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# Transforming Data into Action to Improve Maternal Health

Aug. 21, 2025

# Better Health for Mothers and Babies Initiative

**80%**

of pregnancy-related deaths are preventable

**OUR SHARED GOAL**

**Eliminate preventable maternal mortality and reduce morbidity related to pregnancy and childbirth**

Working alongside hospitals and health care systems to help mothers and their babies thrive.

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# *Better Health for Mothers and Babies Webinar Series*

## Apply four core principles into your maternal health improvement efforts

1. **Examine quality and outcomes data to guide strategy**
2. **Consider the causes of disparities in health outcomes**
3. **Involve patients and community in their own care**
4. **Engage the workforce**

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# Examine quality and outcomes data to guide strategy

Systematically collect data, review metrics and identify disparities to drive strategies for improvement in health outcomes.

## KEY ACTIONS:

- Consistently track and review maternal morbidity and mortality data.
- Stratify data by variables appropriate to your community.
- Investigate root causes of poor pregnancy outcomes.
- Deploy a systematic approach to implement quality improvement strategies.
- Implement strategies for medical causes of maternal morbidity and mortality.

# Discussion Guide

## 1 Examine quality and outcomes data to guide strategy

- How are you tracking maternal and infant morbidity and mortality data?
- Which sociodemographic variables are collected and tracked?
- Do you see opportunities to improve care during pregnancy, labor and delivery and the postpartum period?
- What quality and performance improvement strategies does your organization employ or participate in?

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Better Health for Mothers and Babies

WEBINAR SERIES

**Katherine Glaser, M.D., MPH**
Tuba City Regional Health Care Corporation

**Vicki Buchda, MS, R.N., NEA-BC**
Arizona Hospital and Healthcare Association

**Lauren Russell, MSN-Ed, RNC-OB, IBCLC**
Regional One Health

# Today's Agenda

- Presentations
- Panel discussion
- Q & A
  - Submit your questions in the Q & A pod as they arise

## 2025 AHA Webinar

# Transforming Data into Action
## To Improve Maternal Health

**Vicki L. Buchda**
**Senior Vice President of Care Improvement**
**August 21, 2025**

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# Disclosures

I have no conflicts of interest to disclose.

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# AIM in Arizona

## A partnership between

ARIZONA DEPARTMENT OF HEALTH SERVICES

AzHHA
Arizona Hospital and Healthcare Association

# Objectives

1. Provide rationale for call to action based on data.
2. Identify data elements used to measure progress.
3. Explain how patient safety bundles are used to improve care and reduce disparities.

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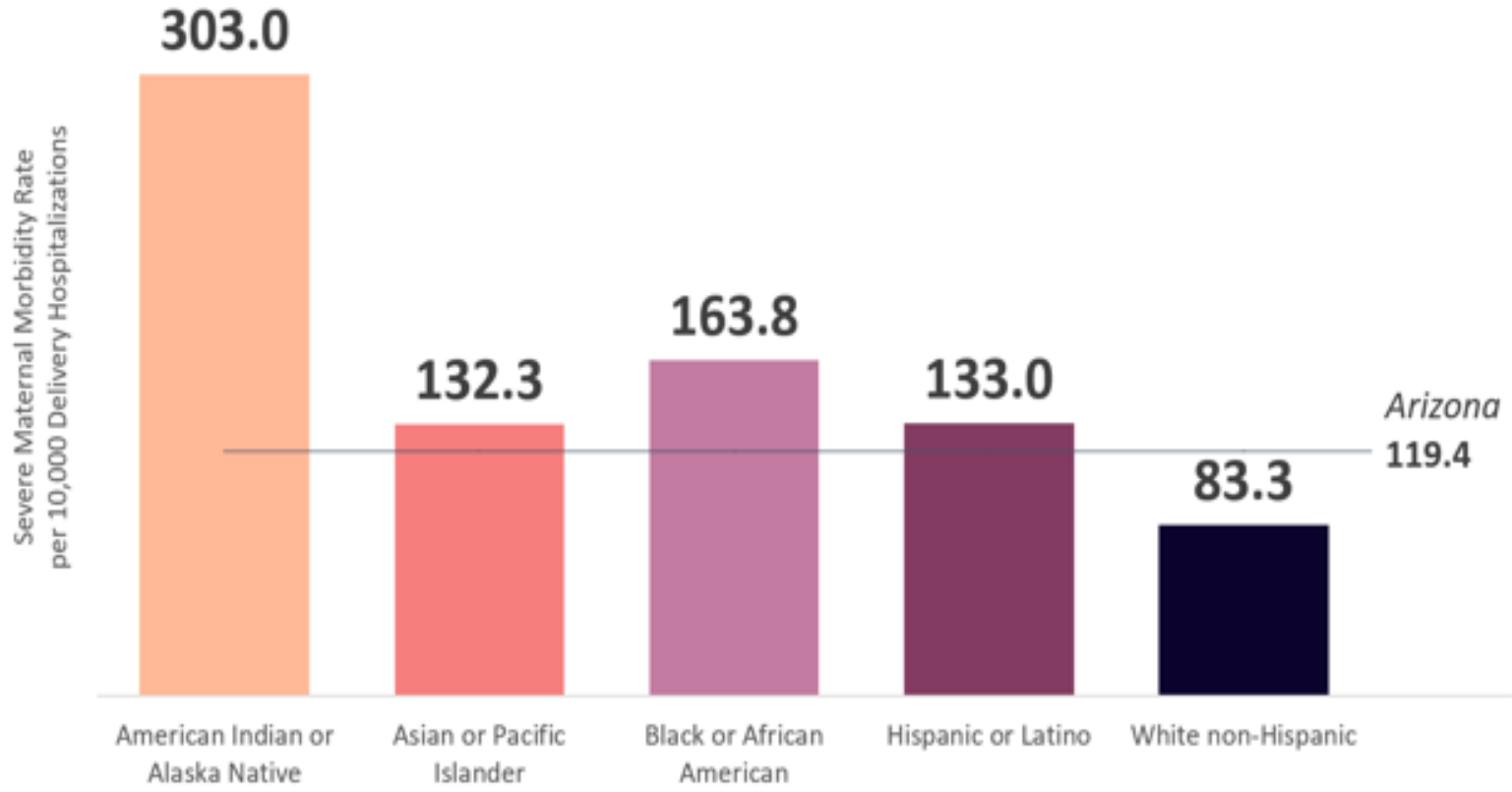
**A review of maternal deaths 2012-2015**
**estimated 89% were preventable**

In 2019, the AZ State Legislature passed SB 1040 to address preventable deaths

# Severe Maternal Morbidity Rate by Race and Ethnicity

*Among Arizona Resident Delivery Hospitalizations, 2016-2019*

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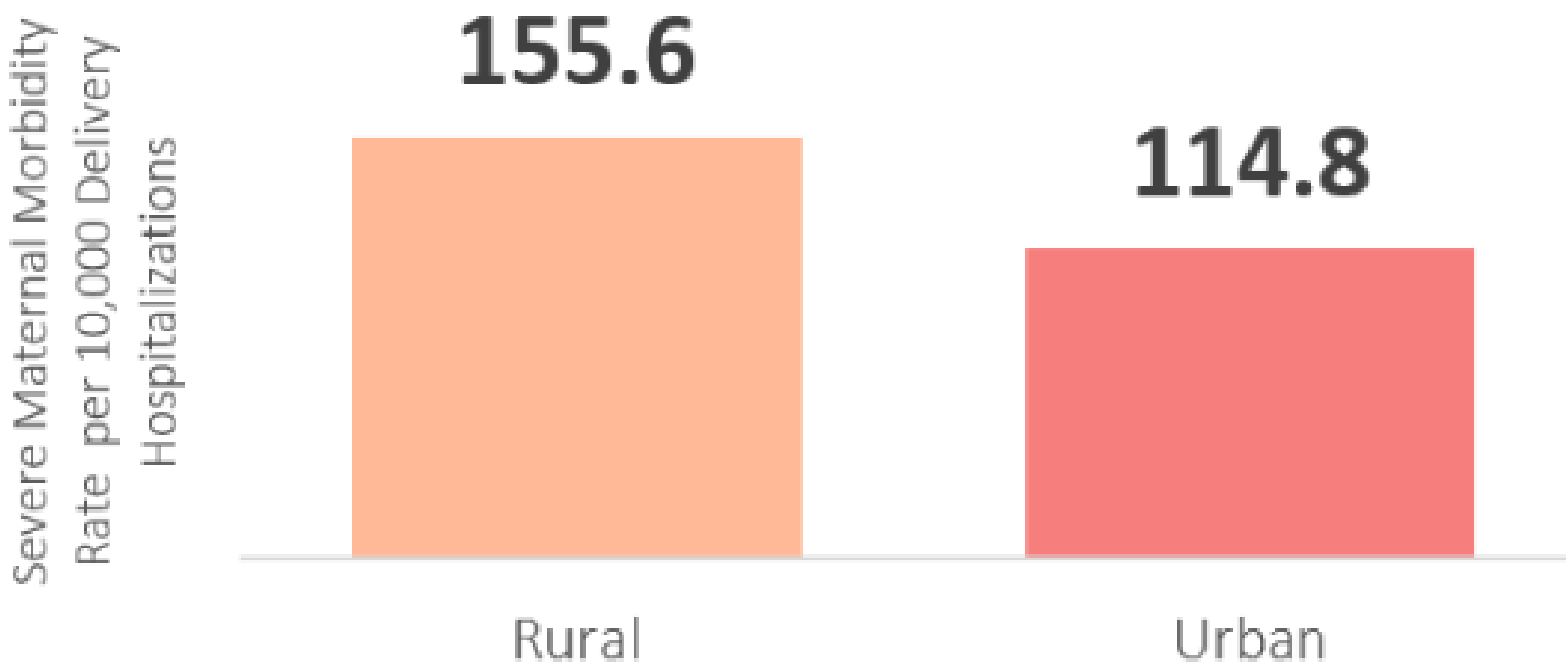
# SMM Rate for Urban and Rural Counties




