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Texas Collaborative for Healthy Mothers & Babies

Postpartum Preeclampsia in the Emergency Department (PPED)

Funded by Department of State Health Services

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PQC Mission

To advance health care quality and patient safety for all Texas mothers and babies, through the collaboration of health and community stakeholders.

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Goals

- Reducing preterm birth and infant mortality
- Reducing maternal mortality and severe maternal morbidity
- Reducing disparities in the health outcomes of mothers and babies
- Improving the health outcomes of mothers and babies
- Increasing the involvement of fathers / families
- Improving women's health throughout the life cycle

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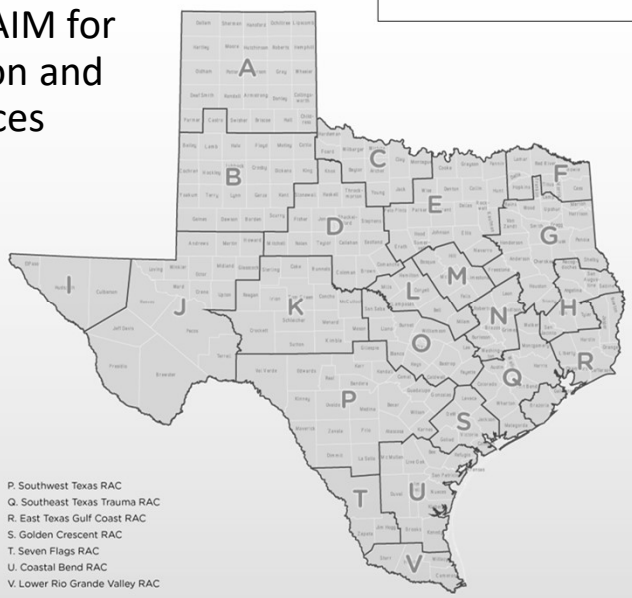
Collaboration with RAC-PCR Alliance and DSHS TexasAIM for QI Project Implementation and Dissemination of Resources



A. Panhandle RAC
B. BRAC
C. North Texas RAC
D. Big Country RAC
E. North Central Texas RAC
F. Northeast Texas RAC
G. Piney Woods RAC
H. Deep East Texas RAC

I. Far W Texas & S New Mexico RAC
J. Texas "J" RAC
K. Concho Valley RAC
L. Central Texas RAC
M. Central Texas RAC
N. Brazos Valley RAC
O. Capital Area Trauma RAC

P. Southwest Texas RAC
Q. Southeast Texas Trauma RAC
R. East Texas Gulf Coast RAC
S. Golden Crescent RAC
T. Seven Flags RAC
U. Coastal Bend RAC
V. Lower Rio Grande Valley RAC

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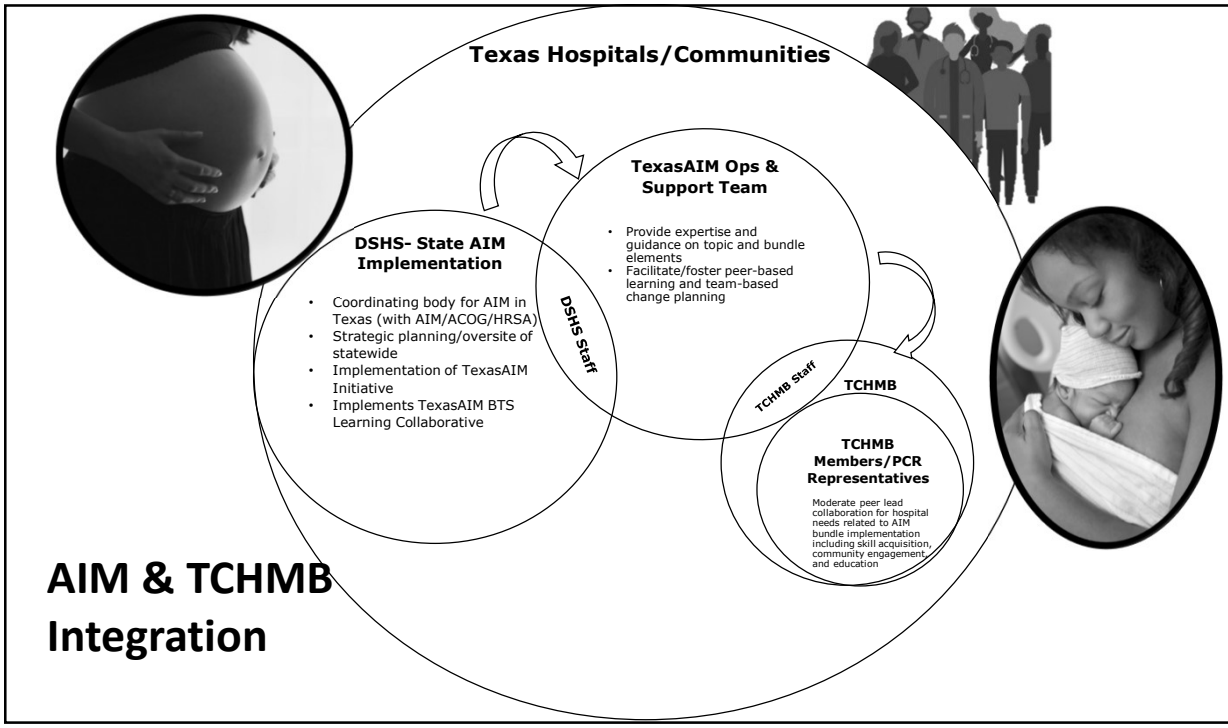

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Pre-TxAIM Severe Hypertension Bundle Baseline Assessment

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WHY FOCUS on PPED?

