

**M**ore

# TeamSTEPPS

American Hospital Association



## Communication

SBAR, Brief, Debrief

## Knowledge

Situational Monitoring

Shared Mental Model

## Attitudes

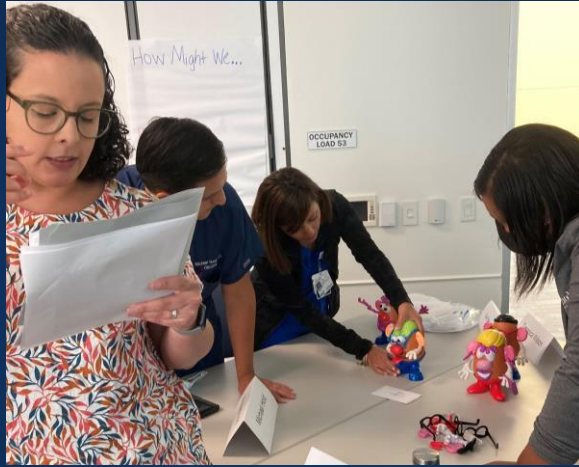
Mutual Trust

## Performance

Efficiency/Safety

Improved Outcomes

# Simulation



Non-Medical  
Concept Solidification / Reinforces Tools  
Fun and Builds on Team Fundamentals



# Low Fidelity Simulation

- Cost-effective
- On Your Unit (in situ)
- Flexible



# High Fidelity Simulation

- Can be costly but worth the investment
- Designated time away from the unit
- Use to train your trainers





# Dr. Athis Arunachalam

- Neonatal Medical Director, HMWB
- Faculty and Leadership Roles, Texas Children's Hospital
- Faculty, Baylor College of Medicine and Texas A&M School of Medicine
- Multiple teaching, patient care, and research awards



# NICU QI projects

NICU Nurse Interrupted-  
Use Lean Principles to  
Drive Change

Value based Hierarchy

Golden Hour  
Intravenous Nutrition

NICU Book Reading  
Program: 'Readers and  
Growers'

Golden Hour  
Intravenous Nutrition: A  
Neonatal Intensive Care  
Unit (NICU) Quality  
Improvement Project

Mother's Own Milk  
Enhancement (MOM-E)  
Project

Breastfeeding Pathway

The Effects of Music  
Therapy in the NICU

Delayed Bathing in Well  
baby Nursery



Friendly Environment



Data Driven Approach



Creating a culture of continuous improvement



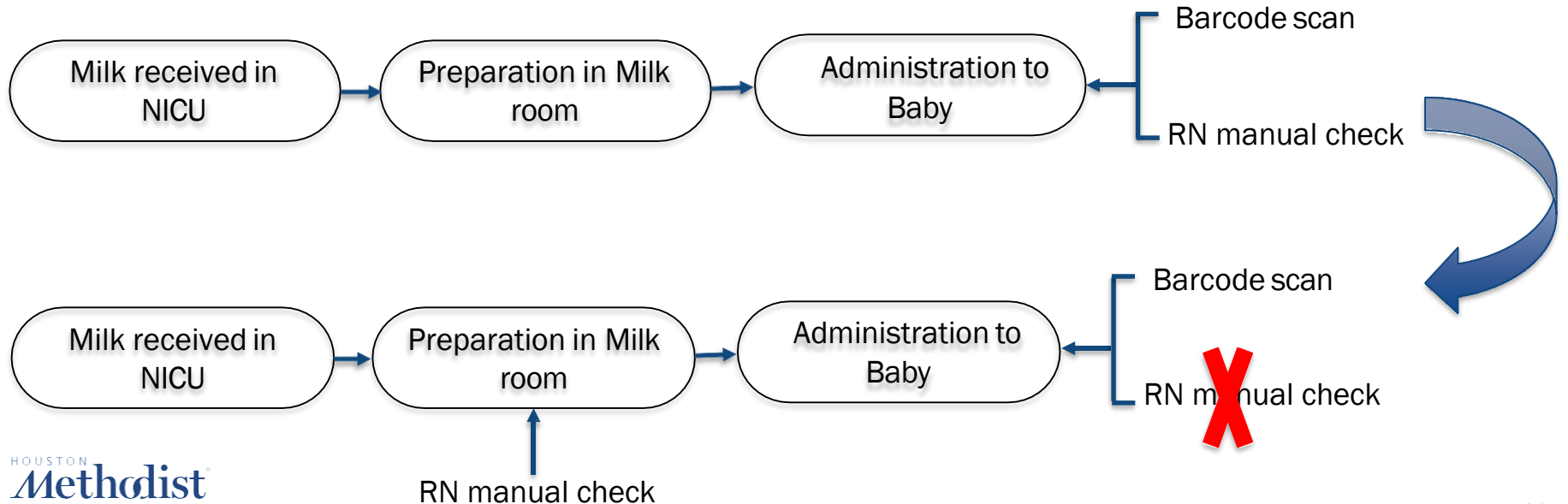
Motivate Staff  
recognition and rewards