***Rural counties*** *are Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Mohave, Navajo, Santa Cruz, and Yavapai;* ***Urban counties*** *are Maricopa, Pima, Pinal, and Yuma; Based on definitions used by the ADHS Bureau of Public Health Statistics.*

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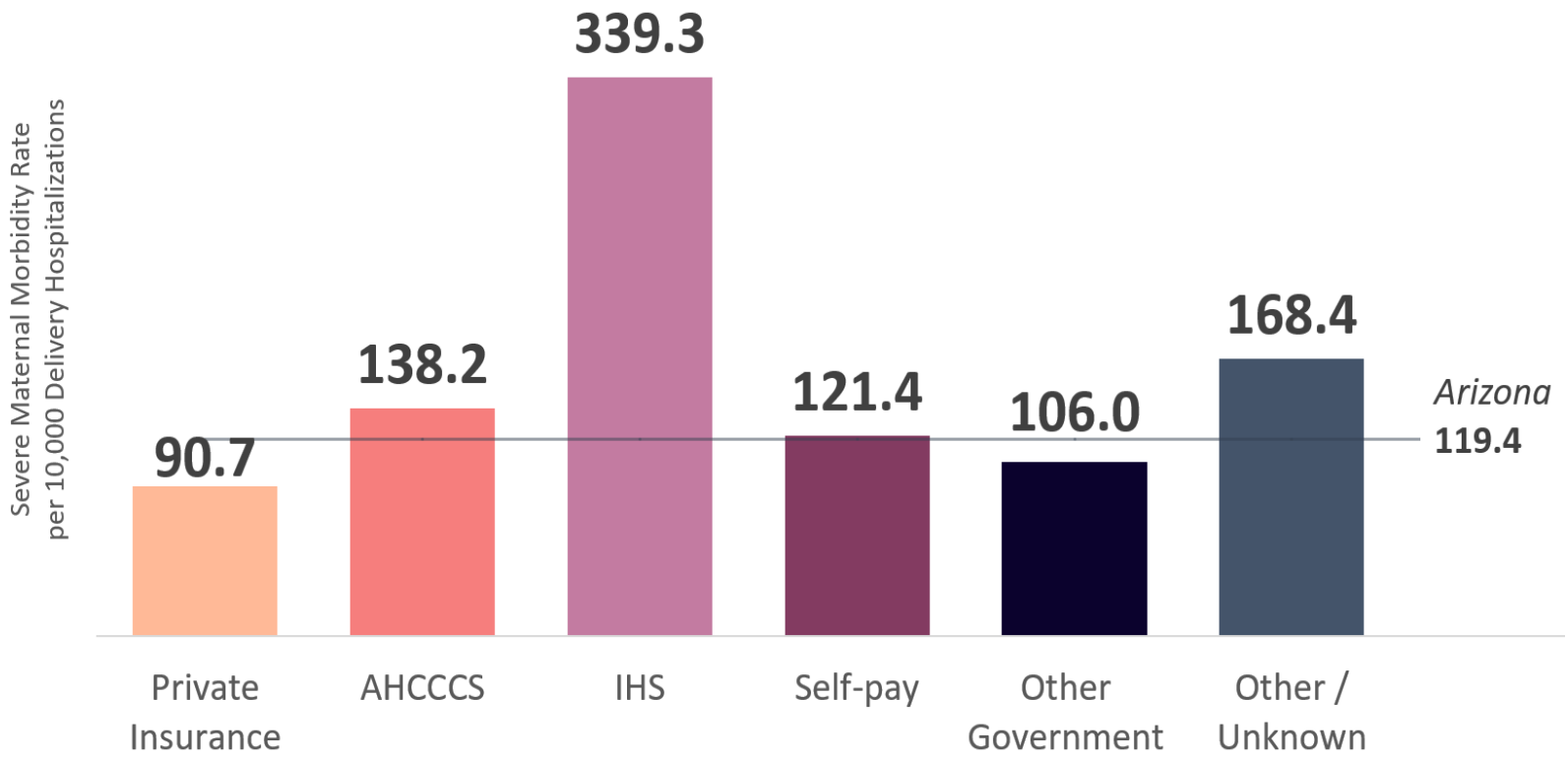
# Severe Maternal Morbidity by Payer Type

*Among Arizona Resident Delivery Hospitalizations, 2016-2019*

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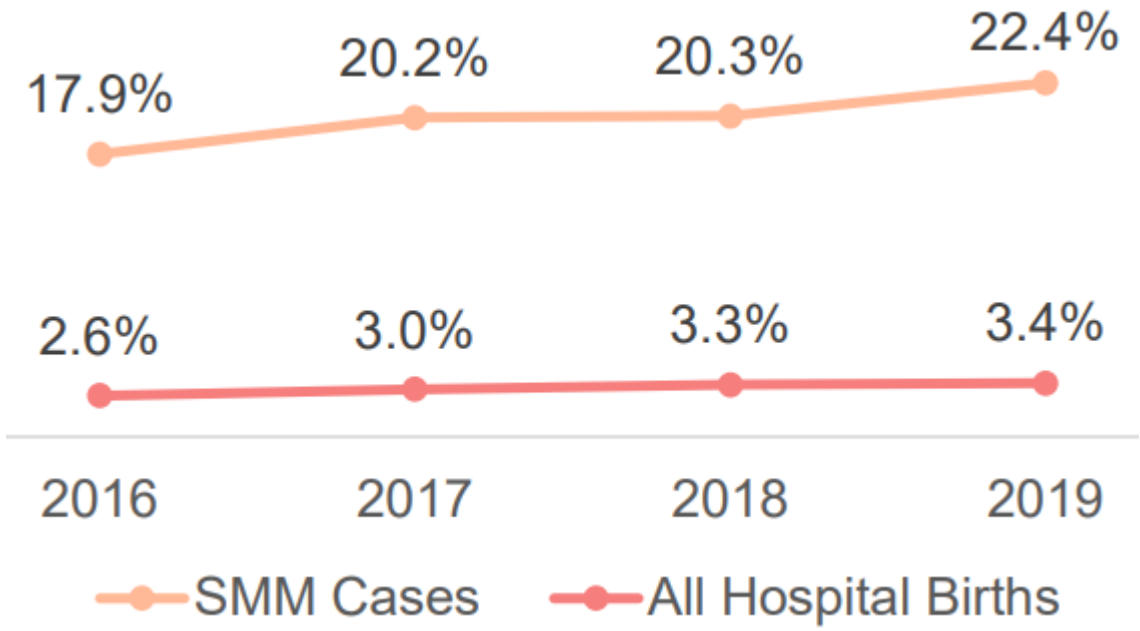
# Severe Maternal Morbidity Cases with Severe Hypertension increased at a greater rate than live births in Arizona between 2016-2019




Source: https://www.azdhs.gov/documents/prevention/womens-childrens-health/reports-fact-sheets/hypertension-smm-foraz-aim-final.pdf