- Of the pregnancy–related deaths reviewed by the 2020 Texas Maternal Mortality and Morbidity Review Committee (MMMRC) and Texas Department of State Health Services (DSHS) joint biennial legislative report, **11% had pre-eclampsia and eclampsia as the leading cause of death, and 50% of these deaths occurred within 42 days of delivery**.
- If pre-eclampsia and eclampsia had been diagnosed and treated early, all of these deaths were potentially preventable. Non-Hispanic Black patients have a significantly higher rate of delivery hospitalizations involving hypertensive disorders. In 2019, TexasPRAMS found that 14.79% of Black and 15.14% of Hispanic patients have no postpartum checkup compared to 5.67% of white patients.
- "**Emergency health providers' knowledge about maternal physiology and health management, as well as communication and coordination with obstetric and women's health professionals, can be a critical factor in maternal health outcomes**."

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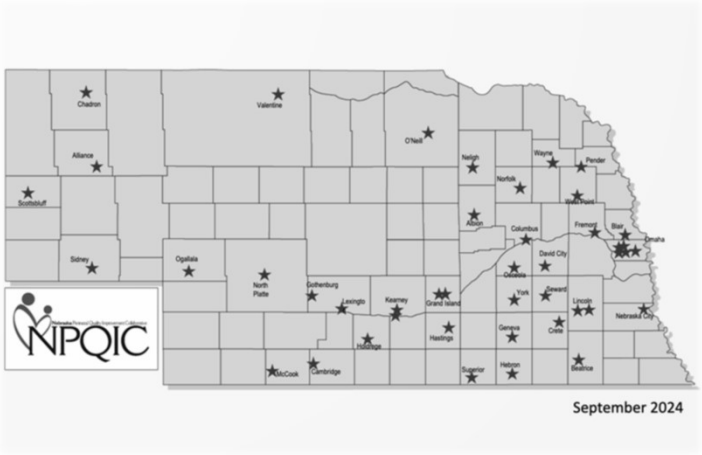
Nebraska Birthing Facilities

- Total of 44
  - 27 critical access
  - 17 non-critical access
- All members of PQC



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Maternal Mortality in Nebraska: 2017-2021

Table 5. Severe maternal morbidity indicators, Nebraska 2017-2021 (N=112,376; n=657).

Severe maternal morbidity indicators	Frequency	Rate per 10,000 delivery hospitalizations		
		Rate	95% CI for the rate	
Disseminated intravascular coagulation	146	13.0	11.0	15.3
Hysterectomy	126	11.2	9.3	13.3
Acute renal failure	122	10.9	9.0	13.0
Adult respiratory distress syndrome	111	9.9	8.1	11.9
Pulmonary edema/acute heart failure	68	6.1	4.7	7.7
Shock	63	5.6	4.3	7.2
Eclampsia	62	5.5	4.2	7.1
Sepsis	62	5.5	4.2	7.1
Ventilation	41	3.7	2.6	4.9
Air and thrombotic embolism	29	2.6	1.7	3.7
Puerperal cerebrovascular disorders	17	1.5	0.9	2.4
Severe anesthesia complications	11	1.0	0.5	1.8
Cardiac arrest/ventricular fibrillation	9	0.8	0.4	1.5
Conversion of cardiac rhythm	7	0.6	0.3	1.3
Amniotic fluid embolism	6	0.5	0.2	1.2
Sickle cell disease with crisis	-	-	-	-
Temporary tracheostomy	-	-	-	-
Aneurysm	-	-	-	-
Acute myocardial infarction	-	-	-	-
Heart failure/arrest during surgery or procedure	0	0.0	0.0	0.3

"-" Values have been suppressed due to small counts from 1-5.
Note: The severe maternal morbidity indicators are not mutually exclusive. An individual may have experienced more than one event.
Data source: Hospital discharge data, Nebraska Hospital Association.

