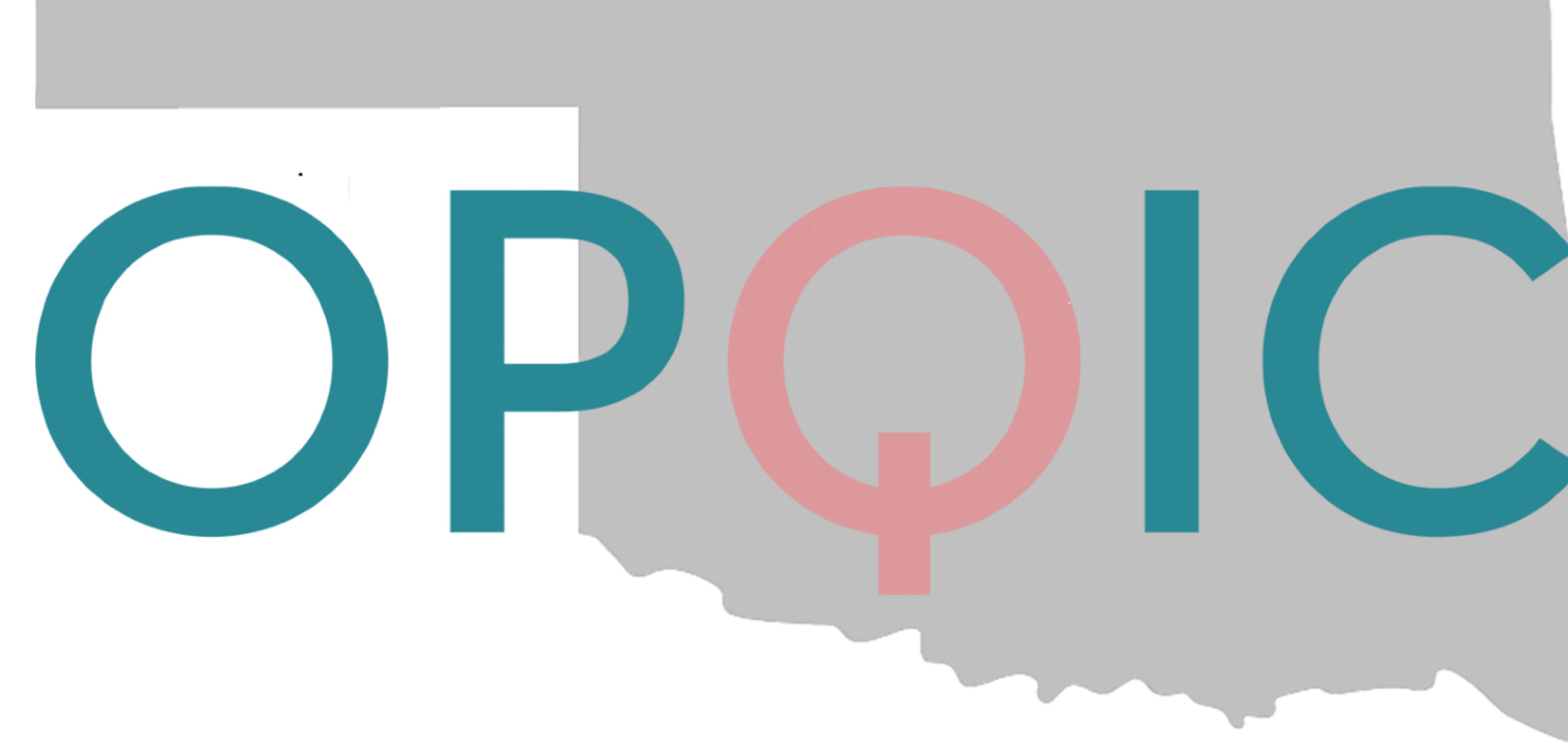


OKLAHOMA PERINATAL QUALITY IMPROVEMENT COLLABORATIVE

Hypertension Bundle Implementation: What you need to know before you begin

Barbara O'Brien, MS, RN

Director, Oklahoma Perinatal Quality Improvement Collaborative

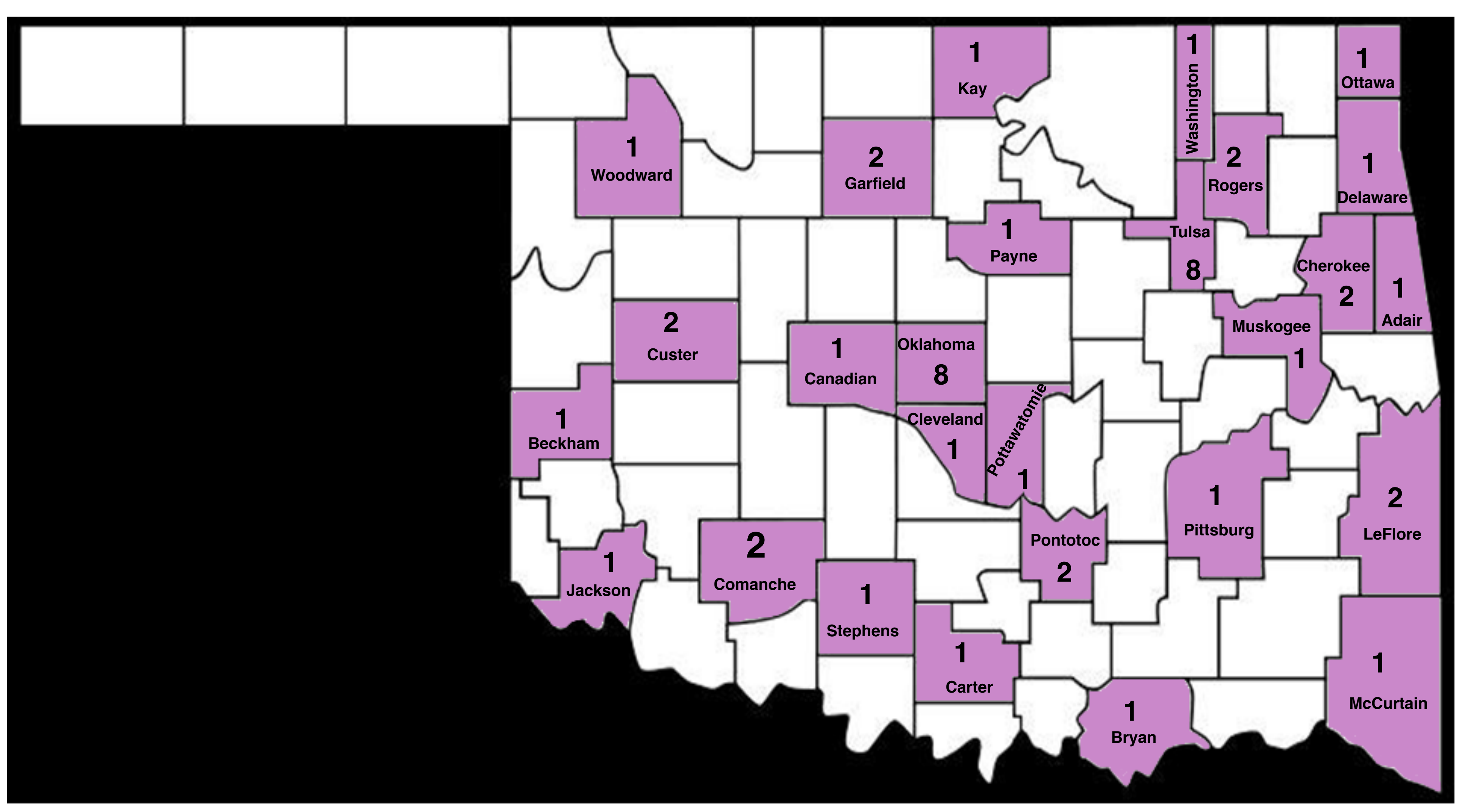
Objectives

- Following the conclusion of this activity,
  - participants will be better able to apply QI principles to successful HTN bundle implementation in their local setting
  - participants will be better able to identify potential barriers of HTN bundle implementation in their local setting.
  - participants will be better able to develop strategies to mitigate potential barriers to HTN bundle implementation in their local setting.