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**There were 2,595 hospital births in Arizona with severe hypertension in 2019.**

Source: https://www.azdhs.gov/documents/prevention/womens-childrens-health/reports-fact-sheets/hypertension-smm-foraz-aim-final.pdf

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# Arizona Alliance on for Innovation on Maternal Health (AIM) Collaborative

- AIM is a national initiative
- AZ joined in 2020

GOALS:

- Reduce maternal morbidity and mortality by
  - Implementing AIM Maternal Safety Bundles in participating birthing centers
  - Reduces variation
- Reducing disparities by
  - Standardizing care
- Use data to drive improvement

AIM is a cooperative agreement with HHS, HRSA and ACOG

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# Data are Critical

Identifies QI opportunities

Drives process improvement & technical assistance

Evaluates QI activities & programmatic goals

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# Approach, Data and Metrics

- Structure
  - Policies, procedures, protocols
- Process
  - Performance or completion of specific elements of the bundle
- Outcomes
  - Changes in health status, such as severe maternal morbidity and maternal mortality

"What gets measured gets managed" Peter Drucker

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# Aim Statement and Focused Goals for Hypertension

- Reduce the rate of severe maternal morbidity associated with hypertensive disorders of pregnancy by 20% in participating hospitals by October 2022.

1. **Reduce time to treatment**

   Goal: 80% of women with two consecutive blood pressures of 160/110 are treated within 60 minutes

2. **Improve provider and RN debrief**

   Goal: At least 50% of cases of women with confirmed severe maternal hypertension without treatment within 60 minutes have RN/provider debrief

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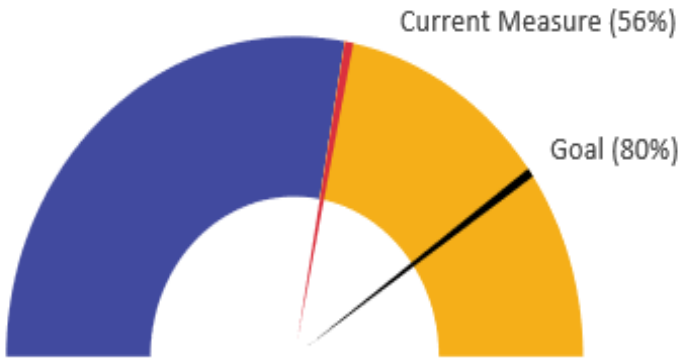
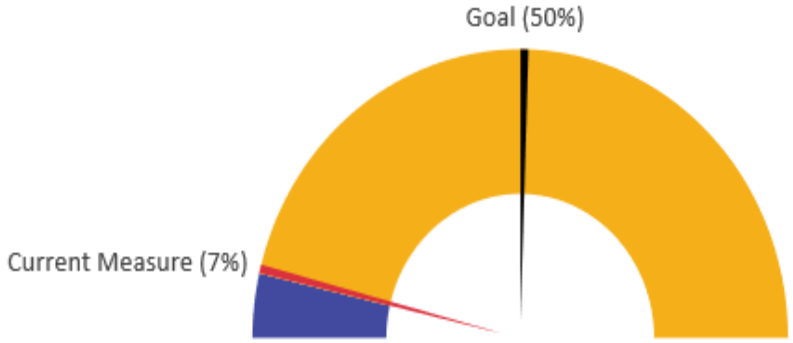
# Baseline data: Q2 2021 (April, May, June)
# Goal 1: Reduce time to treatment
# Goal 2: Improve debriefs conducted




Goal 1: Reduce time to treatment
All facilities
April 1, 2021 - End of reported quarter




Goal 4: Improve debrief time to teatment
All facilities
April 1, 2021 - End of reported quarter

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# Arizona AIM Support for Birthing Facilities

- Kick-off with hospitals April 2021
  - Reviewed data collection methods, AIM bundle elements, AIM tool kits, and change packages
- Host Monthly Coaching Calls
  - Attendance of 40-60 participants each call
    - Hospitals present challenges and successes to each other
    - Work through challenges with PDSA cycles
    - Bring on subject matter experts
    - Health equity trainings
- Offer 1:1 Technical Assistance to each participating hospital
- Send a quarterly data infographic to hospital C-suites and maternal health leaders for review
- Maintain a data dashboard for the hospital to monitor their progress in real time
- Host an annual Maternal Health Conference providing education with great speakers and vendors, networking opportunities

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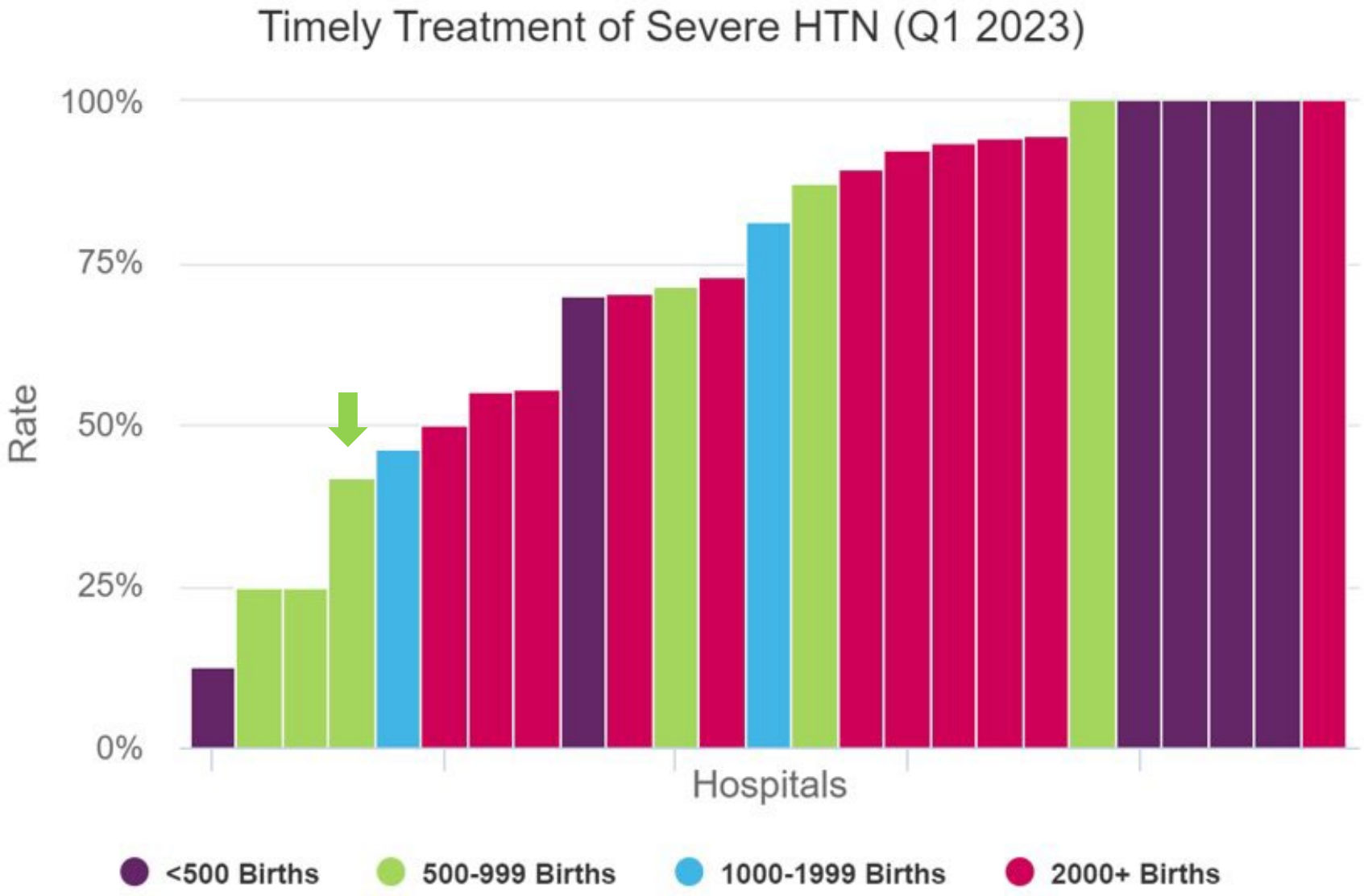


