

## AIM MEASURES for Obstetric Hemorrhage Bundle

Outcome Measures (O)	Description	Data Source	Reporting Frequency	Data Coordinator Options	Notes
<b>O1: Severe Maternal Morbidity (SMM)</b>	<b>Denominator:</b> All mothers during their birth admission, excluding ectopics and miscarriages <b>Numerator:</b> Among the denominator, all cases with any SMM code	HDD File (ICD-10)	Quarterly (if available), otherwise annual	<ul style="list-style-type: none"> <li>•State Agency</li> <li>•Designated Data Coordinating Body/Hospital System</li> </ul>	<p><i>The SMM Outcome Measures will also be calculated on an annual basis by major race/ethnicity groups: <b>NH white, NH black, Hispanic, NH AI/AN, NH API(NH=Non-Hispanic).</b></i></p> <p><i>Each state will determine which race groups to report, but the first 3 are required.</i></p>
<b>O2: Severe Maternal Morbidity (excluding cases with only a transfusion code) among All Delivering Women</b>	<b>Denominator:</b> All mothers during their birth admission, excluding ectopics and miscarriages <b>Numerator:</b> Among the denominator, all cases with any non-transfusion SMM code	HDD File (ICD-10)	Quarterly (if available), otherwise annual	<ul style="list-style-type: none"> <li>•State Agency</li> <li>•Designated Data Coordinating Body/Hospital System</li> </ul>	
<b>O3: Severe Maternal Morbidity among Hemorrhage Cases</b>	<b>Denominator:</b> All mothers during their birth admission, excluding ectopics and miscarriages, meeting one of the following criteria: <ul style="list-style-type: none"> <li>• Presence of an Abruption, Previa or Antepartum hemorrhage diagnosis code</li> <li>• Presence of transfusion procedure code without a sickle cell crisis diagnosis code</li> <li>• Presence of a Postpartum hemorrhage diagnosis code</li> </ul> <b>Numerator:</b> Among the denominator, all cases with any SMM code	HDD File (ICD-10)	Quarterly (if available), otherwise annual	<ul style="list-style-type: none"> <li>•State Agency</li> <li>•Designated Data Coordinating Body/Hospital System</li> </ul>	
<b>O4: Severe Maternal Morbidity (excluding cases with only a transfusion code) among Hemorrhage Cases.</b>	<b>Denominator:</b> All mothers during their birth admission, excluding ectopics and miscarriages, meeting one of the following criteria: <ul style="list-style-type: none"> <li>• Presence of an Abruption, Previa or Antepartum hemorrhage diagnosis code</li> <li>• Presence of transfusion procedure code without a sickle cell crisis diagnosis code</li> <li>• Presence of a Postpartum hemorrhage diagnosis code</li> </ul> <b>Numerator:</b> Among the denominator, all cases with any non-transfusion SMM code	HDD File (ICD-10)	Quarterly (if available), otherwise annual	<ul style="list-style-type: none"> <li>•State Agency</li> <li>•Designated Data Coordinating Body/Hospital System</li> </ul>	

