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6-2021

Improving Outcomes for Pregnant Women with Severe Hypertension

Danette Schloeder

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Improving Maternal Outcomes

Severe Maternal Hypertension

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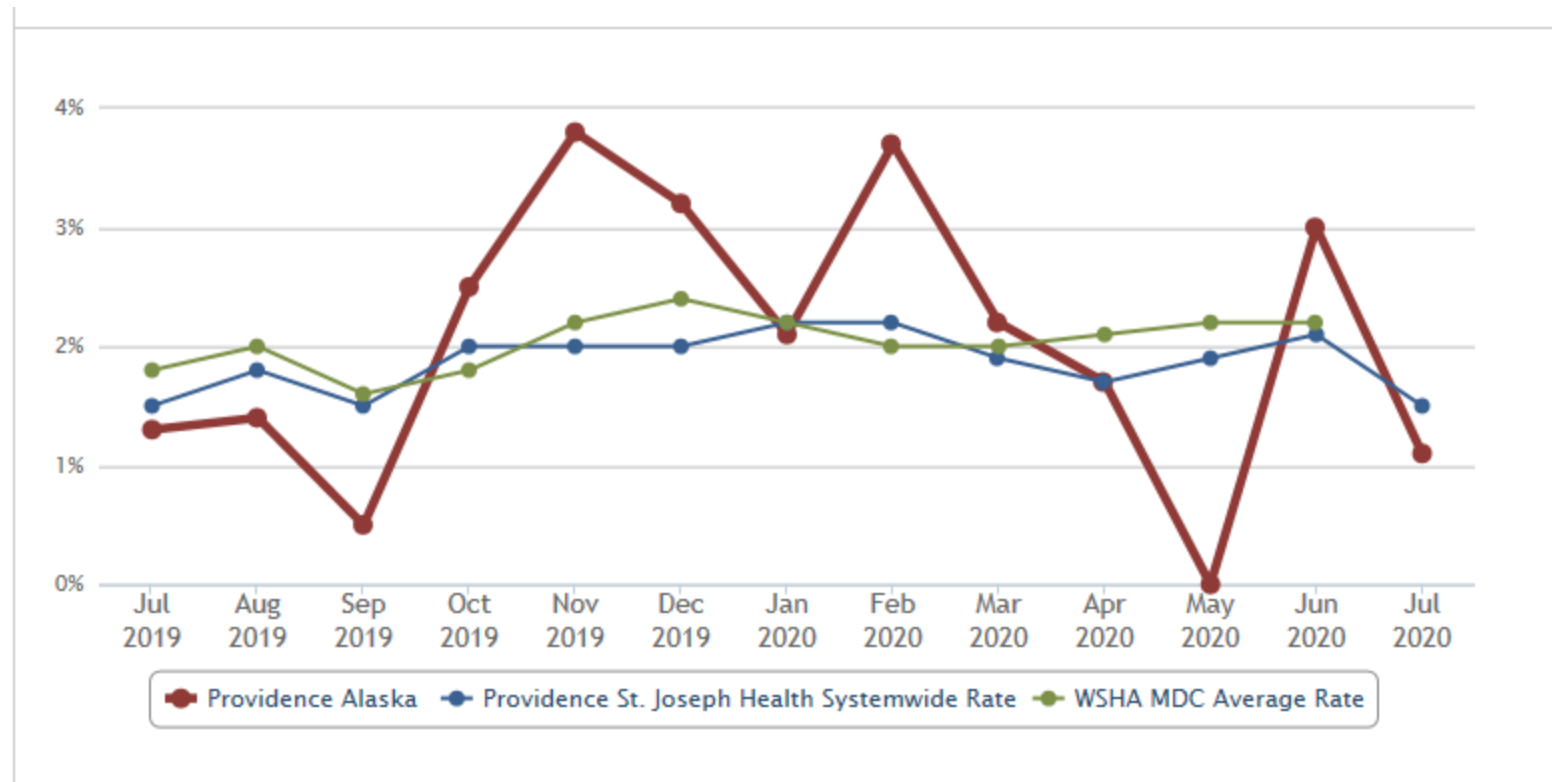
Perinatal Care Standards

