

Process for Reviewing a Severe Maternal Morbidity (SMM) Event

What events should be reviewed?

- Pregnant, peripartum or postpartum women receiving 4 or more units of blood products
- Pregnant, peripartum or postpartum women who are admitted to an ICU as defined by the birth facility
- Other pregnant, peripartum or postpartum women who have an unexpected and severe medical event – at the discretion of the birth facility

Who should review the event?

Multidisciplinary standing committee at birth facility representing-

- Obstetrical providers (obstetricians, family physicians and/or advanced practice nurses)
- Anesthesia providers
- Obstetric care nurses
- Birth Facility quality improvement team
- Birth Facility administration
- Patient advocate
- Scribe
- If small birth facility, consider partnering with regional perinatal center or outsourcing the review

When to review?

- As close as possible to the time of the event
- The more severe the event, the closer the timing to review
- If large birthing facility with a number of events, consider scheduling regular meeting to do reviews.

How to review?

- Reviews should be sanctioned by the facility and protected from discovery. Confidentiality statements should be gathered from each committee member
- Gather all pertinent patient medical records and facility records regarding this patient and event
- Engage a trained reviewer/abstractor to complete the Abstraction section of the SMM Review Form, including a pertinent synopsis of the event and objective information found in the records
- Primary review is then presented to the review committee
- Multidisciplinary Reviews follow a standard format (i.e. Assessment section of SMM Review Form)
- Multidisciplinary Review conclude with recommendations

Instructions for SMM Abstraction

Recommendation is to review all those transfused 4 or more units or admission to ICU, but any birth facility may choose to review additional cases

- Identify the main event associated with the SMM
- Utilize the appropriate disease specific questions to create a pertinent time line and guide the review and abstraction of medical record information.
- If the answer to any of the following disease specific questions is no, attempt to identify why and record an explanation. These explanations should assess potential system, provider and patient issues.
- Fill out the objective data

Disease specific questions to guide SMM Review Process

Hemorrhage

1. Was the hemorrhage recognized in a timely fashion?
2. Were signs of hypovolemia recognized in a timely fashion?
3. Were transfusions administered in a timely fashion?
4. Were appropriate interventions (e.g. medications, balloons, sutures, etc.) used?
5. Were modifiable risk factors (e.g., Pitocin, induction, chorioamnionitis, delay in delivery) managed appropriately?
6. Was sufficient assistance (e.g. additional doctors, nurses, or others) requested and received?

Hypertensive disease

1. Was hypertension recognized appropriately?
2. Did the woman appropriately receive magnesium SO₄?
3. Was severe hypertension treated in a timely fashion?
4. Was the woman delivered at the appropriate time relative to her hypertensive disease?
5. Were any complications related to hypertensive disease managed appropriately?

Cardiac disease, including Cardiomyopathy

1. Was the cardiac disease diagnosis made in a timely fashion?
2. Was the management of the cardiac disease appropriate?
3. Were appropriate consultants used?
4. Were significant risk factors for cardiac disease recognized?

Thrombotic disease

1. Did the patient receive appropriate thromboprophylaxis?
2. Was the diagnosis of thromboembolism made in a timely fashion?
3. Were significant risk factors for thromboembolic disease recognized?

Infectious disease, including Sepsis

1. Was the diagnosis of sepsis or infectious disease made in a timely fashion?
2. Were appropriate antibiotics used after diagnosis? How long to treatment?
3. Did the woman receive appropriate volume of IV fluids?
4. Were significant modifiable risk factors for infectious complications identified?

Abstraction

Name of Birth Facility					
Level of Care <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> Birth center <input type="checkbox"/> Other (specify)					
Abstraction Date Click here to enter a date.			Abstractor		
Screened Positive by: ICD Dx Code <input type="checkbox"/> ICD Px Code <input type="checkbox"/> ≥ 4 Units RBC <input type="checkbox"/> ICU Admit <input type="checkbox"/> PPLOS <input type="checkbox"/> Other					
Type of SMM (documented cause) :					
Date of SMM Event :					
MR # or Patient ID		Discharge Date Click here to enter a date.		Zip code of Patient Residence	
PATIENT CHARACTERISTICS					
Age	Weight/Height	Body mass index (BMI) at first prenatal visit		Most recent BMI	
Race (Indicate race patient identifies) Choose an item.			Hispanic/Latina	No <input type="checkbox"/>	Yes <input type="checkbox"/> Unknown <input type="checkbox"/>
OBSTETRIC HISTORY					
Gravida	Para	Term	Premature	Aborted	Living
# Previous fetal deaths			# Previous infant deaths		
PRENATAL CARE (PNC)					
Yes <input type="checkbox"/> Week PNC began: [<i>Gestational Age</i>] No <input type="checkbox"/> Unknown PNC Status <input type="checkbox"/>					
# of PNC visits: Unknown PNC Visit # <input type="checkbox"/>					
[Assisted Reproductive Technology (ART)] Yes/No If yes, what:			[Depression/Psychiatric Disorder] <input type="checkbox"/>		
Discipline of Primary PNC Provider Choose an item.			Prenatal care source/location Choose an item.		
Planned/intended place of delivery Choose an item.			Timing of maternal morbidity Choose an item.		
Maternal transport during peripartum period					
No Choose an item.		Yes <input type="checkbox"/> Transfer from/to:		Unknown <input type="checkbox"/>	
Perinatologist/Other consultation during peripartum period					
No Choose an item.		Yes <input type="checkbox"/> Provider type:		Unknown <input type="checkbox"/>	
DELIVERY INFORMATION					
Singleton <input type="checkbox"/> Multiple <input type="checkbox"/> (If multiple fill out additional delivery information per fetus)					
Gestational age at time of morbidity					
Birth status Choose an item.		Labor Choose an item.		Delivery type Choose an item.	
If C-Section-					
Type of C-Section Choose an item.					
Primary reason for C-Section Choose an item.					
Type of anesthesia Choose an item.			Primary payer source Choose an item.		