Creating a culture of excellence, safety and equity
in perinatal care

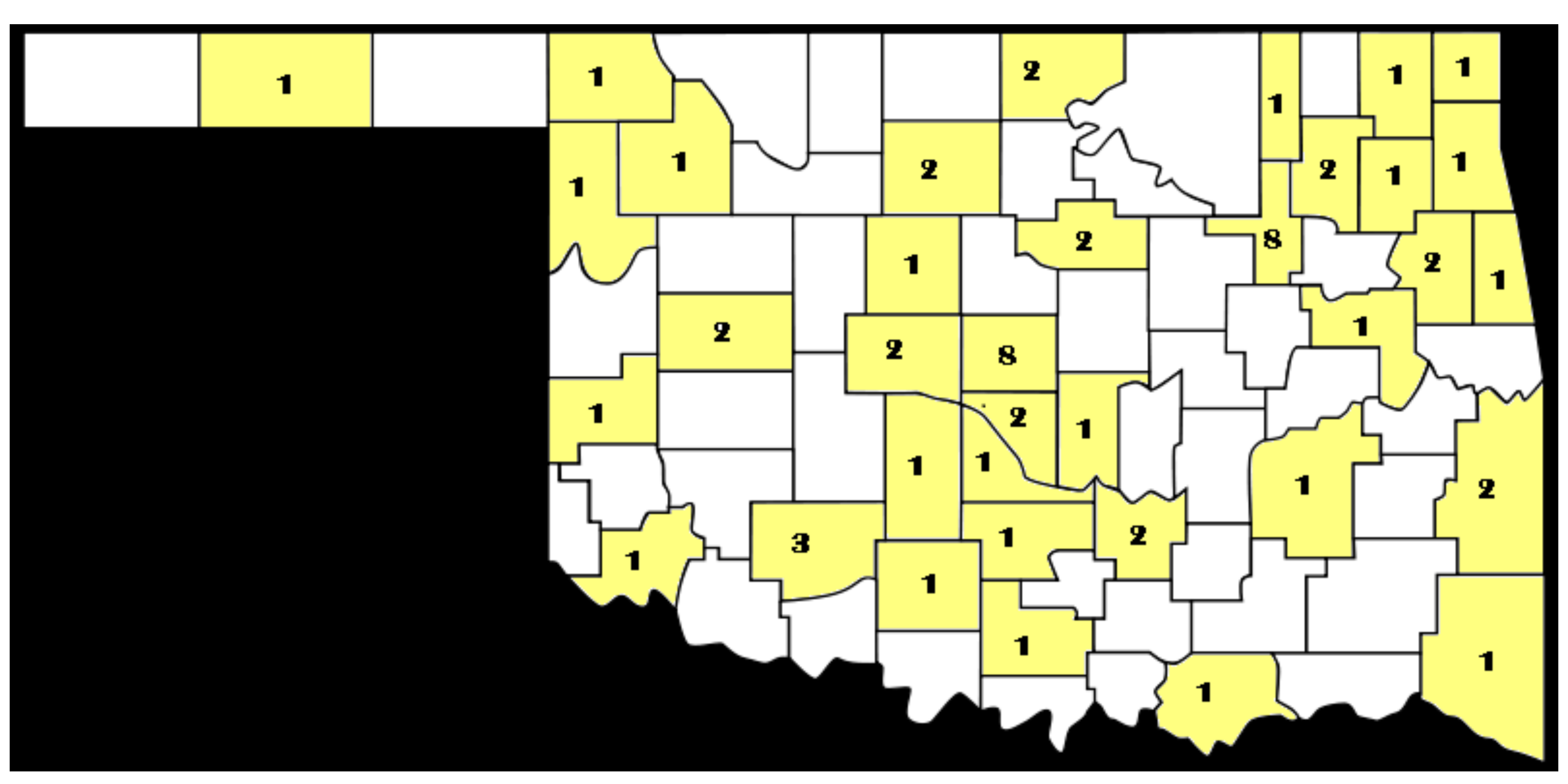
“Perfection is not
attainable, but if we
chase perfection we can
catch excellence.”
~Vince Lombardi~

The Landscape of Perinatal Care in Oklahoma
48 birthing hospitals
58% rural
42% urban
~50,000 annual births
69% in urban hospitals
31% in rural hospitals
From ~30– 4100 annual births
~58% covered by Medicaid



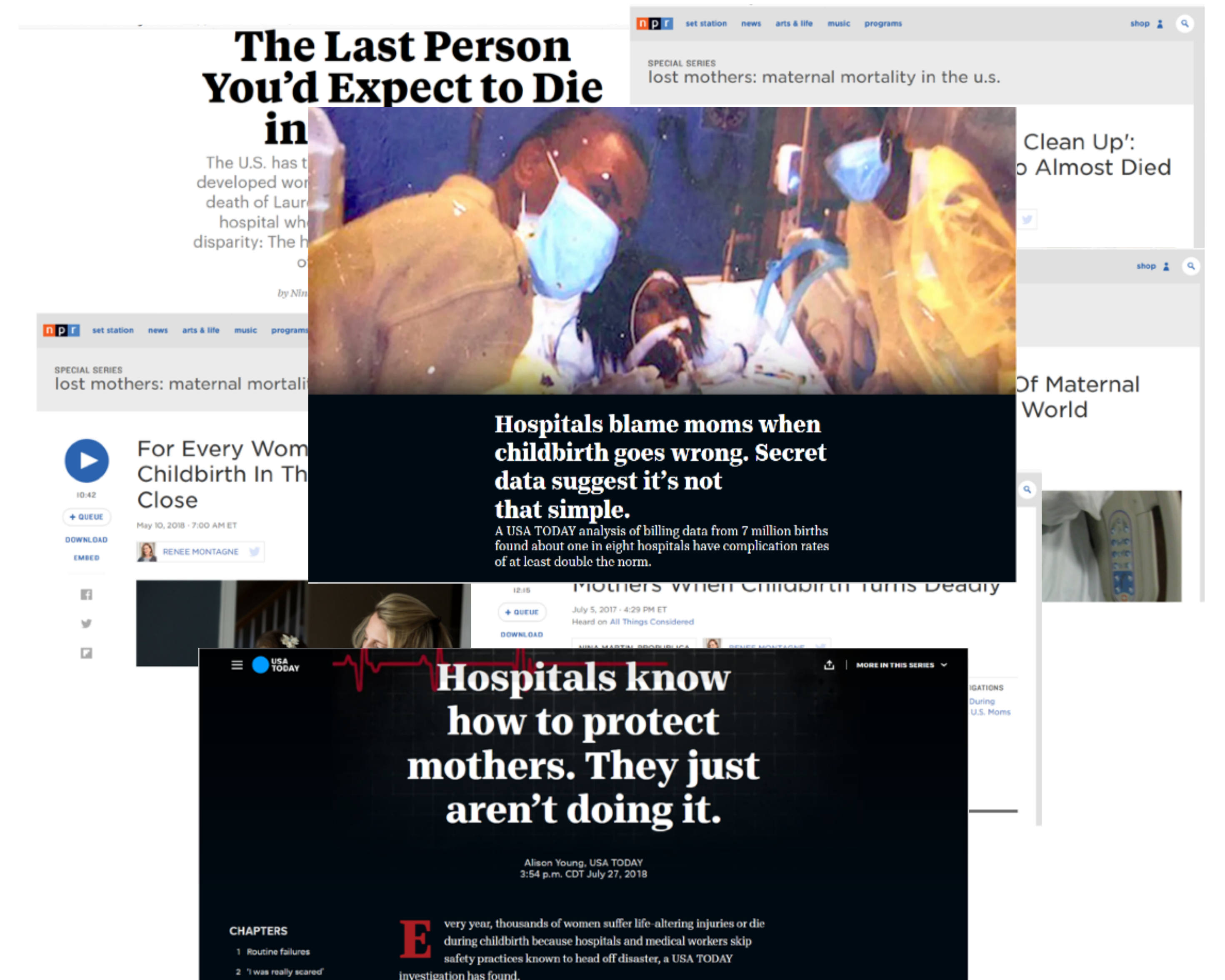
Oklahoma Birthing Hospitals January 2020