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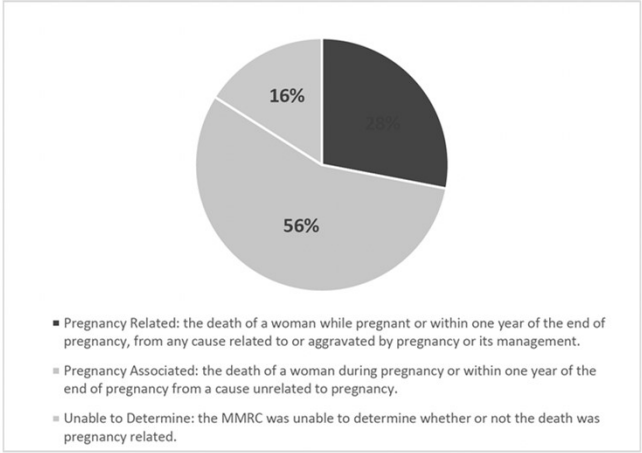
Maternal Mortality in Nebraska: 2017-2021

Figure 1. Pregnancy Associated Deaths (N=50) by Pregnancy Relatedness, Nebraska 2017-2021.



Source: Nebraska Vital Records Office and Nebraska Maternal Mortality Review Committee.

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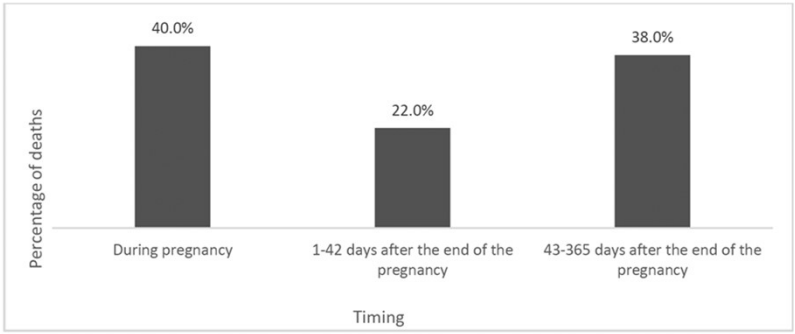
Timing of Deaths

Figure 4. Timing of Pregnancy Associated Deaths, Nebraska 2017-2021 (N=50).



Source: Nebraska Vital Records Office and Nebraska Maternal Mortality Review Committee.

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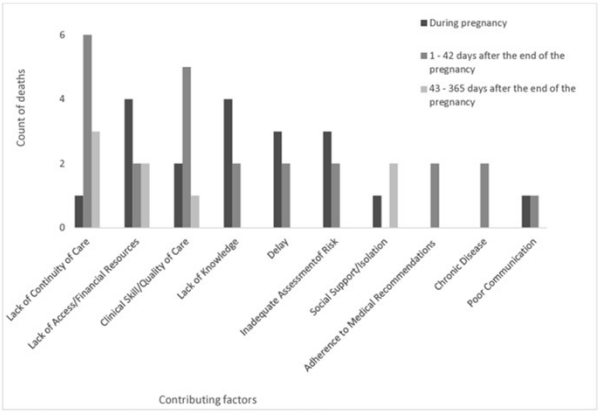
Contributing Factors

Figure 8. Contributing Factors to Pregnancy Related Deaths by Timing of Death, Nebraska MMRC, 2017-2021 (n=14).



Note: More than one factor could contribute to each death.
Source: Nebraska Maternal Mortality Review Committee.

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Preventability

82% of pregnancy-associated deaths were considered preventable

93% of pregnancy-related deaths were considered preventable

(Nebraska DHHS, 2023)

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2022 TEXAS MMMRC REPORT

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- **Recommendations**: Support emergency and maternal health service coordination and implement evidence-based, standardized protocols to prevent, identify, and manage obstetric and postpartum emergencies.
  - Emergency medical services is commonly observed during MMMRC case review and sometimes significant in the circumstances that preceded death
  - Emergency health providers' knowledge about maternal health, as well as communication and coordination with obstetric and women's health professionals, are critical factors in preventing pregnancy-related deaths. The MMMRC recommends stakeholders:
    - Optimize coordination between emergency and maternal health services;
    - Incorporate emergency department (ED) representation in existing maternal
    - Health and safety programs;

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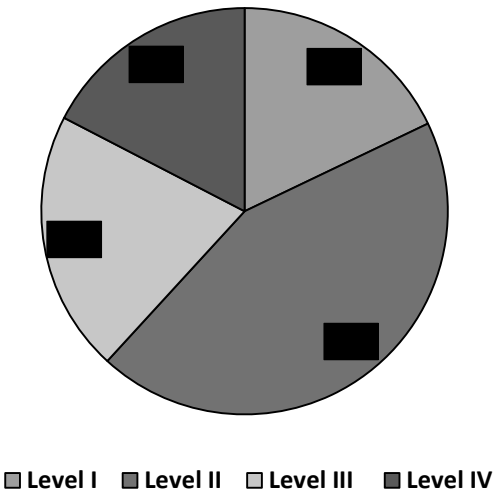
PRE-IMPLEMENTATION SURVEY

- 93% (n=210) respondents
- Texas has legislatively mandated level of care



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Where is initial triage point for pregnant women in your hospital?