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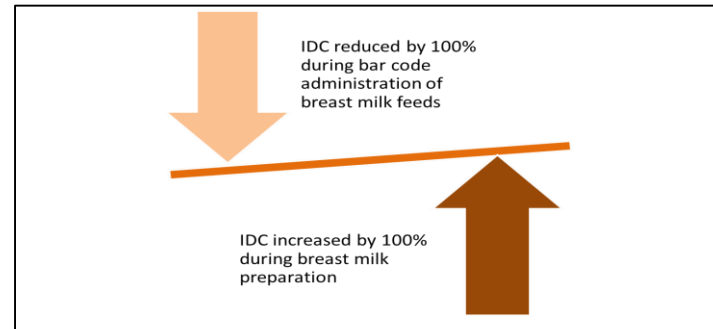
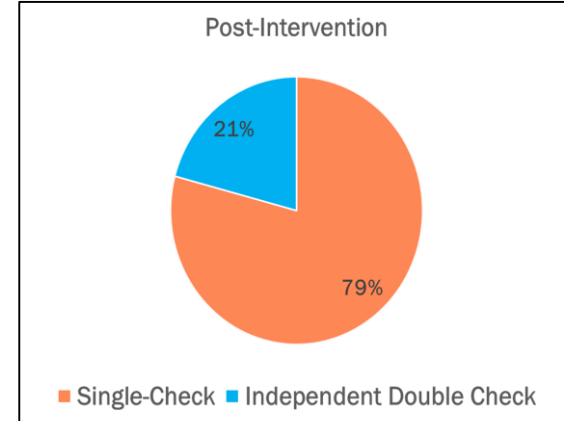
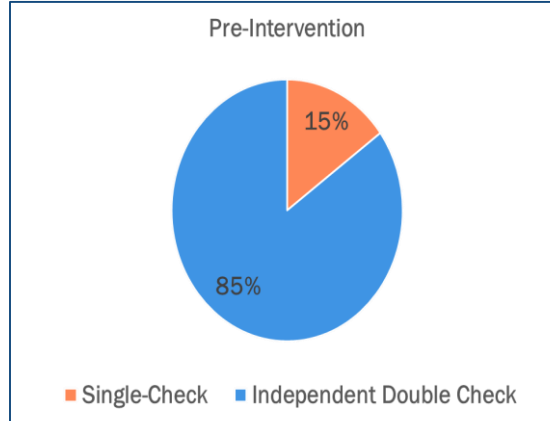
# Nurse Initiated Quality Improvement

- Why do we have to doublecheck when we have barcode scanning process ?
- Process mapping of every step of the milk administration:



# Standardization of Breast Milk Administration

Neonatal Medication and Breast milk administrations in a 30-day period at Houston Methodist Hospital System