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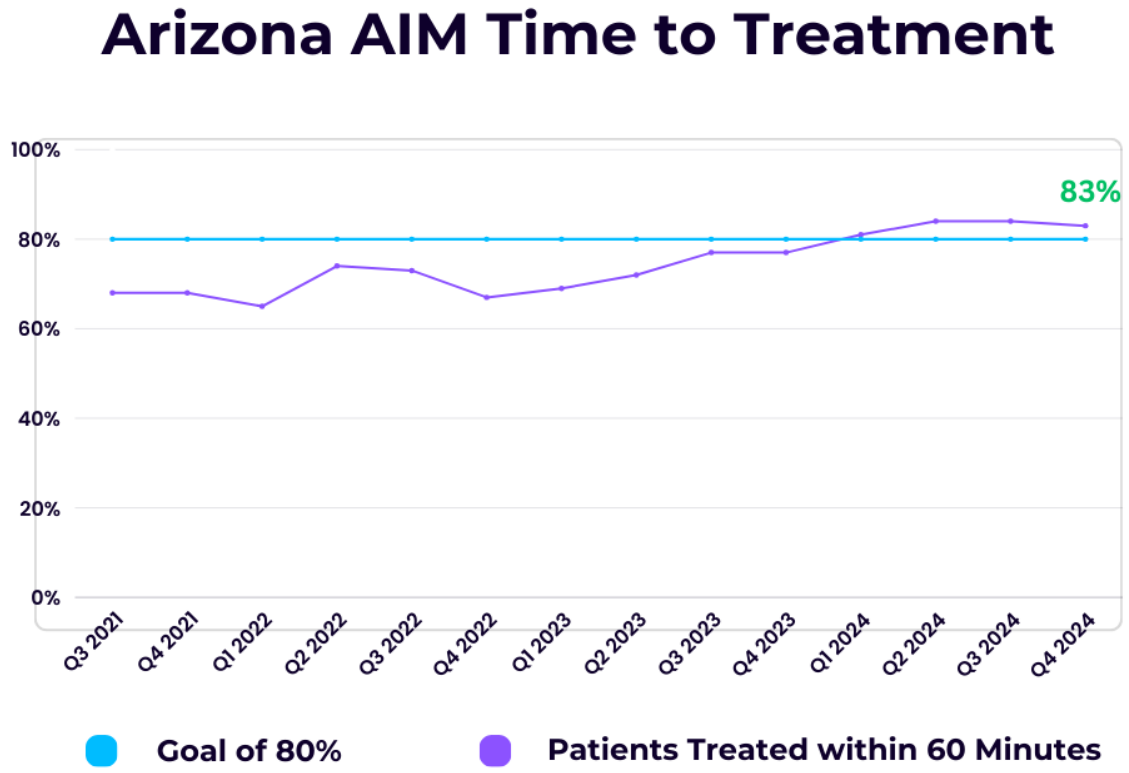
# Goal: At least 80% of patients with two consecutive blood pressures of 160 systolic or 110 diastolic are treated within 60 minutes

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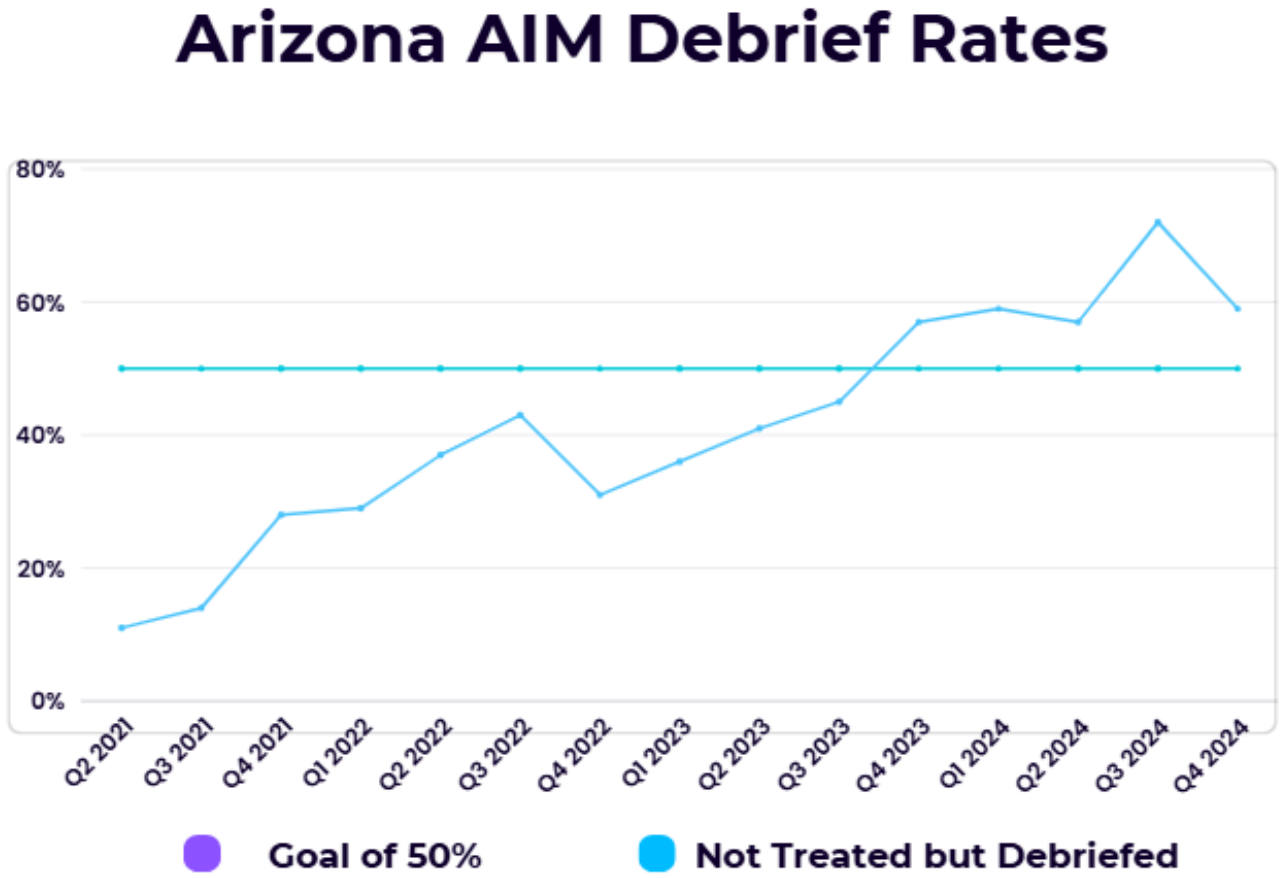
# At least 50% of cases of patients with confirmed severe maternal hypertension without treatment within 60 minutes have RN/provider debrief

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# Next Steps


- Continue to improve care of people with hypertension
- Implemented the  Obstetric Hemorrhage Bundle (kick-off at September, 2023  Conference)
- Site visits and on-site education, high fidelity simulation
- Resources and coaching available for 30-60-90 day plans and PDSA approach

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# Thank you!

For Questions Contact:
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https://www.azhha.org/arizona_aim_collaborative

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AzHHA Arizona Hospital and Healthcare Association

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Tuba City Regional Health Care Corporation
August 21, 2025