- Effective January 2021, two new standards to improve the quality and safety of Perinatal Care
- Require organizations to look at processes and procedures surrounding care of women experiencing hemorrhage and severe hypertension/preeclampsia
- Two new standards and 13 EP's

PC.06.03.01

- Reduce the likelihood of harm related to maternal severe hypertension/preeclampsia
 - Develop written EBP procedures for measuring and re-measuring blood pressure
 - Develop EBP procedures for managing patients including
 - Use of emergency response medications
 - Use of seizure prophylaxis
 - Consult of experts of transfer to higher level of care
 - Provide role specific education to all staff and providers. At a minimum, education occurs at orientation, with changes, or every 2 years
 - Conduct drills annually
 - Review severe hypertension cases
 - Provide printed education to families

Prevalence



Initiative Overview

Partnership with the ACOG, Alliance for Innovation on Maternal Health (AIM) program

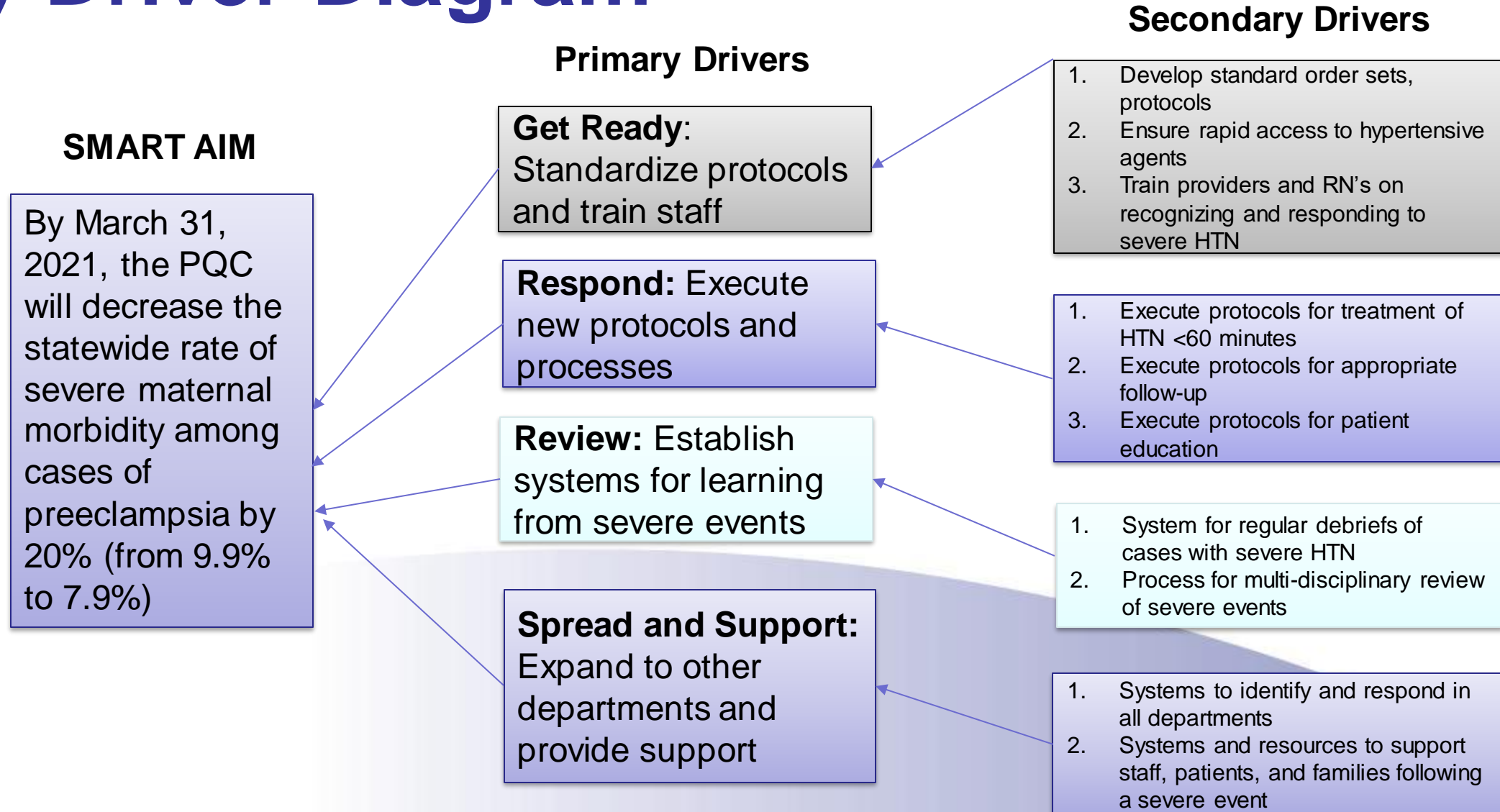


Original launch March 2019



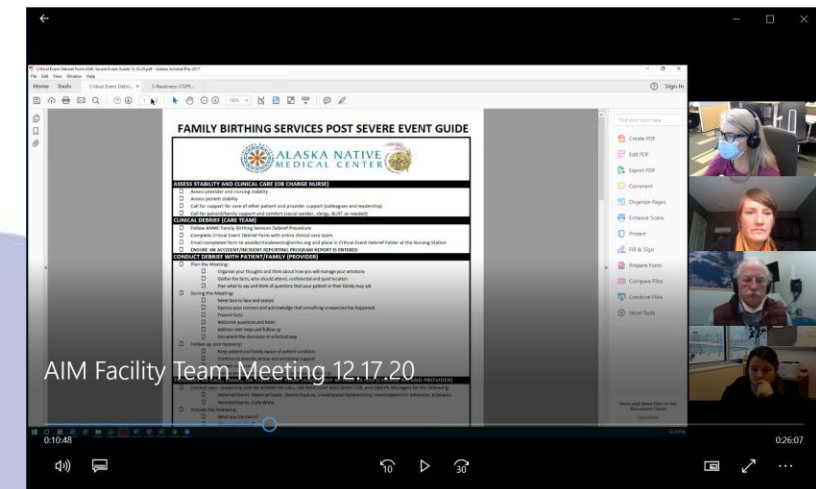
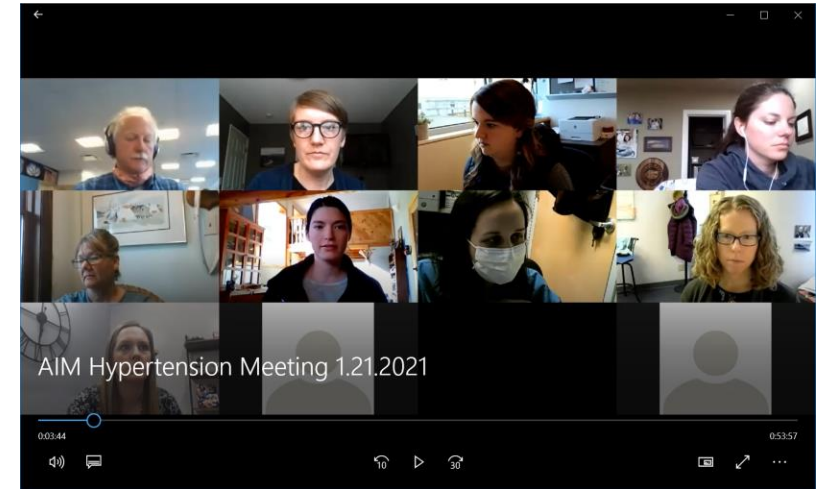
Redesign February 2020 after support from Illinois PQC