ANSWER CHOICES	RESPONSES	
Emergency Department	18.27%	36
OB Unit	38.58%	76
Specific OB ED/Triage Unit	35.03%	69
Unsure/Don't Know	0.00%	0
Other (please specify)	8.12%	16
TOTAL		197

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Does your ED have specific practice protocols or guidelines for management of maternal severe range blood pressures during pregnancy and postpartum?

ANSWER CHOICES	RESPONSES	
Yes	28.43%	56
No	41.12%	81
Unsure/Don't Know	30.46%	60
TOTAL		197

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Project Development

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THE PPED WORK GROUP

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PPED ED Member

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PROJECT GOALS

The project seeks to reduce maternal morbidity and mortality related to severe hypertension in postpartum patients by:

1. **Identifying** postpartum patients presenting to the Emergency Department (ED) with severe hypertension or preeclampsia
2. **Treating** patients identified with severe hypertension in a timely fashion
3. **Improving** communication and coordination of care between Emergency Medicine and Obstetric health care teams
4. **Reducing** complications from postpartum preeclampsia that led to maternal morbidity and mortality
5. **Reducing** racial disparities in health outcomes of Black and/or Hispanic postpartum patients with severe hypertension or preeclampsia

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DATA MEASURES

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Outcome Measures:

1. All patients screened as positive for postpartum status will be screened for elevated blood pressure SBP >/= 140 and/or DBP >/= 90.*
2. All joint ED and OB units will perform case review for all cases of postpartum patients presenting with elevated blood pressure SBP >/= 140 and/or DBP >/= 90 through the emergency department.*

Structure Measures:

1. All emergency departments (ED) and L&D units will have a policy outlining the triage, consultation, admission, and treatment process for postpartum patients presenting with elevated blood pressure SBP >/= 140 and/or DBP >/= 90 and symptoms of preeclampsia.
2. All ED physicians and Advanced Practice Providers will be educated on the hospital unit plans and protocols for postpartum patients presenting with elevated blood pressure SBP >/= 140 and/or DBP >/= 90 and symptoms of preeclampsia in the ED.
3. All ED nurses will be educated on the hospital unit plans and protocols for postpartum patients presenting with elevated blood pressure SBP >/= 140 and/or DBP >/= 90 and symptoms of preeclampsia in the ED.

Process Measures:

1. All EDs will screen all patients who can become pregnant for pregnancy/postpartum status to identify those at risk of preeclampsia.*
2. All postpartum patients with persistent severe range blood pressure SBP >/= 160 and/or DBP >/= 110 are treated within 60 minutes of the first elevated blood pressure.*
3. All EDs will increase the timely transfer of postpartum patients with persistent severe range blood pressures SBP >/= 160 and/or DBP >/= 110 as designated by their hospital policy.*

* Outcome and Process measures disaggregated by Race, Ethnicity and Language. Measures disaggregate by geographic location (Cohort, LoMC, and Urbanization level)

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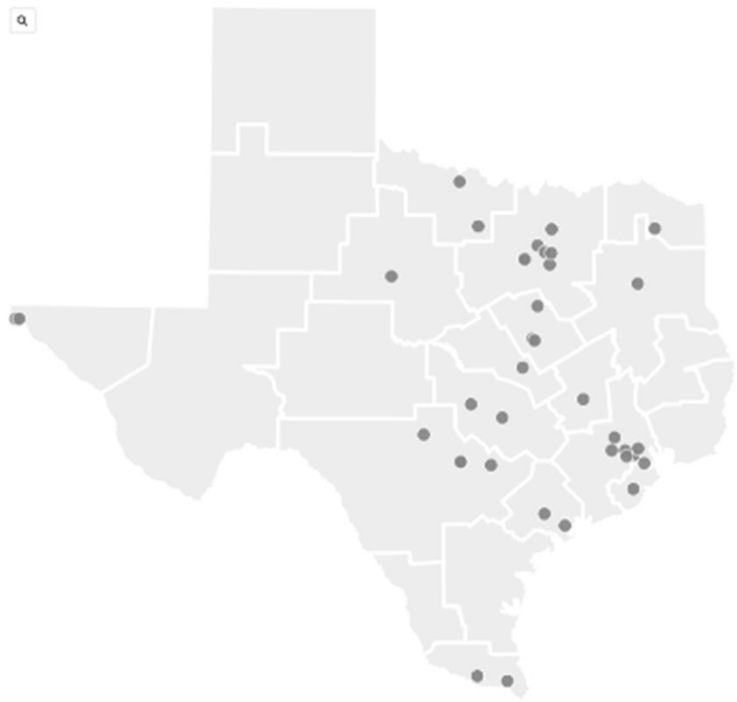