Oklahoma Birthing Hospitals 2010



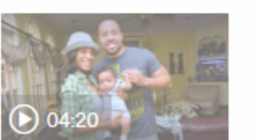
Hypertension Bundle Implementation:
What you need to know before you begin

WHY?



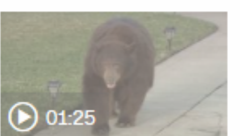
The Last Person You'd Expect to Die in
npr set station news arts & life music programs shop
SPECIAL SERIES
lost mothers: maternal mortality in the u.s.
Clean Up':
Almost Died
Of Maternal
World
For Every Wom
Childbirth In Th
Close
May 10, 2018 · 7:00 AM ET
RENEE MONTAGNE
+ QUEUE
DOWNLOAD
EMBED
Hospitals blame moms when childbirth goes wrong. Secret data suggest it's not that simple.
A USA TODAY analysis of billing data from 7 million births found about one in eight hospitals have complication rates of at least double the norm.
July 5, 2017 · 4:29 PM ET
Heard on All Things Considered
USA TODAY
MORE IN THIS SERIES
Hospitals know how to protect mothers. They just aren't doing it.
Alison Young, USA TODAY
3:54 p.m. CDT July 27, 2018
CHAPTERS
1 Routine failures
2 'I was really scared'
Every year, thousands of women suffer life-altering injuries or die during childbirth because hospitals and medical workers skip safety practices known to head off disaster, a USA TODAY investigation has found.

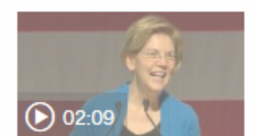
W
m
Amo
By Julia

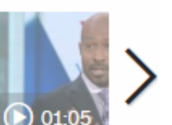

04:20 This father lost his wife during childbirth. Now he's taking action

01:28 Bernie Sanders celebrates Nevada caucus win

00:30 Hikers rescued after more than a week in the forest


01:25 400-pound bear sighted in California neighborhood


02:09 Warren insults Bloomberg after Nevada caucuses


01:05 Van Jones Nevada 'extraoi

When women die in childbirth, these are the fathers left behind

By Jacqueline Howard, CNN

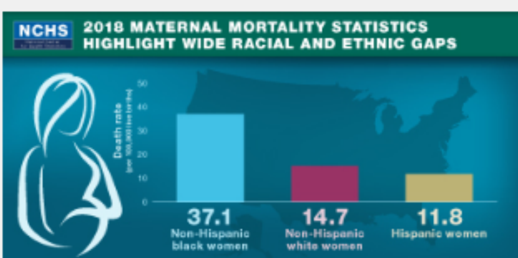
NCHS released maternal mortality statistics for 2018, an extensive review of data quality, and new coding procedures for death certificates based on this review.

https://www.cdc.gov/nchs/maternal-mortality/index.htm

Key Findings

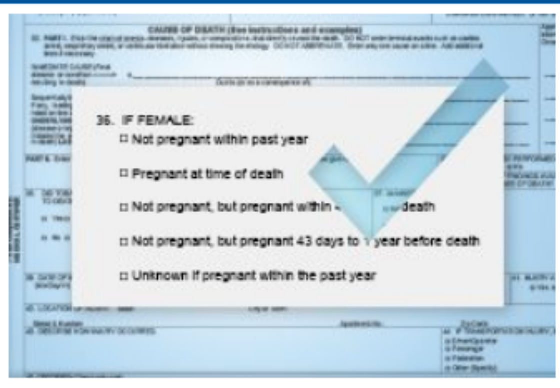
- For 2018, the maternal mortality rate is 17.4 per 100,000 live births in the United States.

- Wide racial and ethnic gaps exist between non-Hispanic black (37.1 deaths per 100,000 live births), non-Hispanic white (14.7), and Hispanic (11.8) women.



Detailed Evaluation of Changes in Data Collection Methods

Implementation of New Coding Methods



Data Files and Resources

Maternal Mortality Reports

Maternal Morbidity and Mortality: *Original Research*

Systolic Hypertension, Preeclampsia-Related Mortality, and Stroke in California

Amy E. Judy, MD, MPH, *Christy L. McCain,* MPH, *Elizabeth S. Lawton,* MHS, *Christine H. Morton,* PhD, *Elliott K. Main,* MD, *and Maurice L. Druzin,* MD

OBJECTIVE: To describe the clinical characteristics of stroke and opportunities to improve care in a cohort of preeclampsia-related maternal mortalities in California.

METHODS: The California Pregnancy-Associated Mortality Review retrospectively examined a cohort of preeclampsia pregnancy-related deaths in California from 2002 to 2007. Stroke cases were identified among preeclampsia deaths, and case summaries were reviewed with attention to clinical variables, particularly hypertension. Health care provider– and patient-related contributing factors were also examined.

RESULTS: Among 54 preeclampsia pregnancy-related deaths that occurred in California from 2002 to 2007, 33 were attributed to stroke. Systolic blood pressure exceeded 160 mm Hg in 96% of cases, and diastolic blood pressure was 110 or higher in 65% of cases. Hemolysis, elevated liver enzymes, and low platelet count syndrome was present in 38% (9/24) of cases with available laboratory data; eclampsia occurred in 36% of cases. Headache was the most frequent symptom (87%) preceding stroke. Elevated liver transaminases were the most common laboratory abnormality (71%). Only 48% of women received antihypertensive treatment. A good-to-strong chance to alter outcome was identified in stroke cases 66% (21/32), with delayed response to clinical warning signs in 91% (30/33) of cases and ineffective treatment in 76% (25/33) cases being the most common areas for improvement.