Key Driver Diagram



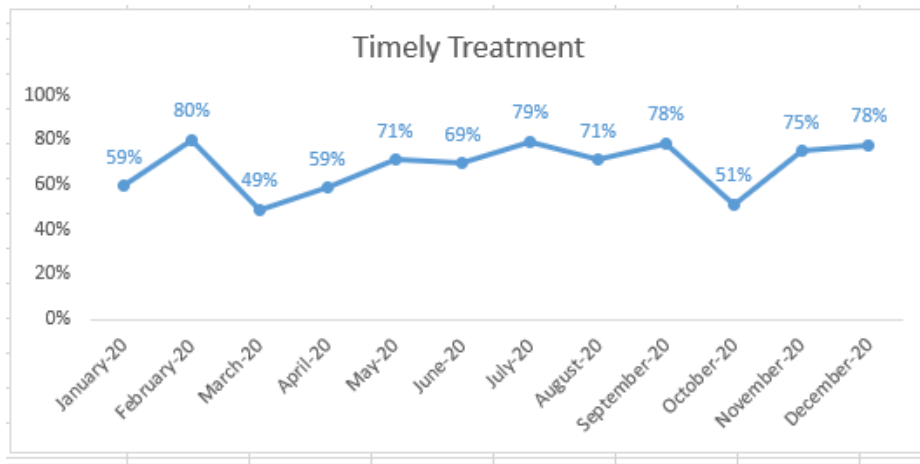
State Methods

- Implementation plan with monthly bundle topics
- Monthly virtual facility team and data meetings
- Quarterly webinars
- Monthly data submission
- State analysis and reporting of quarterly outcome measures



Data collection and submission...

- AIM Data Center for quarterly measures
- Excel spreadsheets for monthly measures



| | B | C | D | E | F | G | H | I |
|----|-----------------------------------|--------------|----------|--|---|-------------|---|---|
| 1 | Facility Name | | Updated: | | 8/25/2020 | | | |
| 2 | AKPQC AIM Hypertension Initiative | | | | | | | |
| 4 | | | | | Timely Treatment | | Patient Education | |
| 5 | | | | | Numerator | Denominator | Numerator | Denominator |
| 6 | Quarter | Month - Year | Rate | Among the denominator, number of patients who were treated within 60 minutes | Number of patients with persistent new-onset Severe HTN | Rate | Among the denominator, number of patients who received education at discharge | Number of patients with persistent new-onset Severe HTN |
| 7 | | January-19 | 0 | | | 0 | | 0 |
| 8 | | February-19 | 0 | | | 0 | | 0 |
| 9 | Q1 2019 | March-19 | 0 | | | 0 | | 0 |
| 10 | | April-19 | 0 | | | 0 | | 0 |
| 11 | | May-19 | 0 | | | 0 | | 0 |
| 12 | Q2 2019 | June-19 | 0 | | | 0 | | 0 |
| 13 | | July-19 | 0 | | | 0 | | 0 |
| 14 | | August-19 | 0 | | | 0 | | 0 |
| 15 | Q3 2019 | September-19 | 0 | | | 0 | | 0 |