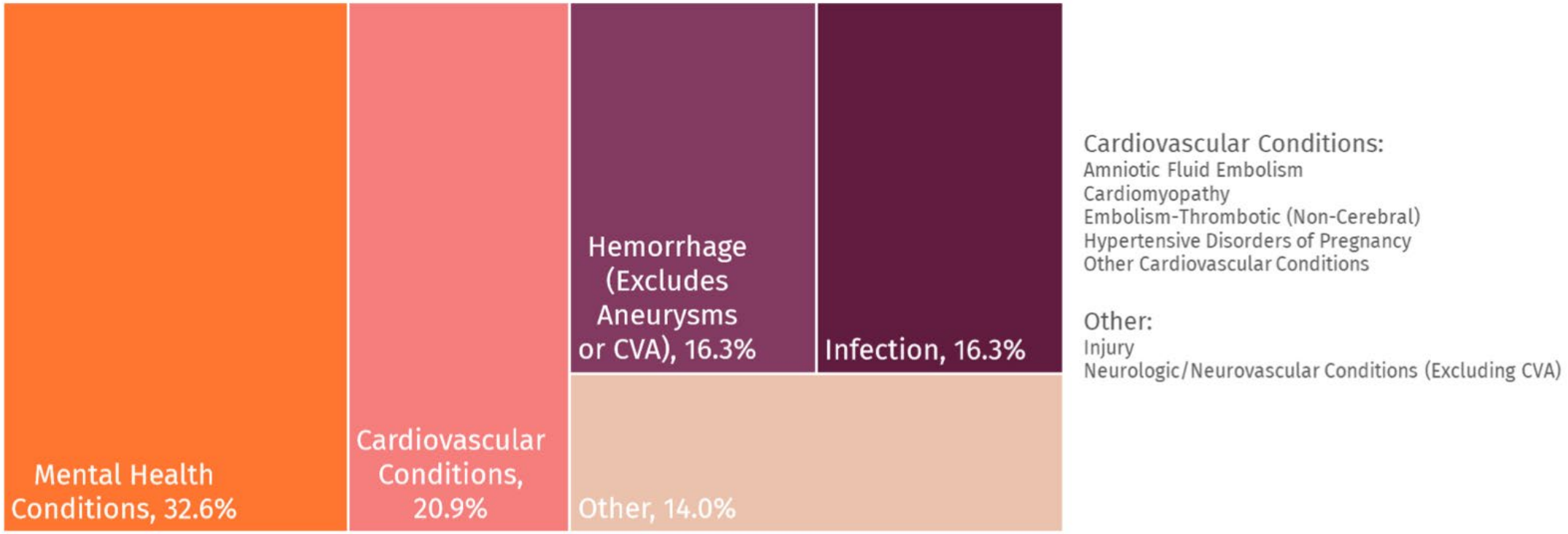
# Disclosures

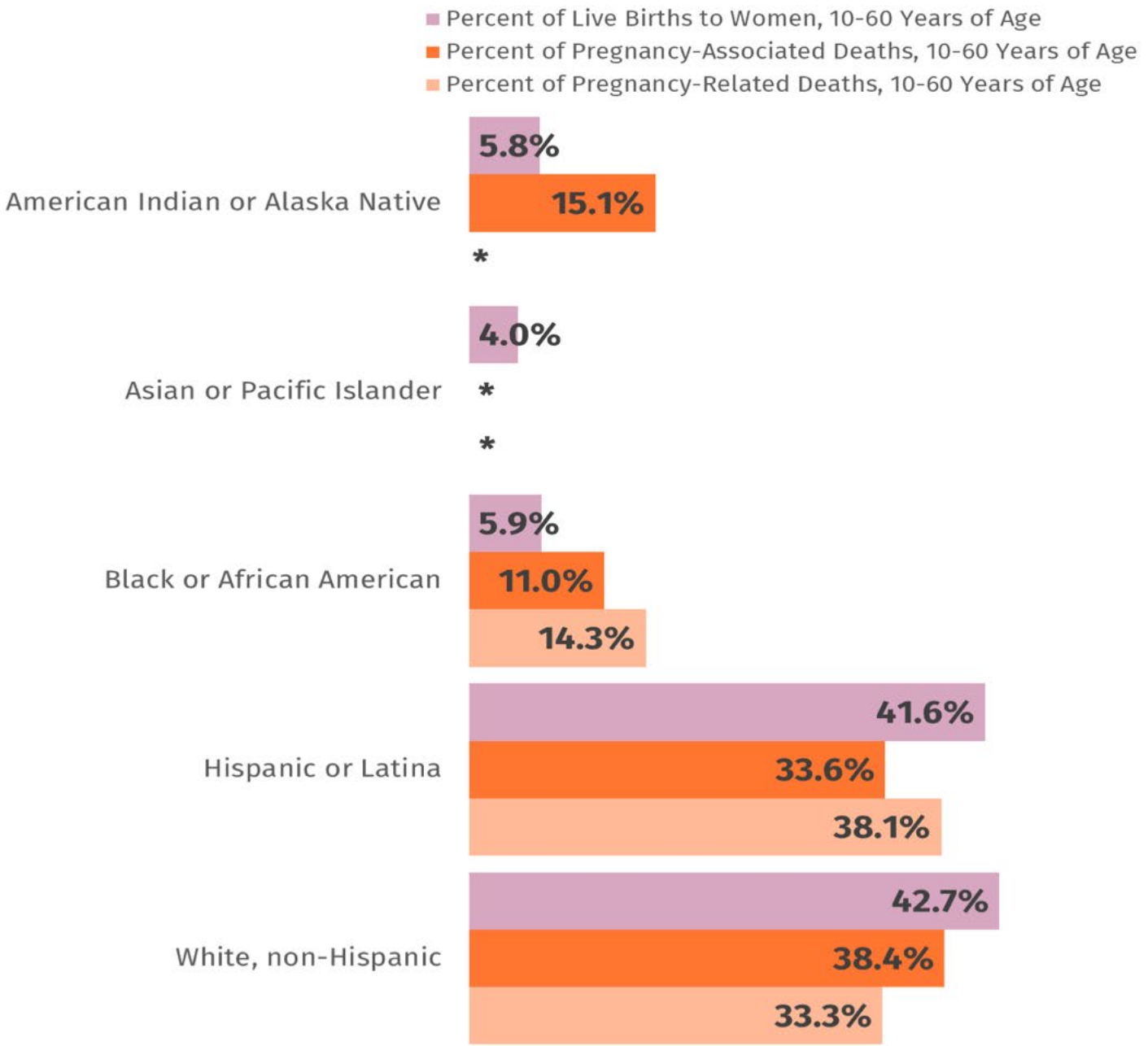
- I have no relevant financial disclosures or conflicts of interest.
- I am an employee of Tuba City Regional Health Care Corporation.
- I am a member of the Arizona Maternal Mortality Review Committee

# Learning Objectives

- Review hypertension as a cause of maternal mortality in Arizona
- Review experience with hypertension treatment in a rural, indigenous community
- Recognize challenges in implementation

# Maternal Mortality in Arizona




Percent of Live Births to Women, 10-60 Years of Age
Percent of Pregnancy-Associated Deaths, 10-60 Years of Age
Percent of Pregnancy-Related Deaths, 10-60 Years of Age
American Indian or Alaska Native
5.8%
15.1%
*
Asian or Pacific Islander
4.0%
*
*
Black or African American
5.9%
11.0%
14.3%
Hispanic or Latina
41.6%
33.6%
38.1%
White, non-Hispanic
42.7%
38.4%
33.3%

# Arizona Maternal Mortality Review Committee Recommendations

Increase education and awareness for both those interacting clinically and for family members

# Tuba City Regional Health Care Corporation

Licensed 73-bed hospital on Western Navajo Nation

Caring for birthing people of Navajo, Hopi, and San Juan Southern Paiute tribes

350-400 births/year

Photo Credit: New York Times

- Collaborative care with team of CNM and OB/GYN
- Prenatal care
  - Baby Friendly Certification
  - 20-30% GDM and DM
  - 80% overweight or obese
  - All services located at the site
- Labor and Delivery staffed by CNMs
- Consultation provided by OB/GYN

# AIM Journey

- Began participation in Arizona AIM Collaborative in April 2021
- In place:
  - Drills
  - Arizona Perinatal Trust
  - Case reviews
  - Order set in EHR

# New Elements

- Required training about hypertension
- Measurement of 1 hour to treatment
- Debriefing
- Training in equity
- Blood pressure cuffs through grants

INSTRUCTIONS

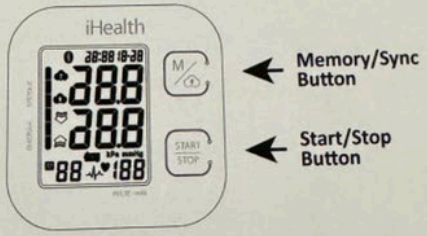
# iHealth Track

Connected Blood Pressure Monitor

## Instructions

1. Relax for 5 minutes before checking your blood pressure.
2. Sit at a table to measure your blood pressure.
3. Your arm should be at the same level as your heart.
4. Do not talk or move during the measurement.
5. Use the same arm each time you measure your blood pressure.

## What the monitor looks like




You can connect your device with the iHealth MyVitals app to track your results and share them with the doctor or midwife when you come to your visits.

Tuba City Regional Health Care Corporation

Labor and Delivery | 928-283-2629
Women's Clinic | 866-976-5941

# Successes

- Able to learn from fallouts:
  - Occurred with transition with medication storage
  - Treatment delays during procedures
- All employees follow single guideline for care

# Opportunities

- Implemented hemorrhage bundle
- Substance use
- Sepsis
- Policies (more than one)


# Rout Labor and Delivery

- Regional One Health, in Memphis, TN, specializes in the care of complex OB patients and their high risk newborns. ROH L&D is a 15 bed unit with 9 OBED beds. ROH delivers 2,300 babies per year and sees 6,000 triage patients per year.