Hospital Enrollment in PPED

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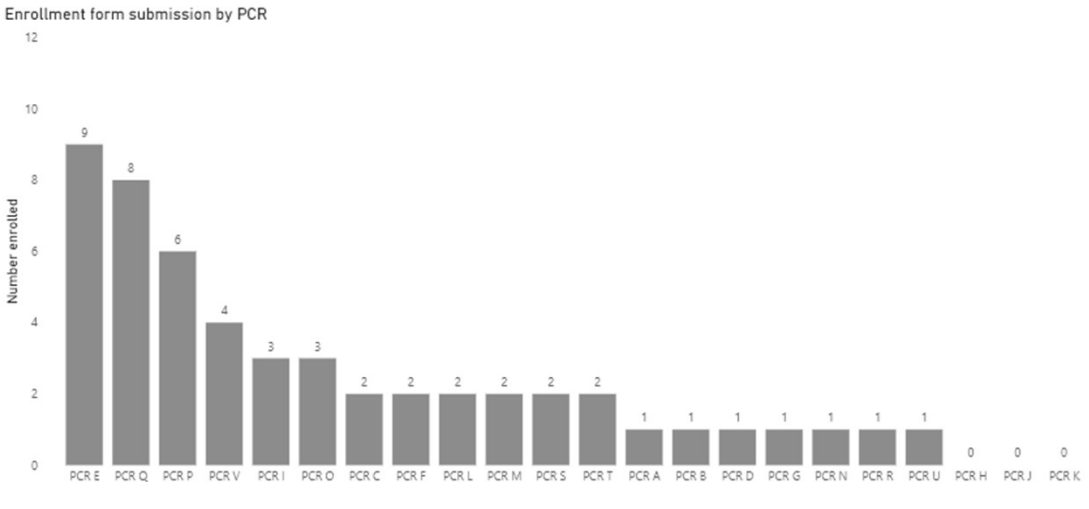
PARTICIPATION by PCR



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Project Implementation

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PROJECT CHALLENGES

- **Getting ED buy-in and the needed team members for the project**
  - Collaboration with hospitals that have been successful
  - TCHMB workgroup meetings with hospitals/RACs to address barriers
- **Collecting the needed data for the project**
  - Allowing hospitals to use a sample of patients for baseline data
  - Grouping hospitals with similar EHRs to facilitate collaboration on identifying needed data

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PROJECT CHALLENGES

- **Staffing challenges and the time commitment needed for the project**
  - All project meetings are virtual and recorded
  - Requirement is one team member attends the calls/meetings and disseminates the information to the rest of the hospital team
- **Getting a patient representative on the team**
  - Providing training through Institute for Patient Family-Centered Care
  - Providing patient perspective on calls/meetings

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Most common obstacles to PPED as gleaned from mid-point check in calls

Change in Leadership – ED and OB
Conflict between ED and OB
Quality team has difficult time making it a priority
ED providers and staff need education – no time
ED not screening for postpartum status

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RECOMMENTATIONS ED & OB PARTNERSHIP

- **Step 1: Create a relationship**
- **Step 2: Recognize all the specialties needing the ED's attention**
- **Step 3: Collaborate – Help us help you**
  - Recognition of Maternal HTN, but also stroke triggers for OB patients
  - What is normal for our other patients is high risk for OB
  - Meet in the middle for what and who is best for each problem to address
- **Step 4. Stay Humble. Stay Fair. It's a Process**
  - Rough Patches – But working it out as they come
  - Transparent and Have Patience
  - Keep eyes to quality and patient experience and safety
  - CELEBRATE WINS

Recommendations provided by the Titus Regional Hospital OB and ED department staff at the April PPED Reinforcement Call 10

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Project Outcomes

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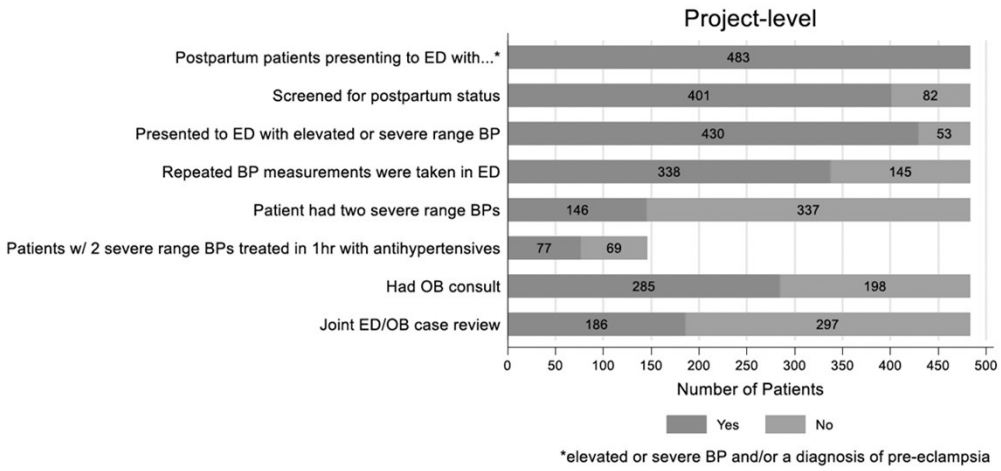
Graph 1: Project-level Summary, Baseline through January 2024