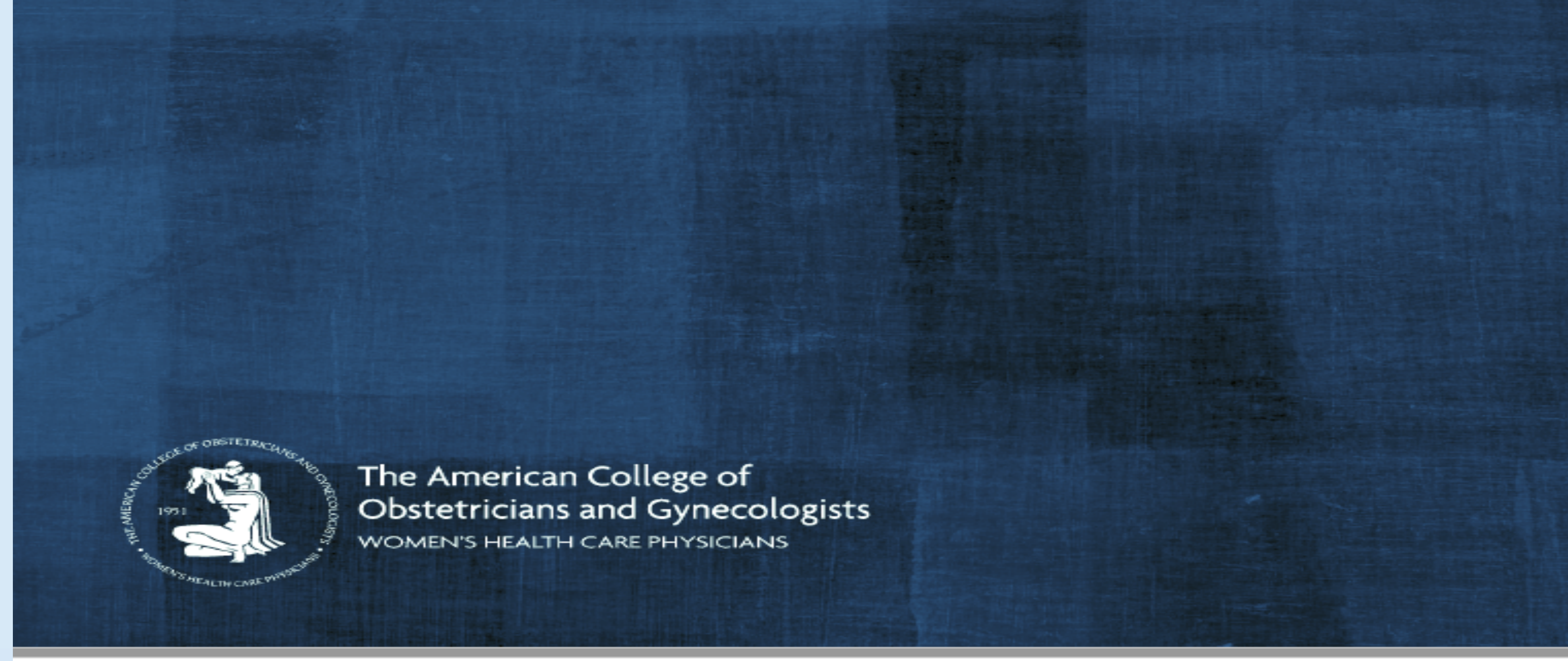
CONCLUSION: Stroke is the major cause of maternal mortality associated with preeclampsia or eclampsia. All but one patient in this series of strokes demonstrated severe elevation of systolic blood pressure, whereas other variables were less consistently observed. Antihypertensive treatment was not implemented in the majority of cases. Opportunities for care improvement exist and may significantly affect maternal mortality.

(Obstet Gynecol 2019;133:1151–9)
DOI: 10.1097/AOG.0000000000003290

Hypertensive disorders of pregnancy are a major

2013

HYPERTENSION IN PREGNANCY



ACOG PRACTICE BULLETIN

Clinica

NUMBER 202

Committee on Practice Bulleti
Gynecologists' Committee o
MPH; Christian M. Pettker,

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INTERIM UPDATE

The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

ACOG COMMITTEE OPINION

(Replaces Committee Opinion Number 692, September 2017)

767

Obstetric Practice

…the American College of Obstetricians and Gynecologists' Committee on Obstetric Practice in collaboration … Sayed, MD, and Ann E. Borders, MD, MSc, MPH.

…is updated as highlighted to align with the American College of … gestational hypertension, preeclampsia, and chronic hypertension in

…Severe …e Postpartum

…hypertension; or both can occur …n in the postpartum period … both require urgent

…ety …egnancy

…E. Shields, MD, …ton, PhD,

…ent Safety in

ACOG PRACTICE BULLETIN

Clinical Management Guidelines for Obstetrician–Gynecologists

NUMBER 203

Committee on Practice Bulletins—Obstetrics. This Practice Bulletin was developed by the American College of Obstetricians and Gynecologists' Committee on Practice Bulletins—Obstetrics in collaboration with Alex Vidaeff, MD, MPH; Jimmy Espinoza, MD, MSc; Hyagriv Simhan, MD; and Christian M. Pettker, MD.

Chronic Hypertension in Pregnancy

Chronic hypertension is present in 0.9–1.5% of pregnant women (1) and may result in significant maternal, fetal, and neonatal morbidity and mortality. The rate of maternal chronic hypertension increased by 67% from 2000 to 2009, with the largest increase (87%) among African American women. This increase is largely secondary to the obesity

Downloaded from https://journals.lww.com/greenjournal by BhDMf5ePHK

Council on Patient Safety in Women's Health Care

Patient Safety Tools and Bundles

Alliance for Innovation in Maternal Health (AIM)

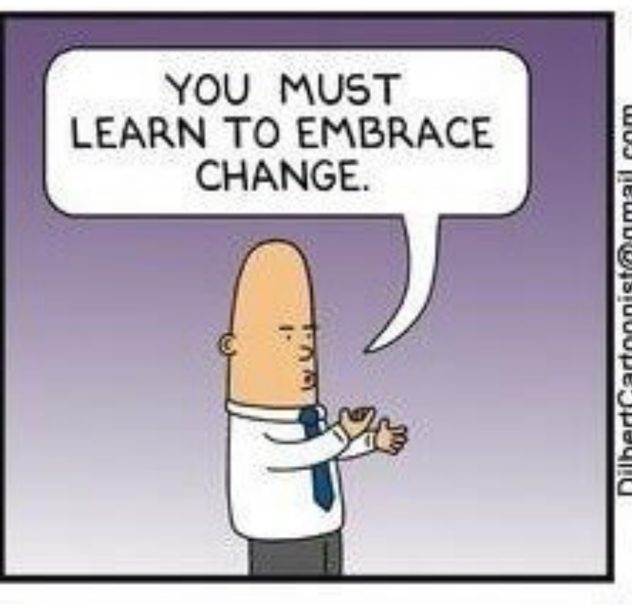
Council Member Organizations

American Association of Nurse Anesthetists
American Board of Obstetrics and Gynecology
American College of Nurse-Midwives
American Academy of Family Physicians
American College of Osteopathic Obstetricians & Gynecologists
American College of Obstetricians and Gynecologists
American Society of Anesthesiologists
American Society for Reproductive Medicine
Advancing Female Pelvic Medicine and Reconstructive Surgery
Association of Women's Health, Obstetric, and Neonatal Nurses
Nurse Practitioners in Women's Health
Patient Advocates
Preeclampsia Foundation
Society for Academic Specialists in General Obstetrics and Gynecology
Society of Gynecologic Oncology
Society of Gynecologic Surgeons
Society for Maternal Fetal Medicine
Society for Obstetric Anesthesia and Perinatology
Society of OB/GYN Hospitalists