Process Measures (P)	Description	Data Source	Reporting Frequency	Data Coordinator Options	Notes
<b>P1: Unit Drills</b>	<p><b>Report # of drills and the drill topics</b></p> <p><b>P1a:</b> In this quarter, how many OB drills (In Situ and/or Sim Lab) were performed on your unit for any maternal safety topic?</p> <p><b>P1b:</b> In this quarter, what topics were covered in the OB drills?</p>	Hospital	Quarterly	<ul style="list-style-type: none"> <li>●Perinatal Nurse Manager</li> <li>●Designated QI Leader</li> </ul>	--
<b>P2: Provider Education</b>	<p><b>Report estimate in 10% increments (round up)</b></p> <p><b>P2a:</b> At the end of this quarter, what cumulative proportion of OB physicians and midwives has completed (within the last 2 years) an education program on Obstetric Hemorrhage?</p> <p><b>P2b:</b> At the end of this quarter, what cumulative proportion of OB physicians and midwives has completed (within the last 2 years) an education program on the Obstetric Hemorrhage bundle elements and the unit-standard protocol?</p>	Hospital	Quarterly	<ul style="list-style-type: none"> <li>●Perinatal Nurse Manager</li> <li>●Designated QI Leader</li> </ul>	<p><i>Meant to be informal estimates by nursing leadership similar to the CDC survey to assess breastfeeding practices.</i></p> <p><i>Cumulative means "Since the onset of the project, what proportion of the staff have completed the educational program?"</i></p>
<b>P3: Nursing Education</b>	<p><b>Report estimate in 10% increments (round up)</b></p> <p><b>P3a:</b> At the end of this quarter, what cumulative proportion of OB nurses has completed (within the last 2 years) an education program on Obstetric Hemorrhage?</p> <p><b>P3b:</b> At the end of this quarter, what cumulative proportion of OB nurses has completed (within the last 2 years) an education program on the Obstetric Hemorrhage bundle elements and the unit-standard protocol?</p>	Hospital	Quarterly	<ul style="list-style-type: none"> <li>●Perinatal Nurse Manager</li> <li>●Designated QI Leader</li> </ul>	<p><i>Meant to be informal estimates by nursing leadership similar to the CDC survey to assess breastfeeding practices.</i></p>
<b>P4: Risk Assessment</b>	<p><b>Report estimate in 10% increments (round up)</b></p> <p>At the end of this quarter, what cumulative proportion of mothers had a hemorrhage risk assessment with risk level assigned, performed at least once between admission and birth and shared among the team?</p>	Hospital	Quarterly	<ul style="list-style-type: none"> <li>●Perinatal Nurse Manager</li> <li>●Designated QI Leader</li> </ul>	<p><i>Meant to be informal estimates by nursing leadership similar to the CDC survey to assess breastfeeding practices.</i></p>
<b>P5: Quantified</b>	<p><b>Report estimate in 10% increments (round up) In</b></p>	Hospital	Quarterly	<ul style="list-style-type: none"> <li>●Perinatal Nurse</li> </ul>	<p><i>Meant to be</i></p>

<b>Blood Loss</b>	this quarter, what proportion of mothers had measurement of blood loss from birth through the recovery period using quantitative and cumulative techniques?			Manager ● Designated QI Leader	<i>informal estimates by nursing leadership similar to the CDC survey to assess breastfeeding practices.</i>  <i>Formal measurement can include any method beyond visual estimate alone (eg, under-buttock drapes with gradations, weighing clots and sponges, suction canisters with gradations).</i>
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Structure Measures (S)	Description	Data Source	Reporting Frequency	Data Coordinator Options	Notes
<b>S1: Patient, Family &amp; Staff Support</b>	<b>Report Completion Date</b> Has your hospital developed OB specific resources and protocols to support patients, family and staff through major OB complications?	Hospital	Once	● Perinatal Nurse Manager ● Designated QI Leader	--
<b>S2: Debriefs</b>	<b>Report Start Date</b> Has your hospital established a system in your hospital to perform regular formal debriefs after cases with major complications?	Hospital	Once	● Perinatal Nurse Manager ● Designated QI Leader	<i>Major complications will be defined by each facility based on volume, with a minimum being The Joint Commission Severe Maternal Morbidity Criteria</i>
<b>S3: Multidisciplinary Case Reviews</b>	<b>Report Start Date</b> Has your hospital established a process to perform multidisciplinary systems-level reviews on all cases of severe maternal morbidity (including women admitted to the ICU, receiving ≥4 units RBC transfusions, or diagnosed with a VTE)?	Hospital	Once	● Perinatal Nurse Manager ● Designated QI Leader	
<b>S4: Hemorrhage</b>	<b>Report Completion Date</b>	Hospital	Once	● Perinatal Nurse	