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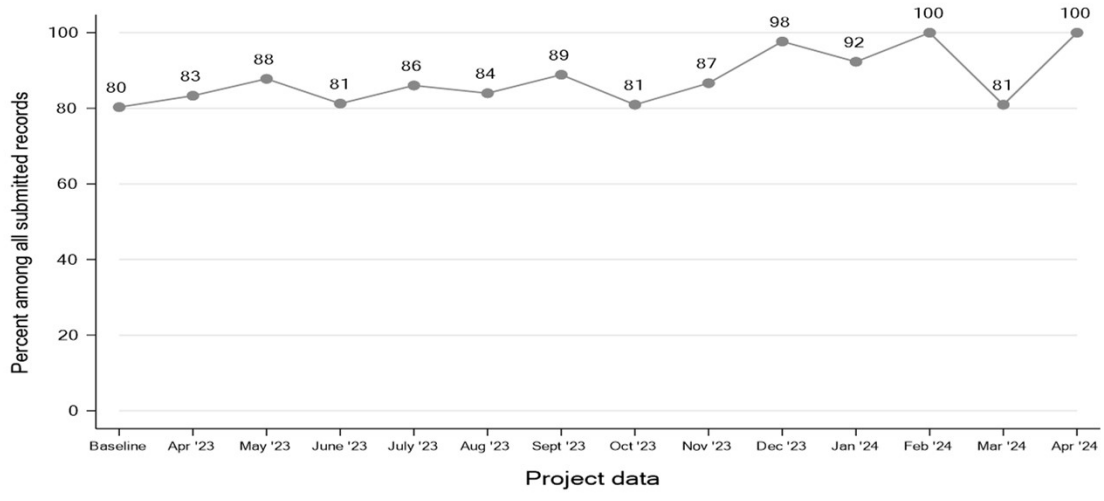
Percent of Submitted Patients Screened for Postpartum Status on ED Arrival



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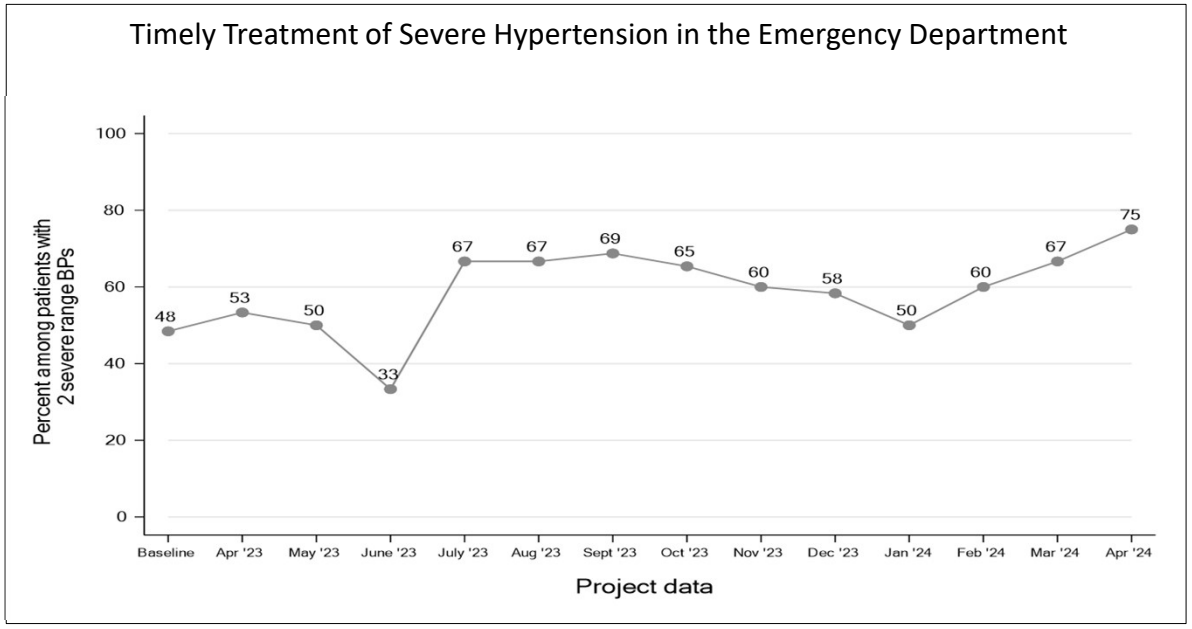
Timely Treatment of Severe Hypertension in the Emergency Department
Percent among patients with 2 severe range BPs
100
80
60
40
20
0
48
53
50
33
67
67
69
65
60
58
50
60
67
75
Baseline
Apr '23
May '23
June '23
July '23
Aug '23
Sept '23
Oct '23
Nov '23
Dec '23
Jan '24
Feb '24
Mar '24
Apr '24
Project data