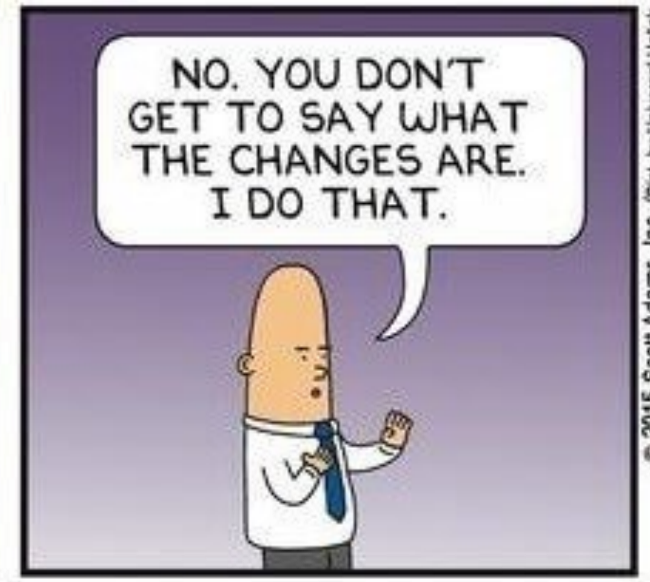
- Disseminate 9 OB Patient Safety Bundles
- 2 Gyn bundles
- Severe Maternal Morbidity Review and Reporting Forms
- Maternal Early Warning
- QI implementation

- **National data-driven maternal safety and quality improvement initiative** based on proven implementation approaches to improving maternal safety and outcomes in the U.S
- AIM works through state teams and health systems to align national, state, and hospital level quality improvement efforts
- AIM is funded through a cooperative agreement with the Maternal and Child Health Bureau (MCHB)-Health Resource Services Administration

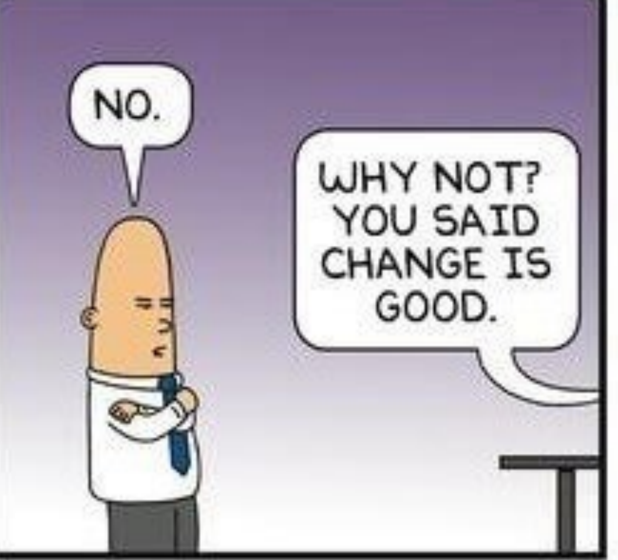
Collect and enter hospital level data to measure performance


YOU MUST LEARN TO EMBRACE CHANGE.

DilbertCartoonist@gmail.com
CAN WE CHANGE ANYTHING WE WANT TO CHANGE?


NO. YOU DON'T GET TO SAY WHAT THE CHANGES ARE. I DO THAT.
© 2015 Scott Adams, Inc. /Dist. by Universal Uclick

WILL THAT SITUATION EVER CHANGE?


NO.
WHY NOT? YOU SAID CHANGE IS GOOD.

CHANGE IS GOOD.

FOR OTHER PEOPLE.
www.dilbert.com
12-13-15

SO EMBRACE IT OR I'LL FIRE YOU.
WE LOVE CHANGE!!!

https://safehealthcareforeverywoman.org/

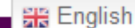
About Us | Patient Safety Bundles | Patient Safety Tools | Get Involved | Safety Action Series | Voices of Impact | AIM Program

English

ABOUT THE COUNCIL

PATIENT SAFETY BUNDLES

AIM PROGRAM



IMPLEMENTING QUALITY IMPROVEMENT PROJECTS

The Implementing Quality Improvement Projects Toolkit was developed to help health care teams successfully implement Council products, such as patient safety bundles. Through the use of the toolkit the Council aims to help health care organizations institute long-term change that results in improved outcomes.

- Implementing Quality Improvement Projects Toolkit

https://safehealthcareforeverywoman.org/patient-safety-tools/implementing-quality-improvement-projects/

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All other uses require written permission from ACOG. Standardization of health care processes and reduced variation has been shown to improve outcomes and quality of care. The Council on Patient Safety in Women's Health Care disseminates patient safety bundles and toolkits to help facilitate the standardization process. This toolkit reflects emerging clinical, scientific, and patient safety advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed. Although the components of a particular toolkit may be adapted to local resources, standardization within an institution is strongly encouraged.

The Council on Patient Safety in Women's Health Care is a broad consortium of organizations across the spectrum of women's health for the promotion of safe health care for every woman.

May 2016

EVENTS

Home // Events

Safety Action Series

The Council on Patient Safety in Women's Health Care is pleased to sponsor and convene the Safety Action Series. The Series is comprised of free teleconferences on various topics relevant to promoting a culture of safety in women's health care. The series is designed to be interactive and collaborative, with ample time allotted during each session for audience participation.

Past Events

https://safehealthcareforeverywoman.org/events/list/?tribe_paged=1&tribe_event_display=past&tribe_

Oklahoma Perinatal Quality Improvement Collaborative

www.opqic.org

AIM

The Alliance for Innovation on Maternal Health (AIM) is a national partnership of organizations poised to reduce severe maternal morbidity by 100,000 events and maternal mortality by 1,000 deaths by 2018. The AIM program is funded through a cooperative agreement with the Maternal and Child Health Bureau/Health Resource Services Administration.

Oklahoma is the first state to join the AIM initiative in conjunction with the OPQIC Every Mother Counts collaborative.

NEW AIM RESOURCES!

- *NEW!* AWHONN Maternal Mortality Resources
- Hemorrhage Bundle Implementation Research and Resources
- Hypertension Bundle Implementation Research and Resources

(Please note: To watch the videos below, please use Windows 10 Internet Explorer, Microsoft Edge or another web browser like Mozilla FireFox or Google Chrome.)

