**TIPQC “Severe Maternal Hypertension” QI Project**

***Data Collection Details***

(1) Monthly capture of “Treatment of Sever Hypertension” (HTN) process measure – *see Table 1 (last page)*.

* Definition:
  + **Denominator (D)**: Birthing patients with acute-onset severe hypertension that persists for 15 minutes or more, including those with preeclampsia, gestational or chronic hypertension.
  + **Numerator (N)**: Among the denominator, birthing patients who were treated within 1 hour with IV Labetalol, IV Hydralazine, or PO Nifedipine (see ACOG CO #767 Feb 2019).
* Additional details:
  + "Birthing patients" includes pregnant and postpartum women (up to 6 weeks).
  + The denominator Considers the ACOG diagnoses of chronic hypertension (CHTN), CHTN with superimposed pre-eclampsia, preeclampsia, and gestational hypertension.
  + The 1 hour is measured from the first severe range BP reading, assuming confirmation of persistent elevation through a second reading.
  + Participating hospital teams will capture the overall D & N as well as the D & N within specific racial/ethnic groups - (i) White, (ii) Black/African American, and (iii) Hispanic/Latino women.
  + Participating hospital teams will capture this process measure in a specific spreadsheet and a corresponding TIPQC/TDH REDCap project every month.
  + Participating hospital teams will also aggregate their monthly D & N values every quarter and enter the corresponding quarterly values into the Alliance for Innovation in Maternal Health (AIM) Data Center.
    - TIPQC has teamed up with the American College of Obstetricians and Gynecologists’ (ACOG’s) AIM program (https://safehealthcareforeverywoman.org/) to carry out this project. AIM is a national data-driven maternal safety and quality improvement initiative based on interdisciplinary consensus-based practices to improve maternal safety and outcomes. The program provides implementation and data support for the adoption of evidence-based patient safety bundles - collections of best practices that have been vetted by experts in practice.
    - Capture of this quarterly process measure (and additional measures – see rest of document) in the AIM Data Center is required for participation in this Maternal Safety Bundle.
    - The AIM Data Center is a secure online system used to capture data from every state participating in any of their Maternal Safety Bundles. One individual from each participating hospital will be granted access to the Data Center. The identity of each participating hospital is masked in the Data Center – only TIPQC and each participating hospital will know the identity of each masked hospital. Each participating hospital will be able to generate any number of reports in the Data Center on their data – including a comparison of themselves to hospitals in other states.

(2) Quarterly capture of AIM defined Severe Maternal Morbidity (SMM) outcome measures

* The denominator (D) and numerator (N) counts for the following outcome measures will be calculated by the Tennessee Hospital Association (THA) for each participating hospital team using specific ICD-10 codes pulled from claims data. AIM has defined the specific ICD-10 codes to use for the denominators and numerators listed in the table below.
* TIPQC will receive the tallied counts from THA (on a 2 quarter lag basis) and upload them into the AIM Data Center on behalf of each participating hospital. TIPQC will provide THA with the list of participating hospitals. The participating hospital teams have granted permission for THA to calculate the required measures and for TIPQC to submit the measures to the AIM Data Center. TIPQC will label each participating hospital teams data with their masked identifier prior to uploading.

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| **Outcome measure** | **Definition** |
| Severe Maternal Morbidity (SMM) | **Denominator (D)**: All mothers during their birth admission, excluding ectopics and miscarriages  **Numerator (N):** Among the denominator, all cases with any SMM code |
| SMM (excluding transfusion codes) | **Denominator (D):** All mothers during their birth admission, excluding ectopics and miscarriages **Numerator (N):** Among the denominator, all cases with any non-transfusion SMM code |
| SMM *among Preeclampsia Cases* | **Denominator (D):** All mothers during their birth admission, excluding ectopics and miscarriages, with one of the following diagnosis codes: Severe Preeclampsia; Eclampsia; or Preeclampsia superimposed on pre-existing hypertension **Numerator:** Among the denominator, cases with any SMM code |
| SMM (excluding transfusion codes) *among Preeclampsia Cases* | **Denominator (D):** All mothers during their birth admission, excluding ectopics and miscarriages, with one of the following diagnosis codes: Severe Preeclampsia; Eclampsia; or Preeclampsia superimposed on pre-existing hypertension **Numerator (N):** Among the denominator, cases with any non-transfusion SMM code |

(3) Quarterly capture of AIM defined process measures

* The participating hospital teams will capture these measures internally and enter them into the AIM Data Center every quarter.

