Opening Slide (slide 1)
Welcome to the Obstetric Hemorrhage AIM eLearning Module 2: where we will review the domain of Recognition and Prevention for every patient.

Learning Objectives (slide 2)
Upon completion of this activity you will:
Addresses the 3 key areas that should be incorporated into the care of every patient.
1. Identify key factors for assessment of hemorrhage risk
2. Describe formal and quantitative measurement of cumulative blood loss
3. Outline key strategies for active management of the 3rd stage of labor

Recognition and Prevention ~ Every Patient (slide 3)
The second domain of the Obstetric Hemorrhage Bundle is Recognition and prevention for every patient. How does your team recognize a patient at risk or experiencing signs of deterioration from an obstetric hemorrhage? This domain addresses 3 key areas that should be incorporated into the care of every patient.
1. The assessment of hemorrhage risk on admission, and through discharge
2. The formal and quantitative measurement of cumulative blood loss
3. The Active management of the 3rd stage of labor

Assessment of hemorrhage risk (slide 4)
Identification of risk factors for hemorrhage can help to improve readiness in allowing for increased surveillance and early recognition, increase the use of preventive measures, and prepare the team to initiate an early, aggressive response to bleeding.

Obstetric hemorrhage risk assessment should be considered at multiple points during patient care, including antepartum, on admission to labor and delivery, later in labor as new risks such as chorioamnionitis or prolonged labor evolve, and on transfer to postpartum care.

Assessment of hemorrhage risk (slide 5)
An antepartum risk assessment and anticipatory planning should include consideration, dependent on organizational resources, of transfer of care for women with the highest risk of hemorrhage, such as placenta accreta or previa, to a tertiary center with experienced teams and robust blood bank resources.

Women who refuse blood products, including those who self-identify as Jehovah's Witnesses, present a significant opportunity for antenatal planning and should have a multidisciplinary plan.
Multiple risk-assessment tools are available and are useful in planning, but it should be understood that they are imperfect. Typically these tools identify 25% of women to be at higher risk who will then develop 60% of the severe hemorrhages (requiring transfusion). Therefore, because approximately 40% of postpartum hemorrhages occur in low-risk women, every birth has to be considered to have risk, reinforcing the need for universal vigilance.

**Measurement of cumulative blood loss (slide 6)**
The accuracy in the estimation of actual blood loss during birth and the postpartum period is a leading driver of delayed response that can result in preventable harm or death. Visual estimation of blood loss, sometimes called “a glance and a guess,” is common practice in obstetrics, but the inaccuracy of this practice has been well established for decades. Studies have indicated that visual estimation can result in an underestimation of blood loss by as much as 50%, particularly when large volumes are lost. Accurate measurement of blood loss is essential for 1) recognizing potentially life-threatening hemorrhage and 2) managing blood product replacement.

**Measurement of cumulative blood loss (slide 7)**
Methods to quantify blood loss, such as weighing, are significantly more accurate than EBL. Direct measurement of blood loss will eliminate the “guess” and can be easily accomplished through the use of two complementary approaches. The first approach is to initiate collecting blood in measurement containers; the use of calibrated, under-buttocks drapes for vaginal births; or the use of calibrated canisters for cesarean deliveries.

**Measurement of cumulative blood loss (slide 8)**
The second approach is to weigh blood-soaked items and clots obtained in the delivery room, in the OR and throughout the hemorrhage.

**Measurement of cumulative blood loss (slide 9)**
Each maternity unit should strive for the most accurate blood-loss assessment for every mother. In addition the measurement of cumulative blood loss in a quantitative manner is important in triggering escalation of the hemorrhage management plan, particularly if bleeding is brisk.

Calculation aids built into electronic health records can simplify the process. Practical details for successful implementation of quantitative blood loss have been developed and available in the resource link provided in this page or in a downloadable format at the conclusion of this eLearning Module.

**Measurement of cumulative blood loss (slide 10)**
Quantitative measurement of blood loss should be a collaborative effort that includes nurses, anesthesia and obstetric providers.

All facilities should provide chart tools and regularly scheduled standardized training in formal quantitative measurement of blood loss, which is critical for early recognition of and response to maternal hemorrhage.

Methods for developing training and tools for the quantitative measurement of blood loss have been well established and readily available.

Examples can be obtained from the CMQCC toolkit, the Florida Perinatal Quality Care Collaborative and from The AWHONN Postpartum Hemorrhage project.

**Active management of third stage of labor** (slide 11)
The last element of this domain is the active management of the third stage of labor. Active management during the third stage of labor has been demonstrated to be the single most important approach to preventing postpartum hemorrhage.

Of the three classic components, oxytocin, uterine massage and cord traction, studies have indicated that oxytocin is the key component.

**Active management of third stage of labor** (slide 12)
Systematic reviews have found that prophylactic usage of oxytocin, 10 units by intramuscular injection or intravenous infusion, remains the most effective medication with the fewest side effects compared with methergine and misoprostol.

Postponing oxytocin after delayed cord clamping does not increase the risk of hemorrhage. Earlier studies found no consistent difference between oxytocin administered with delivery of the anterior shoulder or with delivery of the placenta.

**Active management of third stage of labor** (slide 13)
The World Health Organization, ACOG, the American Academy of Family Physicians, and AWHONN recommend oxytocin administration after all births and it is recommended that every birthing facility should have a departmental protocol for oxytocin use in the immediate postpartum period. These policies should include informing women about the use of active management of the third stage labor with oxytocin to reduce risks of postpartum hemorrhage.

Women without risk factors having a physiologic birth who make an informed choice to forgo prophylactic oxytocin, can and should be supported in their decision.

**Summary** (slide 14)
In summary:
Assessment of hemorrhage risk should be obtained for every patient on admission to:
• Antepartum, to Labor and Delivery and ongoing through the progression of labor, on transfer to postpartum care
• Assessment of hemorrhage risk allows for anticipatory planning
• There are multiple examples and tools available that will help your organization develop a risk assessment.

Accurate measurement of blood loss will prevent denial and delay and is essential for 1) recognizing potentially life-threatening hemorrhage and 2) managing blood product replacement.

Active management of the third stage of labor has been demonstrated to be the single most important approach to preventing postpartum hemorrhage with three classic components;
• oxytocin
• uterine massage
• and cord traction
Studies have indicated that oxytocin is the key component.

Resources and References: AIM Obstetric Hemorrhage eModules (slide 15)
With every AIM eLearning Module you will be provided with links to resources and materials that will support the development of your teams journey to impact change. Please download these resources using the link at the top of this page before leaving the each of the elearning modules.

AIM Program Contact (slide 16)
Please contact AIM directly with any questions on the materials provided or how we can better support your needs.