AIM Webcast: Treating Maternal Hypertension

https://opqic.org/aim/

HYPERTENSION IN PREGNANCY

Every Mother Counts aims to improve each hospital's readiness for, recognition of, response to and reporting of severe hypertension. This will be accomplished through the implementation of the Severe Hypertension Patient Safety Bundle. Registration is required to access the bundle for tracking purposes.

There are many links to resources that can be accessed through the bundle. Please use the resources that are listed in the bundle.

READINESS:

NEW! Hypertension Bundle Implementation Research and Resources
Severe Hypertension Patient Safety Bundle (Council on Patient Safety in Women's Healthcare)
Hypertension in Pregnancy ACOG Task Force Report
Patient Education Resource from the Preeclampsia Foundation
7 Symptoms Every Pregnant Woman Should Know Video
Hypertension Driver Diagram Appendix B
Hypertension in Pregnancy-Readiness Assessment

RECOGNITION:

Preeclampsia Early Recognition Tool (PERT)
Accurate Blood Pressure Measurement
Accurate BP Flyer
Hypertension in Pregnancy-Recognition Assessment

https://opqic.org/initiatives/emc/hypertension/

RESPONSE:

ACOG Committee Opinion 692: Emergent Therapy for Acute-Onset, Severe Hypertension During Pregnancy and the Postpartum Period
Maternal Mental Health Resources
AIM FAQ Topic: Treatment for Acute Onset Severe HTN (by Elliot Main)
Preeclampsia Toolkit (CMQCC)
Hypertension in Pregnancy-Response Assessment
Patient, Family, and Staff Support (Council on Patient Safety in Women's Healthcare)

REPORTING:

Severe Maternal Morbidity Facility Review Forms (Council on Patient Safety in Women's Healthcare)

AT THE STRATEGIC PLANNERS PLANNING MEETING
SO—THE AGENDA TODAY IS...
WAIT... BEFORE WE SET THE AGENDA WE NEED TO DETERMINE OUR GOALS FOR THIS MEETING.
BEFORE WE SET GOALS WE NEED TO MAP OUT OUR CORE STRATEGY FOR DETERMINING THEM.
FIRST WE SHOULD PLAN A STRATEGY FOR STRATEGICALLY PLANNING OUR PLANNING PROCESS TO DETERMINE OUR GOALS.

WHAT'S DIFFERENT ABOUT THE HYPERTENSION BUNDLE?

PATIENT SAFETY BUNDLE

Hypertension

READINESS

Every Unit

- Standards for early warning signs, diagnostic criteria, monitoring and treatment of severe preeclampsia/eclampsia (include order sets and algorithms)
- Unit education on protocols, unit-based drills (with post-drill debriefs)
- Process for timely triage and evaluation of pregnant and postpartum women with hypertension including ED and outpatient areas
- Rapid access to medications used for severe hypertension/eclampsia: Medications should be stocked and immediately available on L&D and in other areas where patients may be treated. Include brief guide for administration and dosage.
- System plan for escalation, obtaining appropriate consultation, and maternal transport, as needed

RECOGNITION & PREVENTION

Every Patient

- Standard protocol for measurement and assessment of BP and urine protein for all pregnant and postpartum women
- Standard response to maternal early warning signs including listening to and investigating patient symptoms and assessment of labs (e.g. CBC with platelets, AST and ALT)
- Facility-wide standards for educating prenatal and postpartum women on signs and symptoms of hypertension and preeclampsia

PATIENT SAFETY BUNDLE

Hypertension

RESPONSE

Every case of severe hypertension/preeclampsia

- Facility-wide standard protocols with checklists and escalation policies for management and treatment of:
  - Severe hypertension
  - Eclampsia, seizure prophylaxis, and magnesium over-dosage
  - Postpartum presentation of severe hypertension/preeclampsia
- Minimum requirements for protocol:
  - Notification of physician or primary care provider if systolic BP =/> 160 or diastolic BP =/> 110 for two measurements within 15 minutes
  - After the second elevated reading, treatment should be initiated ASAP (preferably within 60 minutes of verification)
  - Includes onset and duration of magnesium sulfate therapy
  - Includes escalation measures for those unresponsive to standard treatment
  - Describes manner and verification of follow-up within 7 to 14 days postpartum
  - Describe postpartum patient education for women with preeclampsia
- Support plan for patients, families, and staff for ICU admissions and serious complications of severe hypertension

REPORTING/SYSTEMS LEARNING

Every unit

- Establish a culture of huddles for high risk patients and post-event debriefs to identify successes and opportunities
- Multidisciplinary review of all severe hypertension/eclampsia cases admitted to ICU for systems issues
- Monitor outcomes and process metrics

PATIENT SAFETY BUNDLE

Hypertension

RESPONSE

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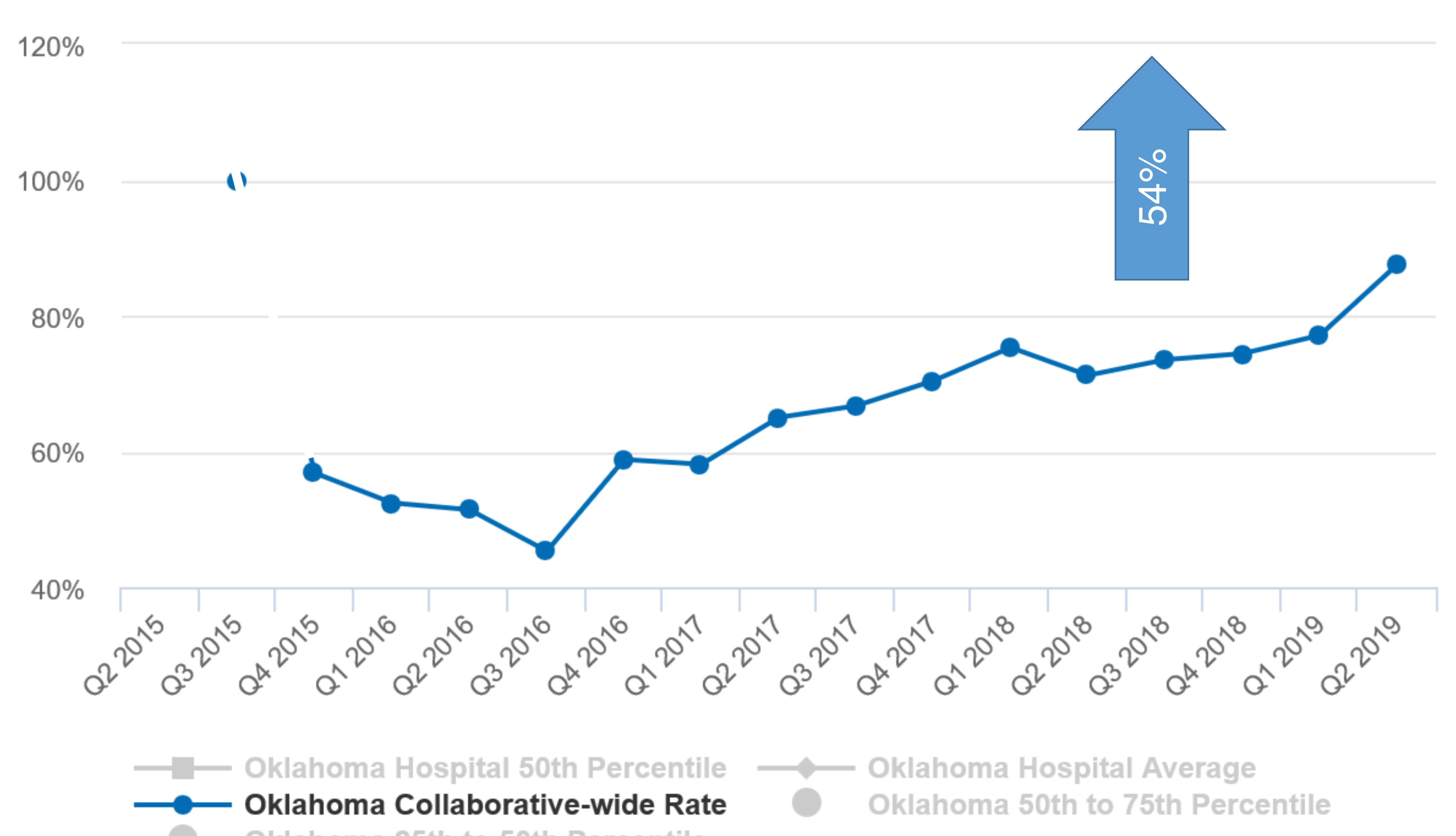
Timely Treatment of Severe HTN
120%
100%
80%
60%
40%
54%
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016
Q4 2016
Q1 2017
Q2 2017
Q3 2017
Q4 2017
Q1 2018
Q2 2018
Q3 2018
Q4 2018
Q1 2019
Q2 2019
Oklahoma Hospital 50th Percentile
Oklahoma Hospital Average
Oklahoma Collaborative-wide Rate
Oklahoma 50th to 75th Percentile