# Maternal Mortality in Tennessee

## Key Findings from the 2024 Annual Report*

A **pregnancy-related death** is the death of a woman during or within one year of the end of pregnancy from any cause directly related to or an unrelated condition worsened by the pregnancy.

The rate of pregnancy-related deaths **dropped 15%** from 2021 to 2022.

**76%** of pregnancy-related deaths were **preventable** in 2022.

Women aged **35+ years** experienced the highest burden of deaths.

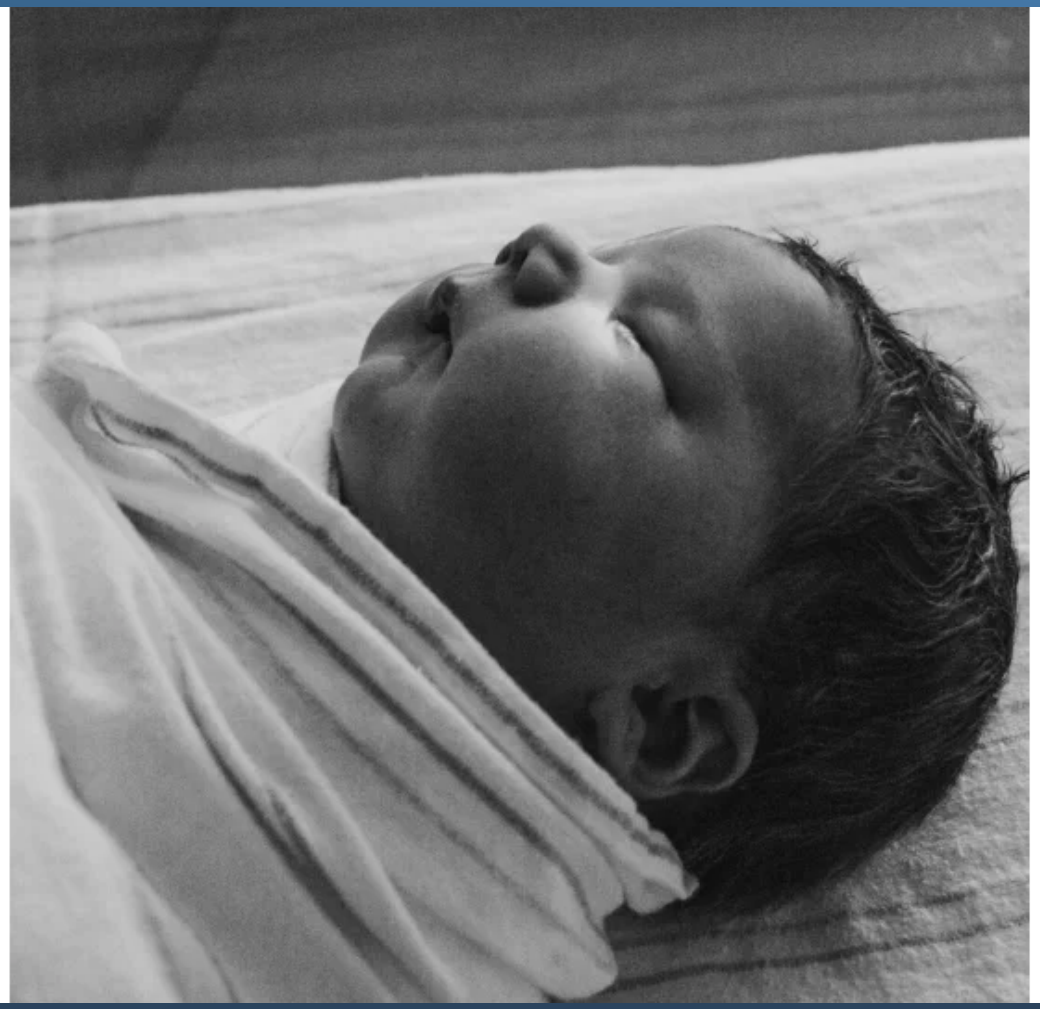
## Leading Causes of Deaths

**Mental health conditions** accounted for more than 1 in 4 (28%) of deaths.

- Substance use disorder accounted for 70% of these deaths
- Leading cause of death among:
  - Non-Hispanic White women
  - Deaths occurring 43-365 days postpartum

**Cardiovascular conditions** accounted for 22% of deaths.

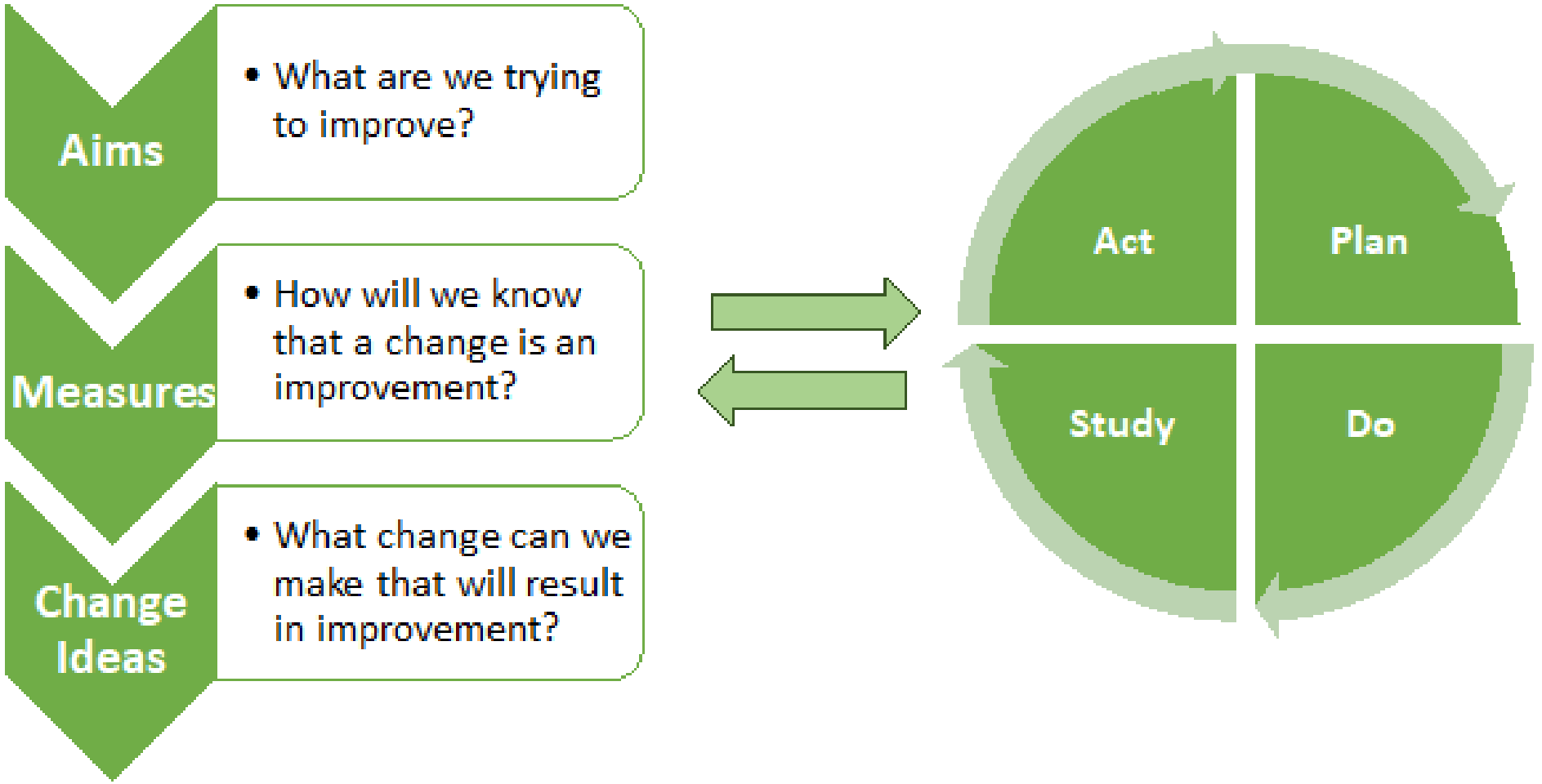
- Leading cause of death among:
  - Non-Hispanic Black women
  - Women aged 35 years and older



*The Tennessee Initiative for Perinatal Quality Care (TIPQC) is the state's perinatal quality improvement collaborative, founded in 2008 through a grant from the Governor's Office to engage hospitals, practitioners, payers, families, and communities in order to promote meaningful change, improve health outcomes, and improve the quality of care through pregnancy, delivery and beyond for all Tennessee families.*

- A 17-year proven track record of improvement projects, education, and trainings across Tennessee
- 30 successful QI projects
- QI Coaching, Resource sharing, Annual Meetings, Learning Sessions, Webinars, SIMS Trainings, Networking & more
- Shared governance that relies on state-wide engagement of providers, practitioners, hospital administrators, community organizations, and families
- Robust, centralized project management and data support, including SimpleQI, REDCap as well as Vermont-Oxford Network and Alliance for Innovation on Maternal Health (AIM) ACOG.