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| **Process Measures** | **Definition** |
| Unit Drills | **P1a:** In this quarter**,** how many OB drills (In Situ and/or Sim Lab) were performed on your unit *for any maternal safety topic*?  **P1b**: In this quarter, what topics were covered in the OB drills? NOTE: a Yes/No value is captured for (i) Hemorrhage, (ii) Severe Hypertension, and (iii) Other - that is, whether or not the specific topic was covered in the OB drills performed in the quarter. |
| Provider Education | **P2**: At the end of this reporting period, what cumulative proportion of delivering physicians and midwives has completed within the last two years an education program on Severe Hypertension/Preeclampsia that includes the *unit-standard protocols and measures*? |
| Nursing Education | **P3**: At the end of this reporting period, what cumulative proportion of OB nurses (including L&D and postpartum) has completed within the last two years an education program on Severe Hypertension/Preeclampsia that includes the *unit-standard protocols and measures*? |

(4) Capture of AIM defined structure measures

* The participating hospital teams will review each of the following structure measures in the AIM Data Center every quarter (when capturing the process measures above) and capture a completion/start date, if relevant.

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| **Structure Measure** | **Description** |
| Patient, Family & Staff Support | **Report Completion Date** Has your hospital developed OB specific resources and protocols to support patients, family and staff through major OB complications? |
| Debriefs | **Report Start Date** Has your hospital established a system in your hospital to perform regular formal debriefs after cases with major complications? |
| Multidisciplinary Case Reviews | **Report Start Date** Has your hospital 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 | **Report Completion Date** Does your hospital have a Severe HTN/Preeclampsia policy and procedure (reviewed and updated in the last 2-3 years) 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? |
| EHR Integration | **Report Completion Date** Were some of the recommended Severe HTN/Preeclampsia bundle processes (i.e. order sets, tracking tools) integrated into your hospital’s Electronic Health Record system? |

Table 1:

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEVERE MATERNAL HYPERTENSION** | | | | | | | | | | |
| **MONTHLY PROCESS MEASURE TO BE CAPTURED BY EACH PARTICIPATING HOSPITAL TEAM** | | | | | | | | | | |
|  |  |  | **P4M: Treatment of Sever HTN** | | | | | | | |
|  |  |  | **Overall** | | **White** | | **Black /**  **Af Amer** | | **Hispanic** | |
| **Month** | **Quarter** | **Period** | **D** | **N** | **D** | **N** | **D** | **N** | **D** | **N** |
| Jul-20 | Q3 2020 | Pilot Baseline |  |  |  |  |  |  |  |  |
| Aug-20 | Q3 2020 | Pilot Baseline |  |  |  |  |  |  |  |  |
| Sep-20 | Q3 2020 | Pilot Baseline |  |  |  |  |  |  |  |  |
| Oct-20 | Q4 2020 | Pilot Active |  |  |  |  |  |  |  |  |
| Nov-20 | Q4 2020 | Pilot Active |  |  |  |  |  |  |  |  |
| Dec-20 | Q4 2020 | Pilot Active |  |  |  |  |  |  |  |  |
| Jan-21 | Q1 2021 | Pilot Active / Statewide Baseline |  |  |  |  |  |  |  |  |
| Feb-21 | Q1 2021 | Pilot Active / Statewide Baseline |  |  |  |  |  |  |  |  |
| Mar-21 | Q1 2021 | Pilot Active / Statewide Baseline |  |  |  |  |  |  |  |  |
| Apr-21 | Q2 2021 | Statewide active |  |  |  |  |  |  |  |  |
| May-21 | Q2 2021 | Statewide active |  |  |  |  |  |  |  |  |
| Jun-21 | Q2 2021 | Statewide active |  |  |  |  |  |  |  |  |
| Jul-21 | Q3 2021 | Statewide active |  |  |  |  |  |  |  |  |
| Aug-21 | Q3 2021 | Statewide active |  |  |  |  |  |  |  |  |
| Sep-21 | Q3 2021 | Statewide active |  |  |  |  |  |  |  |  |
| Oct-21 | Q4 2021 | Statewide active |  |  |  |  |  |  |  |  |
| Nov-21 | Q4 2021 | Statewide active |  |  |  |  |  |  |  |  |
| Dec-21 | Q4 2021 | Statewide active |  |  |  |  |  |  |  |  |
| Jan-22 | Q1 2022 | Statewide active |  |  |  |  |  |  |  |  |
| Feb-22 | Q1 2022 | Statewide active |  |  |  |  |  |  |  |  |
| Mar-22 | Q1 2022 | Statewide active |  |  |  |  |  |  |  |  |
| Apr-22 | Q2 2022 | Statewide active |  |  |  |  |  |  |  |  |
| May-22 | Q2 2022 | Statewide active |  |  |  |  |  |  |  |  |
| Jun-22 | Q2 2022 | Statewide active |  |  |  |  |  |  |  |  |
| Jul-22 | Q3 2022 | Statewide active |  |  |  |  |  |  |  |  |
| Aug-22 | Q3 2022 | Statewide active |  |  |  |  |  |  |  |  |
| Sep-22 | Q3 2022 | Statewide active |  |  |  |  |  |  |  |  |
| Oct-22 | Q4 2022 | Statewide active |  |  |  |  |  |  |  |  |
| Nov-22 | Q4 2022 | Statewide active |  |  |  |  |  |  |  |  |
| Dec-22 | Q4 2022 | Statewide active |  |  |  |  |  |  |  |  |