WHY DON'T WE TREAT THE SEVERE HYPERTENSION?

Women die because they do not receive early, effective, and aggressive lifesaving treatments.

California Department of Public Health (2011). The California pregnancy associated mortality review: Report from 2002 and 2003 Maternal Death Reviews.

BELIEVE IT

TREAT IT

Three Easy Steps

1. Take an accurate blood pressure
   - Consider clinical context to obtain accurate BP
   - Verify within 15 minutes
2. Obtain order from provider
   - In the meantime, gain IV access
   - Have medications available on unit
3. If severe (systolic ≥ 160 mmHg OR diastolic ≥ 110 mmHg), treat within 30-60 minutes, 30 min if possible
   - Initiate protocol
     - One standard protocol simplifies things

- Severe HTN is a hypertensive crisis!
- Listen to Patient!
- Treatment of Severe HTN is 1st priority
  - Begin magnesium sulfate therapy next, if needed

Potential Bumps in the Road

- Chronic Hypertension
  - Recommended to treat acute severe HTN
- Outpatient
  - Send to hospital for treatment
- Difficulty obtaining IV Access
  - Goal is to treat within 60 minutes
  - Notify provider if unable to meet this goal
- Emergency Department
  - Ensure standard protocol exists for entire hospital
  - Transfer to OB unit unless clinical situation necessitates she remains in ED
    - Obtain OB consult
- Postpartum
  - Ensure women receive education and follow-up appointment scheduled at discharge
  - Work with ED to ensure treatment of postpartum women

DATA REPORTING

PATIENT SAFETY BUNDLE

Hypertension

RESPONSE

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Identifying Patients

- EMR query
- Pharmacy records
- Medication dispenser record
- Delivery log
- Real-time data collection
- Others?

Coding

- Ensure clinicians are educated by coders on proper documentation
- At the state level, check for outliers and communicate with them

LISTENING TO WOMEN AND FAMILIES

Symptoms

- Headache that won't go away
- Visual disturbances (seeing spots or auras)
- Epigastric pain (upper right quadrant)
- Nausea/vomiting (2H pregnancy)
- Sudden weight gain (5 lbs+ in a week)
- Breathlessness (panting, difficulty breathing)
- Swelling of the face or hands
- "Just not feeling right"; unexplained "anxiety"

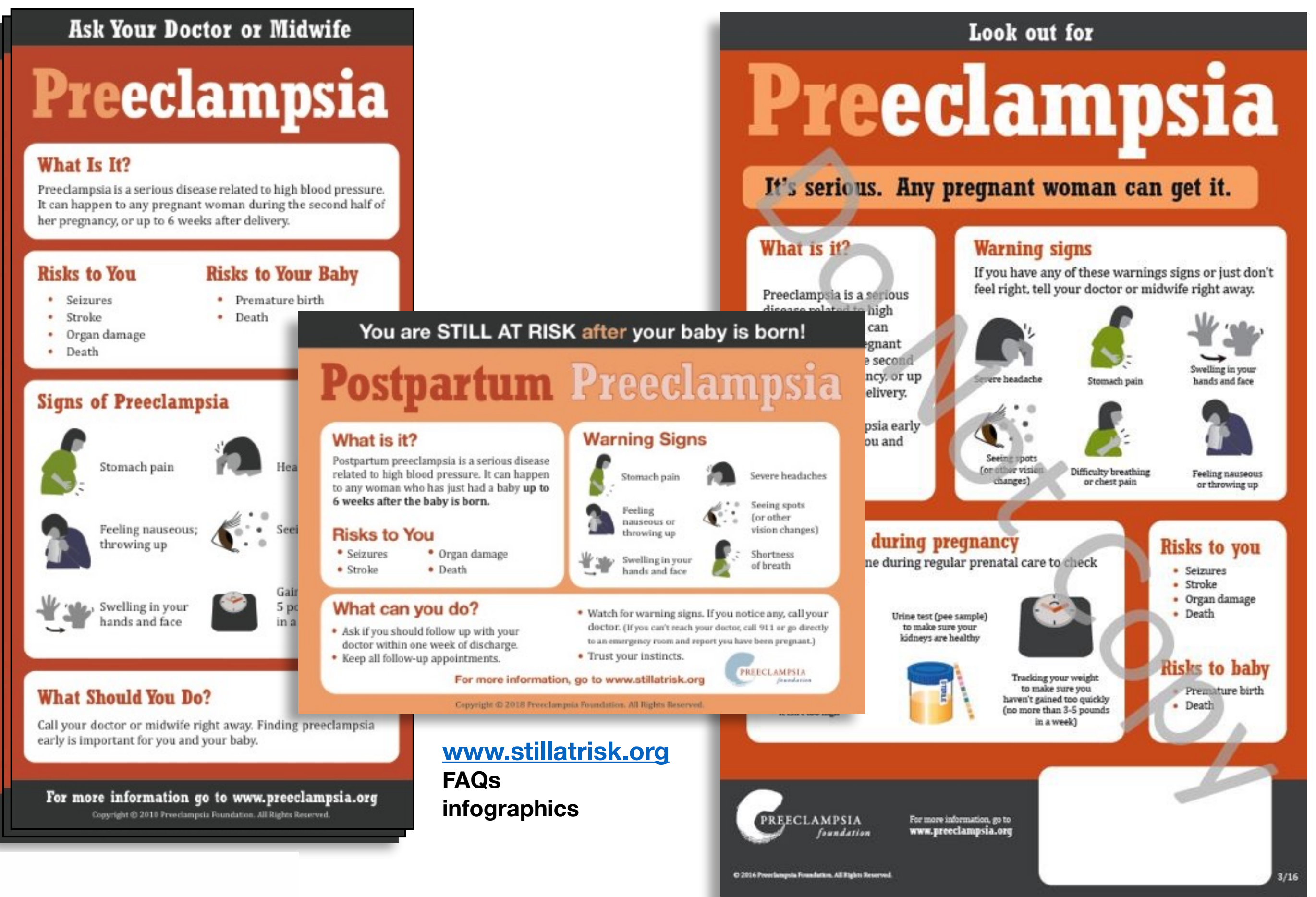
Clinical Care Basics for Preeclampsia: Where Patients Tell Us We're Failing

