Opening Slide (slide 1)
Welcome to the Obstetric Hemorrhage AIM eLearning Module 2: Where we will review Readiness on every unit

Learning Objectives (slide 2)
Upon completion of this activity you will:
1. Outline critical clinical practices that should be implemented in every maternity unit which will prevent delays in diagnosis or treatment of obstetric hemorrhage.
2. Identify the 5 components of Readiness to be addressed by every facility to prevent delays and prepare for the optimal management of obstetric hemorrhage cases.
3. Identify essential resources available to support development readiness within your organization.

Readiness ~ Every Unit (slide 3)
The first of the 4 domains of the Obstetric Hemorrhage Bundle is Readiness, on every unit: Is your unit and team ready for a hemorrhage emergency? The Obstetric Hemorrhage Readiness domain includes five key areas of focus, as outlined in this slide, to be addressed by every facility to prevent delays and prepare for the optimal management of obstetric hemorrhage cases. Delays in diagnosis or treatment of hemorrhage, including lack of readiness, account for most of the adverse outcomes and present an opportunity for significant improvement. We will outline in more detail each of these key areas as we move through the Readiness domain for obstetric hemorrhage.

1. Hemorrhage cart, supplies, resources and checklists (slide 4)
The first key step to readiness is having a hemorrhage cart. It is recommended that a cart containing the necessary supplies be immediately available on every birthing unit, with immediate access or a cart with similar materials available on antepartum and postpartum floors. Cart contents should be determined with multidisciplinary input from obstetric, anesthesia, nursing and pharmacy team members.

It has also proven valuable for the hemorrhage cart to contain readily available safety checklists and cognitive aids for infrequently performed technical procedures, such as placement of uterine tamponade balloons and uterine compression sutures to support teams during an emergency.

These carts are like any other emergency cart such as a code cart and Unit leadership must determine a system of review to ensure consistent cart stocking and maintenance.

Placing these cart along with any additional supplies in a known, central location ensures that time is not lost gathering these resources in an emergency.
Examples of cart contents and recommended resources have been made available by many organizations and can be identified accessing the reference link above and in a downloadable format at the conclusion of this eLearning module.

2. **Immediate access to hemorrhage medications** (slide 5)
   The second component to unit readiness is the need for immediate access to hemorrhage medications. Immediate availability of medications must be balanced with the security and safety with storing of medications requiring locking the hemorrhage cart, thus providing limited access to the medications.

   Some uterotonic medications require refrigeration, making storage in the chosen emergency-cart impractical. Consideration should be given to having standard uterotonic drugs stored together in an emergency hemorrhage “kit” or central location. Many automated medication-dispensing machines allow for multiple medications to be released at once or “as a kit”, providing faster access and appropriate storage.

   Units should work with the pharmacy department to determine medication storage and immediate access policies that will work best for their individual organizations.

   Monitoring of the time interval from the request for emergency medications to administration should be included in routine unit hemorrhage drills and reviews.

3. **Establish a Response Team** (slide 6)
   The 3rd key component of the readiness domain is establishing a response team. It is critical that all institutions determine who will be part of the core obstetric hemorrhage response team and the method for an immediate chain of communication.

   The composition of the response team will depend on facility resources along with the severity and clinical context of each hemorrhage.

   In addition to the clinical response teams and supporting units, personnel such as social service or chaplains should be available as needed.

   All members and departments identified should be part of the hemorrhage response planning team.

   A critical part of the plan will be determining a simple and reliable way to notify required team members using readily available and known systems. All team members must be educated on the established emergency communication process.

4. **Protocols for emergency release of blood products and for massive transfusion** (slide 7)
The 4th key component of the Readiness Domain is the establishment of protocols for the emergency release of blood products and for massive transfusion.

We know that large volumes of blood can be lost rapidly, especially from the uterus, and unresolved bleeding can lead to exsanguination in as little as 10 minutes, resulting in fetal and/or maternal death.

Each institution should develop an effective written protocol for responding to maternal hemorrhage that includes an emergency blood transfusion for an actively bleeding woman with unstable vital signs, despite fluid boluses.

Emergency-release products can be universally compatible, or AB plasma or type-specific if the patient’s blood type is on record and that sufficient quantities of that type are available in the blood bank.

Blood bank protocols should ensure that the institution has eliminated any barriers to rapid blood access when needed.

4. Protocols for emergency release of blood products for massive transfusion (slide 8)
A massive transfusion protocol facilitates rapid dispensing of RBCs, plasma, and platelets in a predefined ratio intended to preclude development of a dilutional coagulopathy.

These blood products are often dispensed in combination packs, addressing the important logistic challenge of providing large volumes of blood components in a short time.

Recommendations for emergency blood administration ratios are located in the reference link above and in a downloadable format at the conclusion of this elearning module.

Unit protocols should include guidance about early coagulation testing and serial laboratory monitoring and, in some instances, point-of-care technologies to assess the maternal coagulation profile and guide ongoing correction.

4. Protocols for emergency release of blood products for massive transfusion (slide 9)
Facilities with limited blood supply access should develop plans with local and state emergency services for immediate blood shipment.
An understanding of how long it will take to receive blood products is an essential component of emergency planning.

Higher-risk patients in these facilities with a potential need for multiple units of blood products should be triaged to facilities with greater transfusion services.

5. Unit education on protocols: regular unit-based drills with debriefs (slide 10)
The 5th Domain for Readiness is Unit education on protocols and regular unit based drills with debriefs.

Once an obstetric hemorrhage management and response plan has been developed, education about the protocol is a critical next step. Unit based education, team training and emergency drills are an effective way to familiarize every team member with the entire obstetric hemorrhage bundle and management plan.

Emergency drills serve multiple purposes, including review and imprinting of the protocol, identification of correctable systems issues, and practice of important team-related skills.

Emergency drills also allow team members to practice effective crisis communication.

Developing rapid response teams and training using drills and simulations may allow for faster and improved response to emergent situations, thereby potentially maximizing patient outcomes.

5. Unit education on protocols: regular unit-based drills with debriefs (slide 11)
Post-drill debriefings provide an invaluable opportunity to learn from the experience, specifically to reinforce areas of the drill that went well, discuss areas in need of improvement, share lessons learned, and highlight systems issues to allow for concrete planning for potential solutions.

There are many resources available to help develop simulation and team drills and are located within the reference link on this slide or in a downloadable format at the end of each eLearning Module.

Summary (slide 12)
In summary, the Obstetric Hemorrhage Readiness domain includes five areas of focus, to be addressed by every facility that delivers babies to prevent delays and prepare for the optimal management of obstetric hemorrhage emergencies.

The 5 key components of Readiness are:
- Having a hemorrhage cart immediately available with supplies, checklists, and instruction cards for infrequent procedures.
- Establishing immediate access to hemorrhage medications;
- An Established rapid response team trained to manage obstetric emergencies;
- Having protocols for Emergency Release of Blood Products and for Massive Transfusion; and finally
- Establishing education on hemorrhage protocols and practicing through unit-based team drills.
AIM Program Contact (slide 13)
Please contact AIM directly with any questions on the materials provided or how we can better support your needs.

Resources and References: AIM Obstetric Hemorrhage eModules (slide 14)
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.