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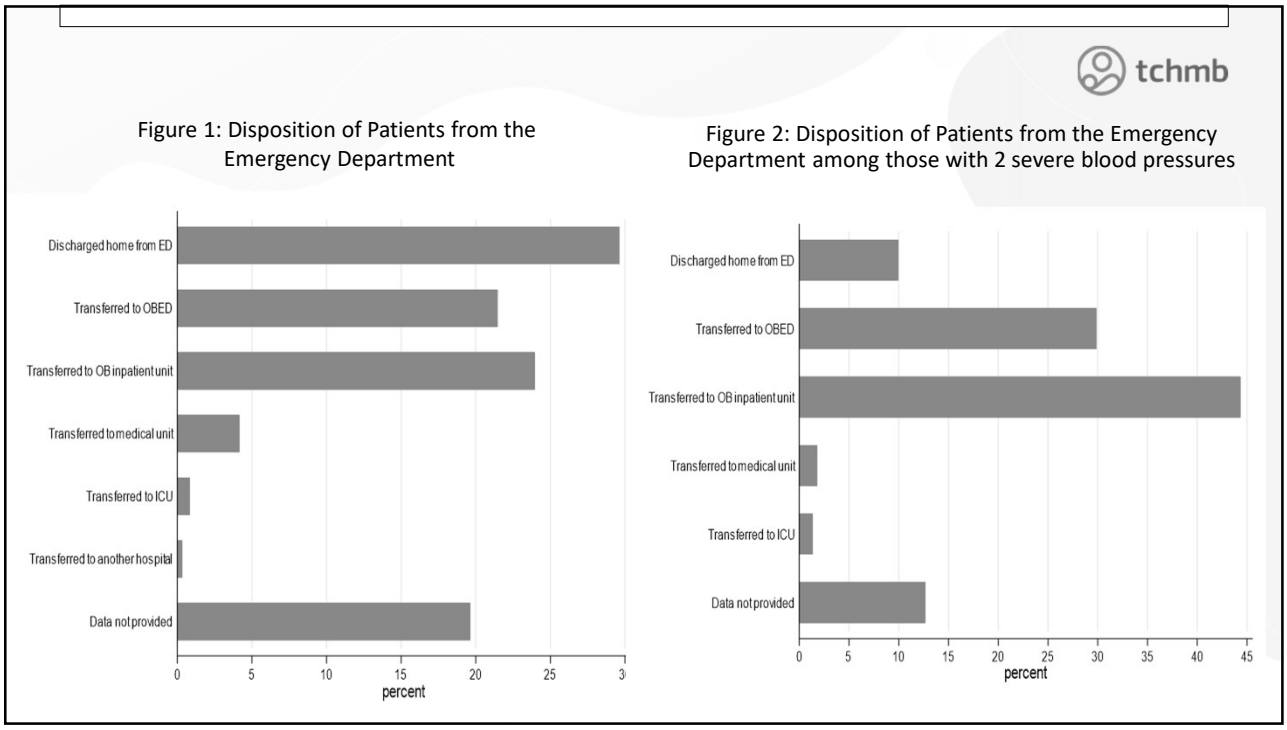
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Figure 1: Disposition of Patients from the Emergency Department
Discharged home from ED
Transferred to OBED
Transferred to OB inpatient unit
Transferred to medical unit
Transferred to ICU
Transferred to another hospital
Data not provided
0
5
10
15
20
25
30
percent
Figure 2: Disposition of Patients from the Emergency Department among those with 2 severe blood pressures
Discharged home from ED
Transferred to OBED
Transferred to OB inpatient unit
Transferred to medical unit
Transferred to ICU
Data not provided
0
5
10
15
20
25
30
35
40
45
percent

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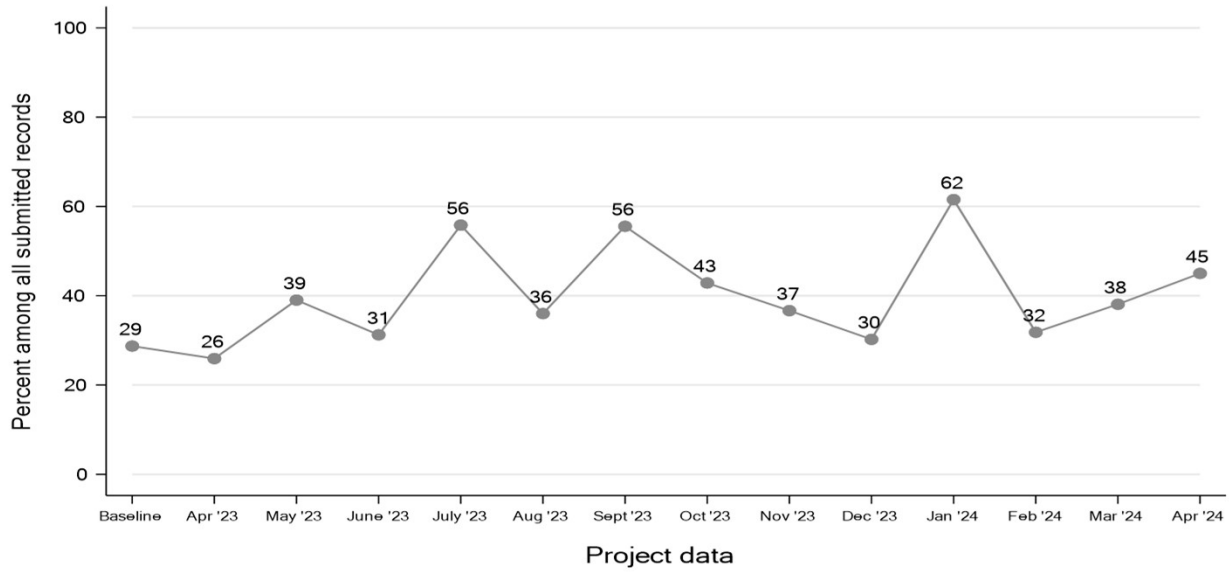
Percent of Patients that had a Joint ED and OB Case Review Performed