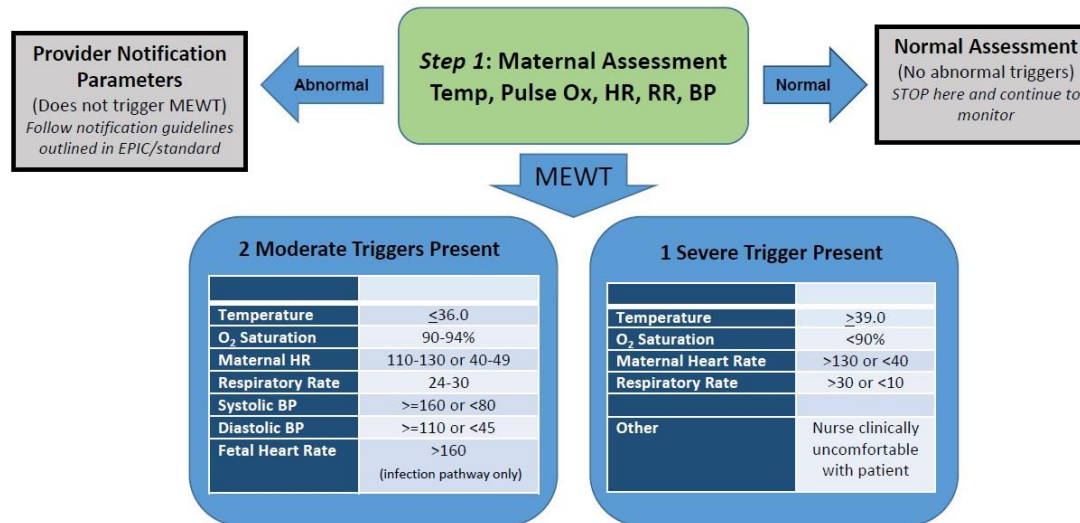
Local Efforts

- Standardized order set with hypertensive medications
- Maternal Early Warning Trigger (MEWT)
- Hypertension Toolkit integrated into Electronic Medical Record (EMR)
- Rapid access to hypertensive medications
- Training of nurses through online Relias education modules
- In situ simulations
- Standard of work for blood pressure measurement including documenting the circumference of the upper arm

Local Efforts

- Review of patient education materials and discharge instructions
- Monthly review of all cases of severe range blood pressures
- Incorporated hypertension performance goal into nursing yearly evaluations

MEWT



Step 2:
Review triggers and consider below clinical pathways (consider overlap)

Infection/Sepsis
Maternal temp & 2 more triggers

Consider the following **labs**:

- CBC and blood cultures (prior to antibiotic administration)
- Total bilirubin, creatinine
- Lactate level (for HR >110 or MAP <65)

Consider the following **consults**:

- RRT
- ICU (or transfer)
- MFM

Consider the following **treatment**:

- Broad-spectrum antibiotics
- 30 mL/kg crystalloid (*within 1 hr*) for hypotension OR lactate ≥ 4 mmol/L
- GOAL: MAP >65 and HR <100

Consider **SEPTIC SHOCK** if despite adequate volume resuscitation:

- Lactate remains >2 mmol/L
- MAP remains < 65

Cardiopulmonary
HR > 110, MAP < 65, O₂ Sat ≤ 93%, RR > 24 or altered mental status

Consider the **underlying cause**:

- Cardiomyopathy/CHF
- Myocardial infarction
- Pulmonary edema
- Pulmonary HTN
- Pulmonary embolus/DVT
- Illicit drug use

Consider the following **consults**:

- RRT
- MFM/perinatology
- Anesthesia
- General medicine/ICU

Consider the following **labs**:

- BNP
- Cardiac enzymes

Consider the following **tests**:

- EKG
- Echo
- Spiral CT
- Doppler

Severe Hypertension in Pregnancy
SBP ≥ 160 or DBP ≥ 110 (confirmed after 15 mins)

Follow these **actions**:

- Follow Epic order for acute treatment
- Notify provider

↓

If sustained, follow appropriate Epic order & notify provider

If O₂ Sats < 93% or RR > 24, consider **Pulmonary Edema**

Consider the following **consults**:

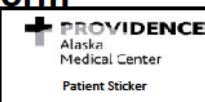
- MFM/perinatology
- Anesthesia

Hemorrhage
See OB Hemorrhage protocol for defined parameters

Follow OB hemorrhage protocol and applicable Epic order sets

Case Review

Critical Event Debrief Form

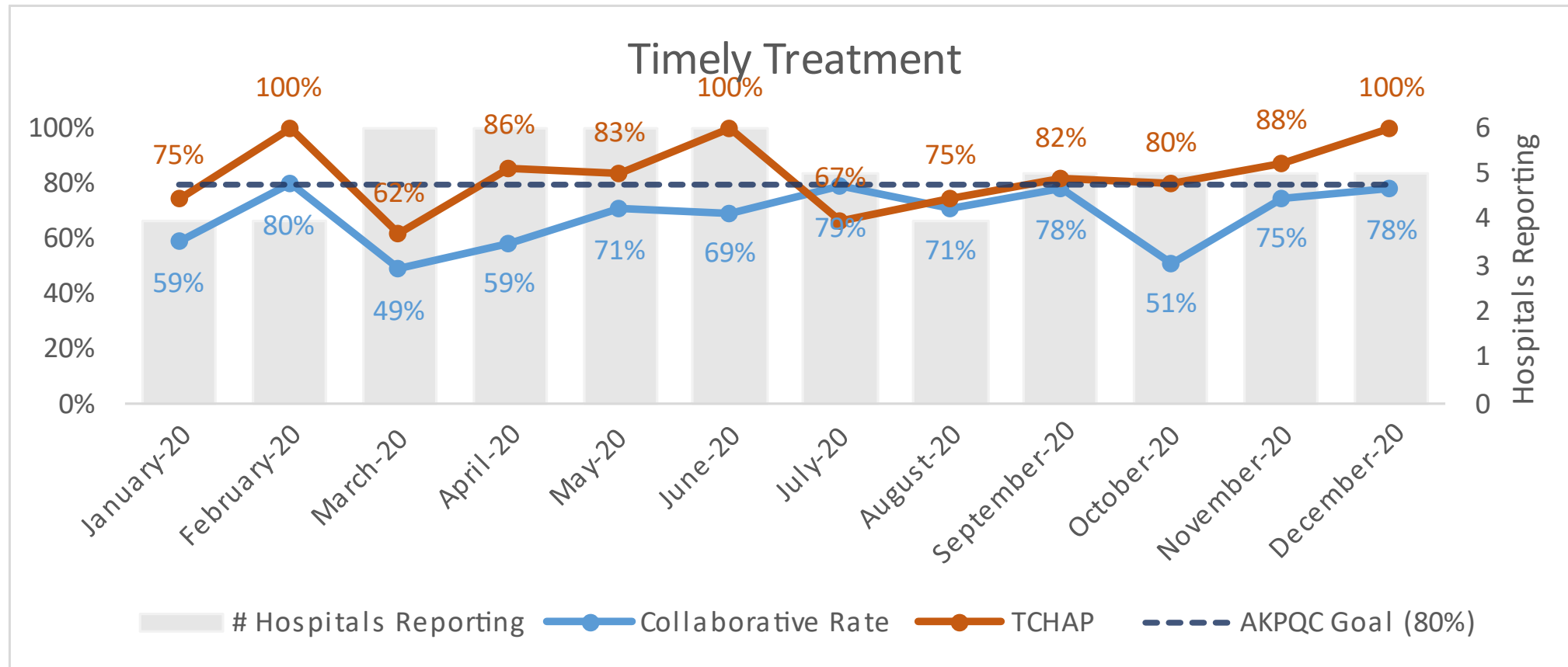
| | | | |
|---|--|--|------------------------------------|
| Completed by: _____ Date of incident: _____ Time of incident: _____ Unit where the event occurred: _____ | |  | |
| ****Not Part of the Medical Record**** ** Protected by AS 18.23.030 & AS 18.23.070(5)** | | | |
| Type of Incident (check all that apply) | Staff Involved/Role | | |
| <input type="checkbox"/> Neonatal Resuscitation <input type="checkbox"/> Post Partum Hemorrhage <input type="checkbox"/> HTN Emergency <input type="checkbox"/> Transfer to Higher Level of Care <input type="checkbox"/> Delivery Complication <input type="checkbox"/> Prolonged second stage of labor <input type="checkbox"/> Other _____ | _____ _____ _____ | | |
| Event Description - Include as much detail as you can. If you need more space for writing, you can attach a blank piece of paper with written description. | | | |
| | | | |
| What Went Well | Yes | No | What Could Have Gone Better |
| <input type="checkbox"/> Communication with Providers <input type="checkbox"/> Communication with other Departments <input type="checkbox"/> Communication with Staff <input type="checkbox"/> Equipment/Supplies <input type="checkbox"/> Staffing <input type="checkbox"/> Policies and Protocols <input type="checkbox"/> Epic Documentation <input type="checkbox"/> Medications <input type="checkbox"/> Other _____ | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | |
| Suggestions for Improvement | | <input type="checkbox"/> UOR <input type="checkbox"/> Notify the Manager on Call (if needed) <input type="checkbox"/> Debrief completed | |
| | | | |
| Place Completed form in binder at Charge Nurse Station | | | |