<b>Cart</b>	Does your hospital have OB hemorrhage supplies readily available, typically in a cart or mobile box?			Manager ●Designated QI Leader	
<b>S5: Unit Policy and Procedure</b>	<b>Report Completion Date</b> Does your hospital have an OB hemorrhage policy and procedure (reviewed and updated in the last 2-3 years) that provides a unit-standard approach using a stage-based management plan with checklists?	Hospital	Once	●Perinatal Nurse Manager ●Designated QI Leader	
<b>S6: EHR Integration</b>	<b>Report Completion Date</b> Were some of the recommended OB Hemorrhage bundle processes (i.e. order sets, tracking tools) integrated into your hospital's Electronic Health Record system?	Hospital	Once	●Perinatal Nurse Manager ●Designated QI Leader	<i>It can be any part of the Obstetric Hemorrhage bundle (i.e. orders, protocols, documentation)</i>

## AIM MEASURES for Severe Hypertension/Preeclampsia Bundle

Outcome Measures (O)	Description	Data Source	Reporting Frequency	Data Coordinator Options	Notes
<b>O1: Severe Maternal Morbidity (SMM)</b>	<b>Denominator:</b> All mothers during their birth admission, excluding ectopics and miscarriages <b>Numerator:</b> Among the denominator, all cases with any SMM code	HDD File (ICD-10)	Quarterly (if available), otherwise annual	<ul style="list-style-type: none"> <li>●State Agency</li> <li>●Designated Data Coordinating Body/Hospital System</li> </ul>	<i>The SMM Outcome Measures will also be calculated on an annual basis by major race/ethnicity groups: <b>NH white, NH black, Hispanic, NH AI/AN, NH API(NH=Non-Hispanic).</b></i>
<b>O2: Severe Maternal Morbidity (excluding transfusion codes)</b>	<b>Denominator:</b> All mothers during their birth admission, excluding ectopics and miscarriages <b>Numerator:</b> Among the denominator, all cases with any non-transfusion SMM code	HDD File (ICD-10)	Quarterly (if available), otherwise annual	<ul style="list-style-type: none"> <li>●State Agency</li> <li>●Designated Data Coordinating Body/Hospital System</li> </ul>	
<b>O3: Severe Maternal Morbidity among Preeclampsia Cases</b>	<b>Denominator:</b> All mothers during their birth admission, excluding ectopics and miscarriages, with one of the following diagnosis codes: <ul style="list-style-type: none"> <li>●Severe Preeclampsia</li> <li>●Eclampsia</li> <li>●Preeclampsia superimposed on pre-existing hypertension</li> </ul> <b>Numerator:</b> Among the denominator, cases with any SMM code	HDD File (ICD-10)	Quarterly (if available), otherwise annual	<ul style="list-style-type: none"> <li>●State Agency</li> <li>●Designated Data Coordinating Body/Hospital System</li> </ul>	<i>Each state will determine which race groups to report, but the first 3 are required.</i>
<b>O4: Severe Maternal Morbidity (excluding transfusion codes) among Preeclampsia Cases</b>	<b>Denominator:</b> All mothers during their birth admission, excluding ectopics and miscarriages, with one of the following diagnosis codes: <ul style="list-style-type: none"> <li>●Severe Preeclampsia</li> <li>●Eclampsia</li> <li>●Preeclampsia superimposed on pre-existing hypertension</li> </ul> <b>Numerator:</b> Among the denominator, all cases with any non-transfusion SMM code	HDD File (ICD-10)	Quarterly (if available), otherwise annual	<ul style="list-style-type: none"> <li>●State Agency</li> <li>●Designated Data Coordinating Body/Hospital System</li> </ul>	
Process Measures (P)	Description	Data Source	Reporting Frequency	Data Coordinator Options	Notes
<b>P1: Unit Drills</b>	<b>Report # of Drills and the drill topics</b>	Hospital	Quarterly	●Perinatal Nurse	--