Case Synopsis



Should include brief synopsis focused on the specific severe maternal morbidity that occurred. It should be concise and pertinent to the particular SMM and include appropriate time line, evaluation and be in chronologic format. Please attempt to identify key moments that impacted care.

Case Analysis Notes

Assessment		
Date of review Click here to enter a date.		Date of SMM Event Click here to enter a date.
Patient ID		
Reviewers		
Morbidity Category <input type="checkbox"/> ICU ADMISSION <input type="checkbox"/> Transfused 4 or more UNITS <input type="checkbox"/> OTHER		
A. [Primary Cause of Morbidity] Choose an item.	[If trauma indicated as primary cause of morbidity] Choose an item.	[Other cause]
B. Sequence of Morbidity: Clinical Cause of Morbidity 1 and 2 reflect what initiated the final cause resulting in the severe morbidity and 3 is the final cause. <i>For example: 1. Preeclampsia 2. Uncontrolled hypertension 3. Intracranial bleed So that 1, caused 2, that resulted in 3 – the severe morbidity event</i>		
1.		
2.		
3.		
C. [Affected organ systems: You can select more than one] Choose an item.		

Resolution

Review the SMM Outcome Factors Guide (pg. 7) of the SMM Review Form to determine contributing factors and opportunities

Opportunity to alter outcome Yes No

Which factor(s) offers the opportunity to alter outcomes (select all that apply)]

Provider

System

Patient

List up to 3 things that could be done to alter outcome

Identify practices that were done well and should be reinforced

Recommendations for system, practice, provider improvements

This form was originally developed by the California Pregnancy-Associated Mortality Review (CA-PAMR) using Title V MCH funding and is adapted with permission from the California Department of Public Health, Maternal, Child and Adolescent Health Division. Sacramento, CA

Geller SE, Adams MG, Kominiarek MA, Hibbard JU, Endres LK, Cox SM, Kilpatrick SJ. Reliability of a preventability model in maternal death and morbidity. AJOG 2007;196:57.e1

Geller SE, Cox SM, Kilpatrick SJ. A descriptive model of preventability in maternal morbidity and mortality. J Perinat 2006;26:79-84

Lawton B, Macdonald EJ, Brown SA, Wilson L, Stanley J, Tait JD, Dinsdale RA, Coles CL, Geller SE. Preventability of severe acute maternal morbidity. AJOG 2014;210:557.

SMM Outcome Factors Guide

Purpose: To assist in determining opportunities to alter outcomes

SYSTEM & PROVIDER FACTORS	How did these factors contribute to the SMM?			
	Suboptimal Outcome	Delayed Response	N/A	Other, list specifics details here
<i>Point of Entry to Healthcare</i>				
<i>Diagnosis</i>				
<i>Referral to Higher Level Care</i>				
<i>Treatment</i>				
<i>Management Hierarchy: (i.e. RN to MD, Resident to Attending)</i>				
<i>Education</i>				
<i>Team Communication</i>				
<i>Policies/Procedures</i>				
<i>Documentation</i>				
<i>Equipment/Environmental Factors</i>				
<i>Discharge</i>				
Patient Factors				
<i>Pre-pregnancy: Underlying significant medical or physical conditions</i>				
<i>Previous significant obstetric conditions</i>				
<i>Non-obstetric medical complications that occurred during pregnancy</i>				
<i>Complications due to conditions of pregnancy</i>				
<i>Psychiatric/Behavioral health</i>				Alcohol <input type="checkbox"/> Tobacco <input type="checkbox"/> Illicit Drugs <input type="checkbox"/> Psychiatric Disorder <input type="checkbox"/> Other <input type="checkbox"/> [if other, list specific details]
<i>Significant stressors</i>				Domestic Violence <input type="checkbox"/> Lack of food access <input type="checkbox"/> Lack of housing <input type="checkbox"/> Other <input type="checkbox"/> [If other, list specific details]
<i>Barriers to seeking healthcare or healthcare access</i>				Refusal <input type="checkbox"/> Cultural Beliefs <input type="checkbox"/> Lack of health insurance <input type="checkbox"/> Lack of transportation <input type="checkbox"/> Other <input type="checkbox"/>