## Model for Improvement*




For more information, see https://tipqc.org/jit-pdsa/. *Used by permission and adapted from:
Langley, Nolan, Nolan, Norman, Provost. The Improvement Guide. San Francisco: Jossey-Bass Publishers; 1996.[7]

# Aims, Population, and Measures

**GLOBAL PROJECT AIM**: To reduce the rate of severe morbidities in pregnant and postpartum women with severe hypertension by 20% by December 2021.

**TARGET POPULATION**: Pregnant and postpartum women (up to 6 weeks) that present to L&D, Triage, ED, Antepartum, or Postpartum that have an elevated blood pressure of ≥160 systolic and/or ≥110 diastolic twice within 15 minutes. Patients with chronic/gestational HTN should also be included.

**MEASURES**

**I. Outcome Measures:**

- Severe maternal morbidity (including and excluding transfusion codes) among
  - All mothers during their birth admission (excluding ectopics and miscarriages);
  - Preeclampsia cases, defined as all mothers during their birth admission (excluding ectopics and miscarriages) with one of the following diagnosis codes:
    - Severe Preeclampsia
    - Eclampsia
    - Preeclampsia superimposed on pre-existing hypertension

**II. Process Measures:**

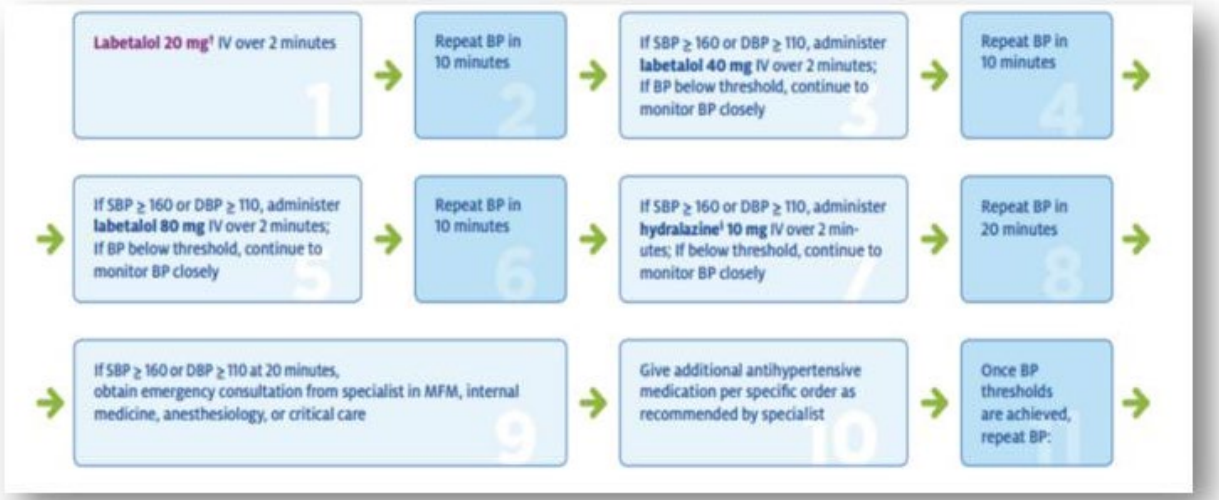
- Obstetric (OB) maternal safety drills (number and topics)
- Provider education (cumulative proportion of delivering physicians and midwives that have completed within the last two years an education program on Severe Hypertension/Preeclampsia that includes the unit-standard protocols and measures)
- Nursing education (cumulative proportion of OB nurses (including L&D and postpartum) that have completed within the last two years an education program on Severe Hypertension/Preeclampsia that includes the unit-standard protocols and measures)
- Treatment of Severe HTN (percent of birthing patients with acute-onset severe hypertension that persists for 15 minutes or more, including those with preeclampsia, gestational or chronic hypertension who were treated within 1 hour with IV Labetalol, IV Hydralazine, or PO Nifedipine)

**III. Structure Measures**

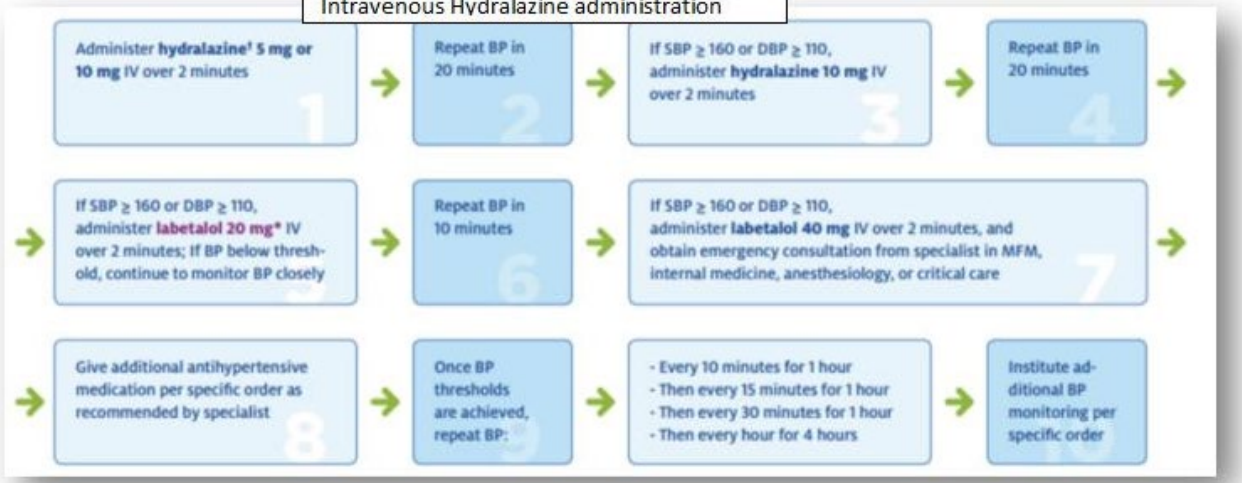
- Patient, Family & Staff Support (hospital has developed OB specific resources and protocols to support patients, family and staff through major OB complications)
- Debriefs (hospital has established a system in your hospital to perform regular formal debriefs after cases with major complications)
- Multidisciplinary Case Reviews (hospital has established a process to perform multidisciplinary systems-level reviews on cases of severe maternal morbidity, including, at minimum, birthing patients admitted to the ICU or receiving ≥4 units RBC transfusions)
- Unit Policy and Procedure (hospital has a Severe HTN/Preeclampsia policy and procedure that provides a unit-standard approach to measuring blood pressure, treatment of Severe HTN/Preeclampsia, administration of Magnesium Sulfate, and treatment of Magnesium Sulfate overdose)
- Electronic Health Record (EHR) Integration (hospital has integrated at least some of the recommended Severe HTN/Preeclampsia bundle processes (i.e. order sets, tracking tools) into their Electronic Health Record system)

- **OB Severe HTN pathway order set (PowerPlan) in Cerner**. **This is a multi-disciplinary order set that the Nurses can and should initiate**.
- **Nurse** confirms Severe range blood pressure **≥ 160 or ≥110**, times 2 (15 minutes apart)
- **Nurse** Initiates OB Severe HTN protocol order set and give 10 mg of Nifedipine (Procardia) PO, Nurse calls provider to notify initiation of protocol and anticipate bedside assessment within **30 minutes**, then recheck BP in **20 minutes**
- If still severe after BP check after 20 minutes, Nurse administers 20 mg Nifedipine PO and recheck BP in 20 minutes, if resolved:
- Monitor BP Q 10 minutes for 30 minutes, then resume previously ordered vital signs.
    - Discontinue pathway after 4 hours from initial 10 mg Nifedipine
    - If severe range BP reoccurs within 4 hours from protocol start, continue to next dose in current protocol
    - If severe range BP reoccurs after 4 hours from protocol start, initiate NEW protocol and alert provider