# HIGH RELIABILITY

## Helpful Habits and Highlights



### DEFERENCE TO EXPERTISE:

Using Best Practice that is Evidence-based

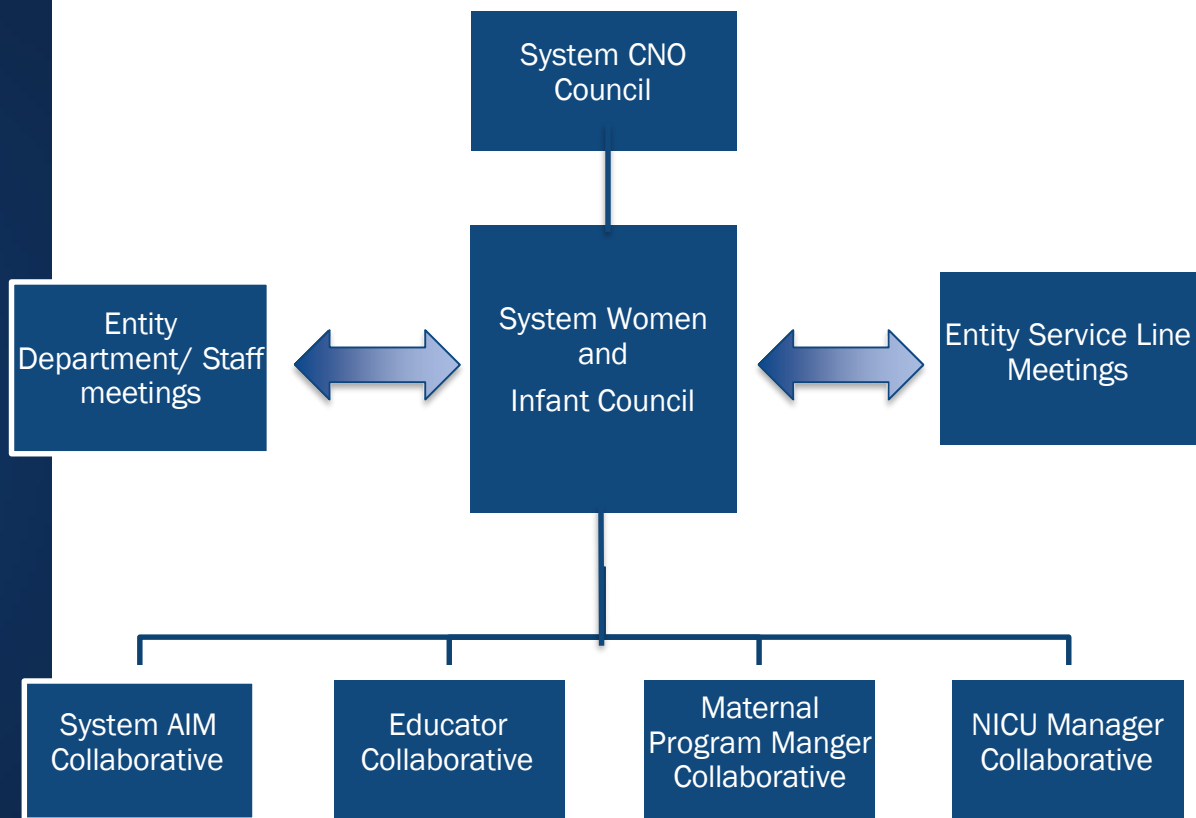
### HIGH PERFORMANCE PRACTICES:

Teamwork, Standard Communication,  
and Simulation

### CONTINUOUS PROCESS IMPROVEMENT:

Using data and front-line staff to drive  
Quality Initiatives

# Houston Methodist Framework for System Women's and Infant's Council



# Questions?

Feel free to also email us regarding any question, suggestion, or comments you may have.

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- Stacy Norton, MD, FACOG  
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- Athis Arunachalam, MD, MA  
[arunacha@bcm.edu](mailto:arunacha@bcm.edu)



# Final Reminders

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- **Evaluation**

- Please complete the evaluation form that appears on your screen once the webinar ends

- **Continuing Education**

- Create a Duke OneLink account if you have not done so
  - Instructions can be downloaded from the Files pod or your registration confirmation email
- Text **VOFDAG** to (919) 213-8033 within 24 hours



**Questions? Stay in Touch!**

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