- Diagnose accurately and quickly
- Treat severe high blood pressure
- Expectant management (too soon/too late)
- Educate mom about and monitor post-partum preeclampsia
- *Pre-conception* and *early pregnancy* risk assessment
- *Prenatal* patient education and aspirin prophylaxis guidance
- *Postpartum* PTSD/mental health support (including dad!)
- Education and a care plan for *long-term* effects of preeclampsia
- *Listening to mothers* (or their support partners)

Patient Education Toolkit (print & digital)

Tearpad

Poster



www.stillatrisk.org
FAQs
infographics

Video available in English and Spanish on YouTube™ or for adding to your website

These and other patient education materials are available in multiple languages

www.preeclampsia.org/store

You W, et al. Improving patient understanding of preeclampsia: a randomized controlled trial. Am J Obstet Gynecol 2012.

© 2017 Preeclampsia Foundation

Infographic

With interest, we'll produce this as a tearpad

Take Heart

Take Care

Preeclampsia may lead to heart disease, stroke, and high blood pressure

Know the Facts

5% to 8%

One in Every 12 Pregnancies

Preeclampsia (including eclampsia and HELLP syndrome) impacts 5% to 8% of all pregnancies

2x to 4x

Know Your High Risks

Preeclampsia doubles your risk of heart disease and stroke, and quadruples your risk of high blood pressure later in life

2 out of 3

women who experience preeclampsia will die from cardiovascular disease

At higher risk...

If you have had preeclampsia and:

- ✔ delivered pre-term
- ✔ had low-birth weight babies
- ✔ suffered from severe preeclampsia more than once

Take Heart Take Care

You Can Lower Your Risk

A history of preeclampsia doesn't mean you'll definitely develop cardiovascular problems, especially if you take the higher risk to heart and make changes today for a healthier tomorrow

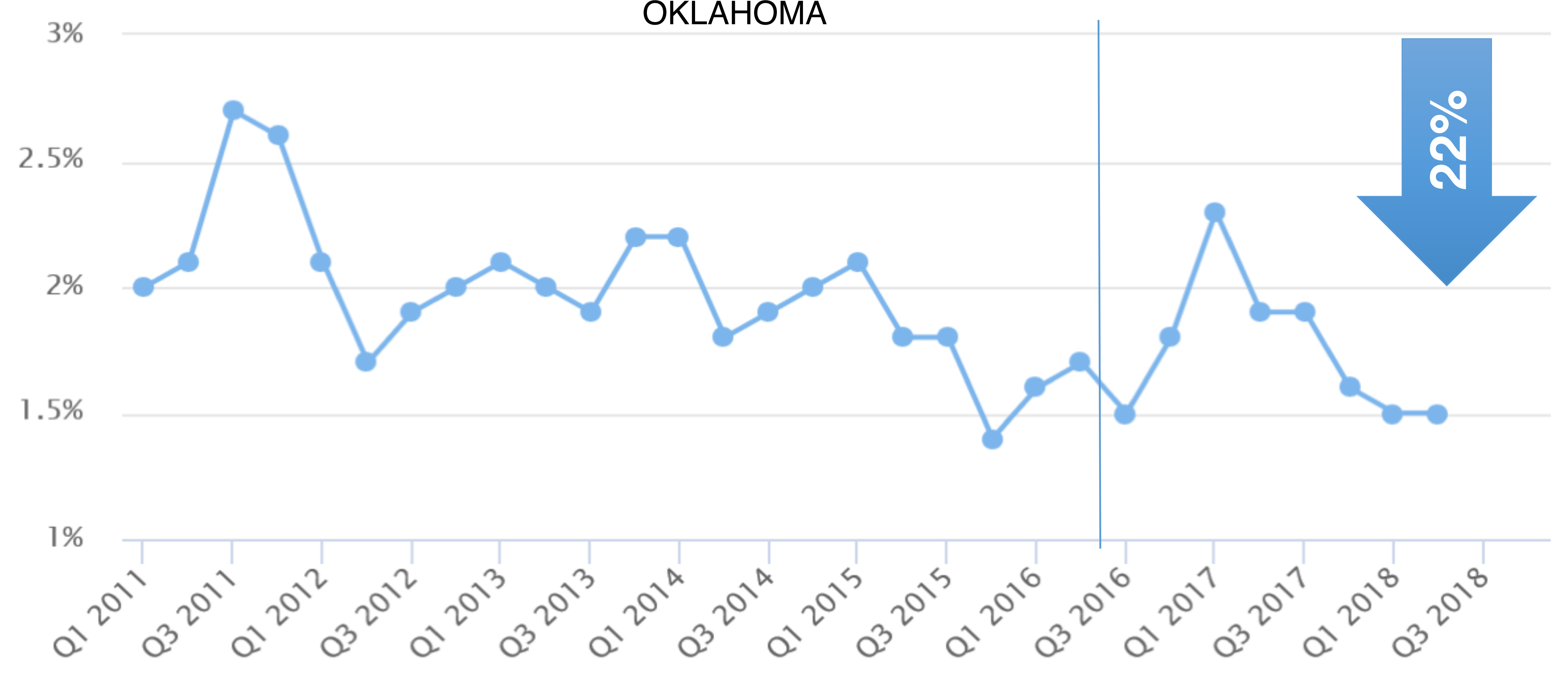
Every Year

Talk to your healthcare provider within one year after delivery about monitoring your heart-health and blood vessels with extra care

Get regularly evaluated and treated for cardiovascular risk factors: high blood pressure, blood sugar and cholesterol, obesity, and smoking

Adopt a heart-healthy lifestyle

- Get adequate physical activity
- Eat a heart-healthy diet
- Stay at a healthy weight
- If you smoke, stop!
- Talk to your doctor about taking low-dose aspirin
- Know your family health history
- Know your numbers for blood pressure, blood sugar, and cholesterol



Severe Maternal Morbidity among All Delivering Women
OKLAHOMA
3%
2.5%
2%
1.5%
1%
22%
Q1 2011
Q3 2011
Q1 2012
Q3 2012
Q1 2013
Q3 2013
Q1 2014
Q3 2014
Q1 2015
Q3 2015
Q1 2016
Q3 2016
Q1 2017
Q3 2017
Q1 2018
Q3 2018
Oklahoma Hospital 50th Percentile
Oklahoma Hospital Average
Oklahoma Collaborative-wide Rate
Oklahoma 50th to 75th Percentile
Oklahoma 25th to 50th Percentile

Thank You!

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