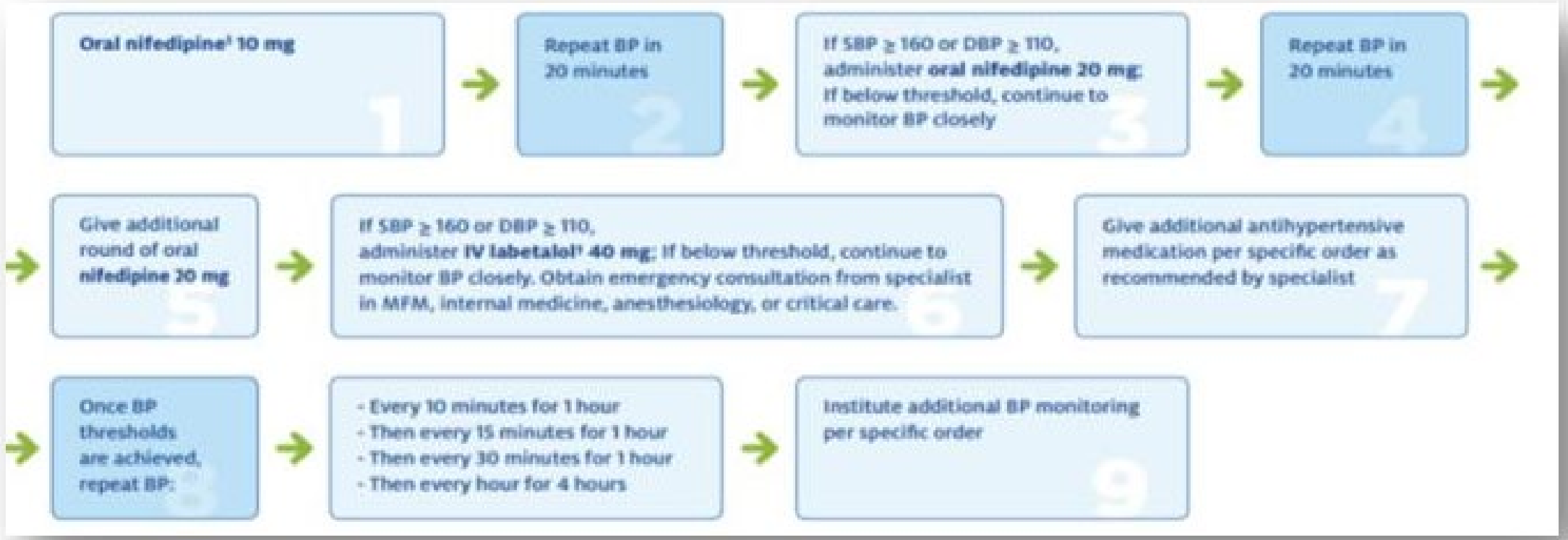
## Intravenous Labetalol administration

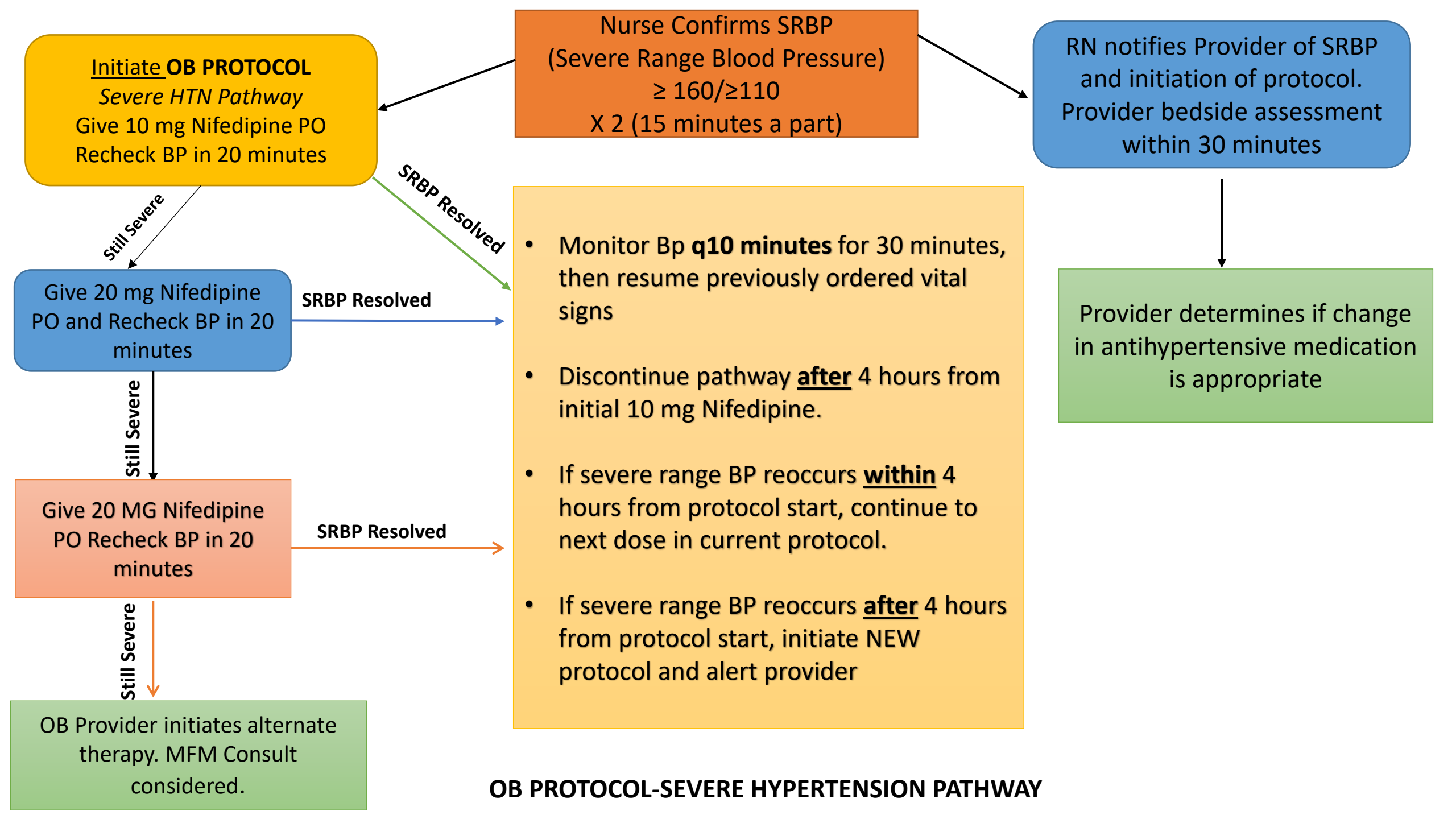



## Intravenous Hydralazine administration



**Immediate release oral Nifedipine (may be considered as first-line therapy, particularly when IV access is not available)**






**OB PROTOCOL-SEVERE HYPERTENSION PATHWAY**

# TIPQC AIM Data for Sev HTN in Pregnancy - Quarter End Sampling: 2025

**JUNE**

| | |
|---|---|
| 73 | total patients |
| 40 | patients with sev HTN x 1 or only had meds listed |
| 33 | patients |
| 0 | patients that did NOT receive tx within 1 hour of elevation or off protocol dosing |
| 33 | |

| Quarter | 2 | | | | |
|---|---|---|---|---|---|
| | Numerator | | Denominator | | |
| Month | blue | | orange | | |
| June | B | 29 | B | 29 | |
| | H | 0 | H | 0 | |
| | W | 3 | W | 3 | |
| | O* | 1 | O | 1 | |
| | T | 33 | T | 33 | 100% |

| Ethnicity Definitions for ROH pooled data |
|---|
| B = Black/African American |
| H= Hispanic |
| W= White/Caucasian |
| O*= Other, Not Available, Multiple, Declined to answer |

# Discussion

# Q & A

# *Better Health for Mothers and Babies Toolkit*

**A toolkit to help design your maternal and infant health strategy**

[Infographic]

[Action Plan]

[Discussion Guide]

[Issue Brief]

All resources available at www.aha.org/BHMB

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# AHA’s Maternal and Child Health Resources

The AHA spotlights strategies and advocates for policies for the improvement of maternal and infant health and child and adolescent health.

**LEARN MORE**

https://www.aha.org/mch


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# Share your Feedback!

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# Thank You!

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