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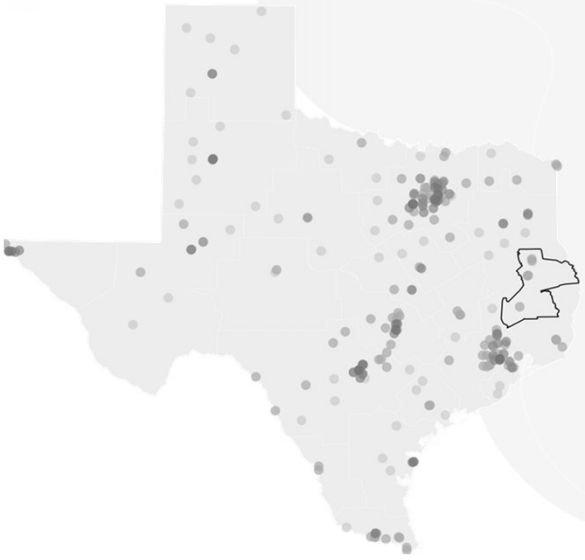
TEXAS MATERNAL CENTER MAP

The goal of the map is to:

- Visually show where Maternal Care Centers and therefore an OB consult are located within the state, by maternal designation level.
- Contact information for the centers. (Achieved by hovering over a center name on the map and it pops up the name of the hospital, address, and maternal hotline number)
- Link to the map: https://www.tchmb.org/pped#map. The link can also be found at www.TCHMB.org, under resources



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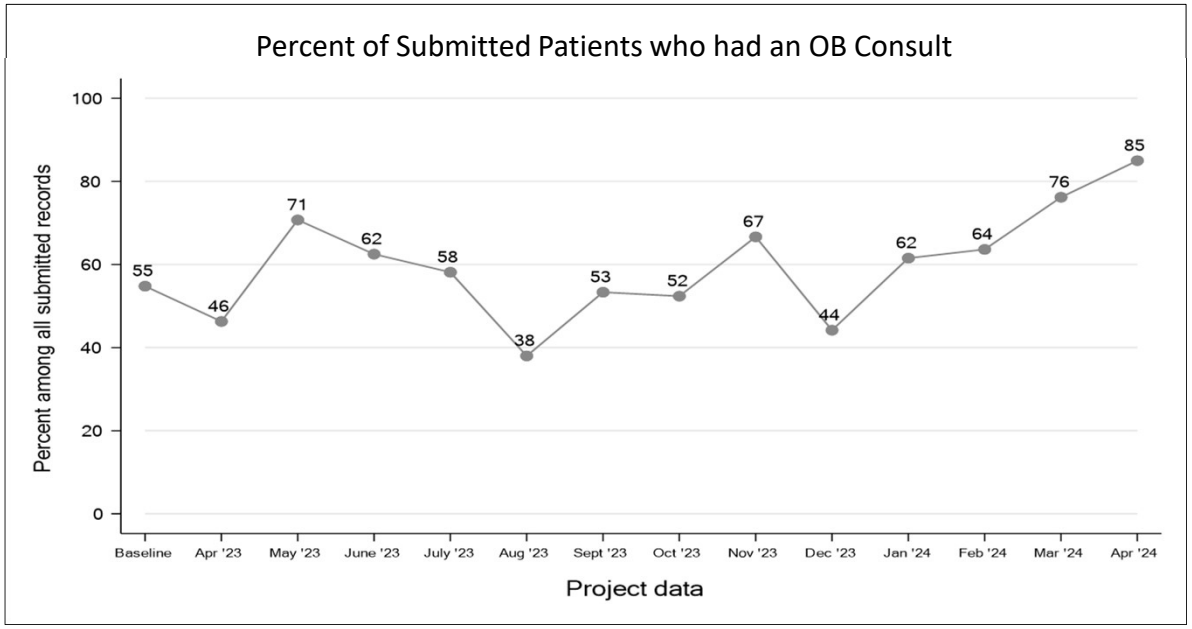

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Questions?

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