	<p><b>P1a:</b> In this quarter, how many OB drills (In Situ and/or Sim Lab) were performed on your unit for any maternal safety topic?</p> <p><b>P1b:</b> In this quarter, what topics were covered in the OB drills?</p>			<p>Manager</p> <ul style="list-style-type: none"> <li>•Designated QI Leader</li> </ul>	
<b>P2: Provider Education</b>	<p><b>Report estimate in 10% increments (round up)</b></p> <p><b>P2a:</b> At the end of this quarter, what cumulative proportion of OB physicians and midwives has completed (within the last 2 years) an education program on Severe HTN/Preeclampsia?</p> <p><b>P2b:</b> At the end of this quarter, what cumulative proportion of OB physicians and midwives has completed (within the last 2 years) an education program on the Severe HTN/Preeclampsia bundle elements and the unit-standard protocol?</p>	Hospital	Quarterly	<ul style="list-style-type: none"> <li>•Perinatal Nurse Manager</li> <li>•Designated QI Leader</li> </ul>	<p><i>Meant to be informal estimates by nursing leadership similar to the CDC survey to assess breastfeeding practices.</i></p> <p><i>Cumulative means "Since the onset of the project, what proportion of the staff have completed the educational program?"</i></p>
<b>P3: Nursing Education</b>	<p><b>Report estimate in 10% increments (round up)</b></p> <p><b>P3a:</b> At the end of this quarter, what cumulative proportion of OB nurses has completed (within the last 2 years) an education program on Severe HTN/Preeclampsia?</p> <p><b>P3b:</b> At the end of this quarter, what cumulative proportion of OB nurses has completed (within the last 2 years) an education program on the Severe HTN/Preeclampsia bundle elements and the unit-standard protocol?</p>	Hospital	Quarterly	<ul style="list-style-type: none"> <li>•Perinatal Nurse Manager</li> <li>•Designated QI Leader</li> </ul>	<p><i>"Since the onset of the project, what proportion of the staff have completed the educational program?"</i></p>
<b>P4: Treatment of Severe HTN</b>	<p><b>Report N/D</b></p> <p><b>Denominator:</b> Women with persistent (twice within 15minutes) new-onset Severe HTN (Systolic: <math>\geq 160</math> or Diastolic: <math>\geq 110</math>), excludes women with an exacerbation of chronic HTN</p> <p><b>Numerator:</b> Among the denominator, cases who were treated within 1 hour with IV Labetalol, IV Hydralazine, or PO Nifedipine</p>	Hospital	Quarterly	<ul style="list-style-type: none"> <li>•Perinatal Nurse Manager</li> <li>•Designated QI Leader</li> </ul>	<p><i>The hardest part of this measure is to identify cases with persistent Severe Hypertension. Recommended use at least 2 systems (i.e. logbooks, EHR, pharmacy records) for identification of denominator cases.</i></p>

Structure Measures (S)	Description	Data Source	Reporting Frequency	Data Coordinator Options	Notes
<b>S1: Patient, Family &amp; Staff Support</b>	<b>Report Completion Date</b> Has your hospital developed OB specific resources and protocols to support patients, family and staff through major OB complications?	Hospital	Once	<ul style="list-style-type: none"> <li>●Perinatal Nurse Manager</li> <li>●Designated QI Leader</li> </ul>	--
<b>S2: Debriefs</b>	<b>Report Start Date</b> Has your hospital established a system in your hospital to perform regular formal debriefs after cases with major complications?	Hospital	Once	<ul style="list-style-type: none"> <li>●Perinatal Nurse Manager</li> <li>●Designated QI Leader</li> </ul>	<i>Major complications will be defined by each facility based on volume, with a minimum being The Joint Commission Severe Maternal Morbidity Criteria</i>
<b>S3: Multidisciplinary Case Reviews</b>	<b>Report Start Date</b> Has your hospital established a process to perform multidisciplinary systems-level reviews on all cases of severe maternal morbidity (including women admitted to the ICU, receiving ≥4 units RBC transfusions, or diagnosed with a VTE)?	Hospital	Once	<ul style="list-style-type: none"> <li>●Perinatal Nurse Manager</li> <li>●Designated QI Leader</li> </ul>	
<b>S4: Unit Policy and Procedure</b>	<b>Report Completion Date</b> 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?	Hospital	Once	<ul style="list-style-type: none"> <li>●Perinatal Nurse Manager</li> <li>●Designated QI Leader</li> </ul>	--
<b>S5: EHR Integration</b>	<b>Report Completion Date</b> 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?	Hospital	Once	<ul style="list-style-type: none"> <li>●Perinatal Nurse Manager</li> <li>●Designated QI Leader</li> </ul>	<i>It can be any part of the Severe Hypertension bundle (i.e. orders, protocols, documentation)</i>