- Critical Event Debrief
- UOR
- Serious Safety Event and Sentinel Event Reviews
- Maternal Morbidity Review Quarterly

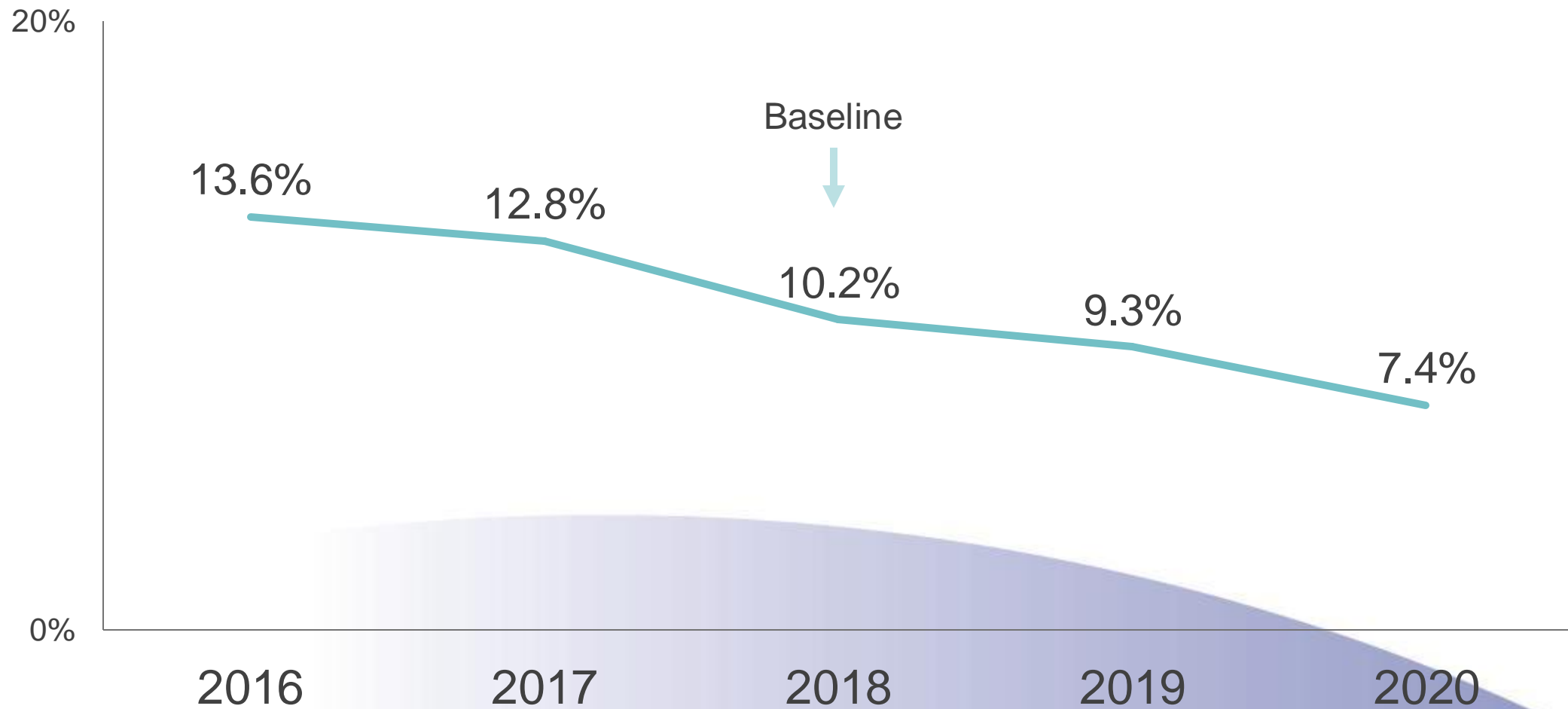
Timely Treatment

- New onset severe hypertension (Systolic ≥ 160 OR Diastolic ≥ 110) on two consecutive occasions at least 15 minutes apart
 - A single elevated severe range blood pressure, does not meet the inclusion criteria
- Treating women identified with new onset severe hypertension with first line medications (IV labetalol or hydralazine or po Nifedipine if IV access has not been established) within 60 min after elevated BP is identified

Timely Treatment

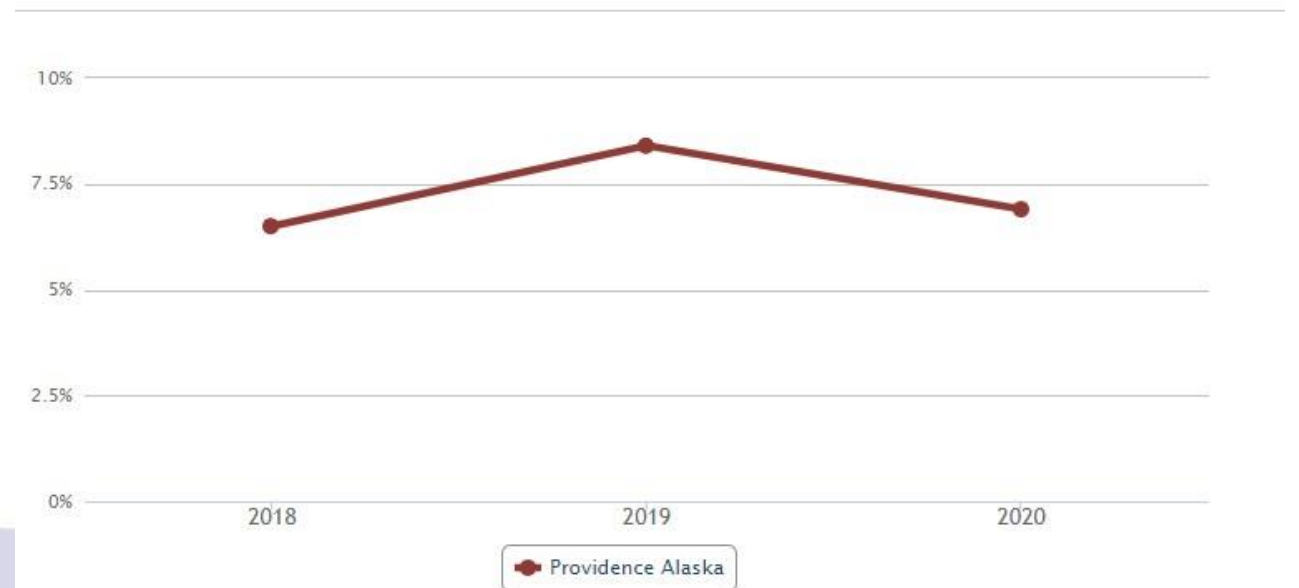


Severe Maternal Morbidity among Hypertension Cases – Alaska



Severe Maternal Outcomes

- Excludes cases with blood transfusion
- 2019 rate was 8.4%
- 2020 rate was 6.9% (Goal 6.72%)



| Period | Providence Alaska |
|--------|-------------------|
| 2020 | 6.9% |
| 2019 | 8.4% |

What We Did Well



WHO'S AWESOME?
YOU'RE AWESOME

- No maternal death
- Timely escalations of care
- Collaboration with MFM and other specialists
- Support of the family
- Hospitalists

Lessons learned...

- Collaboration is key!
- Data collection is difficult—engage IT early on
- Monthly data submission and review is essential for QI
- Expect the unexpected (e.g. a global pandemic!)

