Why focus on VTE?
Venous thromboembolism (VTE) is a leading cause of severe maternal morbidity and mortality in the developed world.

Pregnant women have a 4 - 5 time increased risk for developing a potentially deadly venous thromboembolism, including deep vein thrombosis and pulmonary embolism, compared to non-pregnant women. During the postpartum period, the risk is 20 times greater.

In fact, in the US where we have nearly 4 million deliveries each year, VTE occurs in one in 1,000 pregnancies. Deep vein thrombosis (DVT) account for approximately 75%-80% of VTEs in pregnant women, whereas 20%-25% of VTEs are pulmonary emboli (PE).

One-third of people who experience VTE will have long-term complications, and another one-third will have a recurrence within 10 years.

Cesarean delivery is considered an independent risk factor for VTE where women are four times more likely to suffer a VTE after a cesarean-section compared to that of a vaginal birth.

VTE risk factors
Clinical factors associated with VTE risk are well established and, as suggested, may be best considered in a hierarchical framework as outlined in this illustration.

- Lifestyle or Patient characteristics prior to pregnancy that may influence risk include maternal age, race, genetic thrombophilias, obesity, and smoking.
- Disease conditions prior to pregnancy that are associated with higher risk include prior VTE, diabetes, anemia, systemic lupus erythematosus, heart disease, and sickle cell disease.
- Pregnancy related complications associated with higher risk include antepartum hemorrhage, infection, hyper emesis, hospitalization, bed rest or other immobilization, diabetes, preeclampsia, fetal growth restriction, and multiple gestation.
- At the time of delivery and in the immediate postpartum time frame, risk factors include cesarean section, postpartum hemorrhage, infection, still birth, preterm birth and other serious systemic illness.
Changes in pregnancy heighten risk
Pregnancy is associated with several physiologic and anatomic changes that also make pregnant and postpartum women more susceptible to VTE. Pregnancy is an example of Virchow’s triad of hypercoagulability, venous stasis, and vascular damage; together these factors lead to an increased incidence of venous thromboembolism. This disorder is often suspected in pregnant women because some of the physiological changes of pregnancy mimic its signs and symptoms.

Addressing the need
Given the importance of reducing maternal thromboembolism risk, the National Partnership for Maternal Safety VTE Workgroup was formed, representing all of the major women’s health care professional organizations.

Consensus bundle on Venous Thromboembolism
This workgroup has interpreted current epidemiology and clinical research evidence from national and international organizations to provide a Consensus Statement and Bundle for Venous Thromboembolism. This bundle makes recommendations to support routine thromboembolism risk assessment and consideration of more extensive risk-factor based prophylaxis.

Maternal Venous Thromboembolism (VTE) Prevention Bundle
Together with the Council on Patient Safety in Women’s Healthcare and AIM they have supported the development of the Maternal Venous Thromboembolism (VTE) Prevention Safety Bundle.

The venous thromboembolism bundle is not a new guideline but rather represents a selection of existing guidelines and recommendations in a form that aids implementation and consistency of practice that is appropriate for the individual birthing facility.

This bundle represent a structured, overarching, framework of what every birthing facility should have with practical and detailed information provided in cited resources throughout the bundle to allow for easy assimilation to an organizations practice.

Bundle components
The bundle is organized into 4 distinct domains or known as the “4 R's”. These R's include:

1. Readiness – on every unit the which supports establishment of risk-assessment strategies throughout pregnancy
2. Recognition and Prevention - Every unit which reviews clinical recommendations from major existing guidelines for patients recognized to be at increased risk for thromboembolism
3. Response - on every unit which outlines specific recommendations for prophylaxis for at-risk patients
And Reporting and Systems Learning – Every unit which includes recommendations for quality assurance and surveillance.
All centers providing obstetric care should implement these recommendations, and all health care providers offering obstetric care should work to implement them. Furthermore, given the wide diversity of birthing facilities, a single national protocol is not recommended; instead, each facility should adapt a single protocol to improve maternal safety based on its patient population and resources. Each one of the 4 domains of VTE Prevention Maternal Safety Bundle will be reviewed in detail with supporting resources and links provided, as you progress through this AIM eLearning Module.

Patient safety bundles and tools
You are encouraged to download the bundle, additional tools and resources along with recorded webinars to support Maternal VTE Prevention Safety Bundle which can be found on Council on Patient Safety in Women's Health Care website.

Culture of safety
AIM is committed to promoting the culture of safety and high-reliability through the use of proven clinical processes, with a consistent focus on keeping the patient at the center of everything that we do.

Resources and references: Maternal Venous Thromboembolism (VTE) prevention
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
Please contact AIM directly with any questions on the materials provided or how we can better support your needs.