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EXPERT OPINION

National Partnership for Maternal Safety: Consensus Bundle on Support After a Severe Maternal Event

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ABSTRACT

Supporting women, families, and clinicians with information, emotional support, and health care resources should be part of an institutional response after a severe maternal event. A multidisciplinary approach is needed for an effective response during and after the event. As a member of the maternity care team, the nurse's role includes coordination, documentation, and ensuring patient safety in emergency situations. The National Partnership for Maternal Safety, under the guidance of the Council on Patient Safety in Women's Health Care, has developed interprofessional work groups to develop safety bundles on diverse topics. This article provides the rationale and supporting evidence for the support after a severe maternal event bundle, which includes structure- and evidence-based resources for women, families, and maternity care providers. The bundle is organized into four domains: *Readiness*, *Recognition*, *Response*, and *Reporting and Systems Learning*, and it may be adapted by nurses and multidisciplinary leaders in birthing facilities for implementation as a standardized approach to providing support for everyone involved in a severe maternal event.

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Childbirth is a unique event in the context of health care. Most women are healthy, and they and their families anticipate positive outcomes. When complications arise, the unexpected shift from joy to concern, or worse, to tragedy, can have dramatic and long-lasting effects on the woman, her family, and her care providers. Everyone involved in a severe maternal event needs tools and resources to help address their emotional and clinical needs during the surviving woman's hospitalization and after discharge. Resources are also needed to help address the emotional needs of grieving family members and staff after a maternal death. Nurses are uniquely positioned to provide support in birth facilities (hospitals and birth centers) because of the significant time they spend with women in labor and their families. The purpose of this article is to provide the rationale and supporting evidence for the support after a severe maternal event bundle, which includes structure- and evidence-based resources for women, families, and maternity care providers, as well as other staff who care for women during pregnancy and the postpartum period during and after a severe maternal event.

Deaths related to childbirth are significant markers of a society's well-being, and the U.S. maternal mortality ratio increased from 7.2 deaths per 100,000 live births in 1987 to 16.9 in 2016 (Centers for Disease Control and Prevention [CDC], 2020b). The rate of severe maternal morbidity has also risen in the United States and increased more than 200% between 1993 and 2014, from 49.5 to 144.0 per 10,000 hospitalizations for childbirth (CDC, 2020c). Severe maternal morbidity includes unexpected outcomes of labor and birth that result in significant short- or long-term consequences to a woman's health. Severe maternal events include morbidity and death. It is likely that at least one severe maternal event has occurred at every birth facility in the United States, and most of these involve hemorrhage and require massive transfusion and/or hysterectomy. Other severe maternal events include severe hypertensive crises, eclamptic seizures, sepsis, venous thrombotic events, amniotic fluid

embolisms, and cardiovascular failure. For survivors, these events are greatly associated with the development of mental health disorders, such as anxiety, depression, and posttraumatic stress disorder (PTSD; Furuta et al., 2014).

In response to increasing rates of maternal morbidity and mortality in the United States, the National Partnership for Maternal Safety (2020), a project of the Council on Patient Safety in Women's Health Care, developed a series of maternal safety bundles. The goal of these bundles is to provide a set of straightforward, evidence-based practice recommendations to improve care and outcomes for preventable causes of maternal morbidity and mortality. Bundle topics first addressed improvements to care for obstetric emergencies or serious complications, including obstetric hemorrhage (Main et al., 2015), venous thromboembolism (D'Alton et al., 2016), and severe hypertension (Bernstein et al., 2017). Bundle development has expanded to include other important maternal health issues, such as mental health, racial and ethnic disparities, and others (Council on Patient Safety in Women's Health Care, 2020c).

After the first three maternal bundles were created, a national quality improvement initiative, the Alliance for Innovation on Maternal Health (AIM), established a data and technical assistance platform to support state teams and health systems in the implementation of clinical bundles on hemorrhage, hypertension, or others as determined by the participants. Conveners of large-scale initiatives to implement hemorrhage bundles have reported improved outcomes (Main et al., 2017; Shields et al., 2015; Shields et al., 2016, 2017).

Important outcomes not addressed in the clinical bundles pertain to the physical and mental health and well-being of women, their families, and their care providers in the context of severe maternal events. Women, families, and clinicians may experience common physical and emotional responses to adverse or traumatic events, including difficulty sleeping, decreased job satisfaction, harm to reputation, fatigue, racing heart, increased blood pressure, frustration, sadness, guilt, anger, shame, and flashbacks (Busch et al., 2020; Furuta et al., 2012; Ullstrom et al., 2014). The association between the experience of a severe maternal event and the development or exacerbation of mental health disorders, such as PTSD, has been documented in several studies (Bastos et al., 2015; Furuta et al., 2014; Hinton et al., 2015). After a severe event, many women and their families struggle to understand why the event occurred and how they might have received better information or care throughout the experience, which adds to their overall emotional distress (Daniels et al., 2020; Hall, 2013; Pil, 2012; Victory, 2016).

After severe maternal events, women, their families, and all members of the maternity care team will likely benefit from short- and long-term emotional support.

Similarly, the effect of severe maternal events on clinicians cannot be minimized. The term *second victim* was coined by an internal medicine physician (Wu, 2000), and refers to a health care provider who is involved in an unanticipated, adverse patient event; medical error; or patient-related injury and is traumatized by the event and her or his role in it. The clinician is frequently described as "suffering in silence" from anxiety, stress, and even shame or guilt related to the event (Scott et al., 2009; Ullstrom et al., 2014). Some researchers have examined trauma among maternity clinicians, where trauma is defined as a situation in which one experiences fear, helplessness, or horror in response to a perceived threat of death or damage to someone in their care. Among certified nurse-midwives who reported witnessing traumatic births, 29% were ranked as high to severe for secondary traumatic stress, and 36% met diagnostic criteria for PTSD (Beck & Gable, 2012). Clinicians often feel unsupported by their supervisors and peers, and as many as 15% to 30% of clinicians have seriously contemplated leaving their professions as a result of these experiences (Scott et al., 2010; Slade et al., 2020). About one third of obstetric providers in England self-reported exposure to traumatic events (Slade et al., 2020). Among these, 18% of obstetricians reported clinically significant PTSD symptoms and, compared to those without PTSD symptoms, were significantly more likely to experience impairment in work, family/home, and social spaces (Slade et al., 2020).

Several initiatives have been underway to develop tools and support programs for clinicians, including a predictable postevent course based on its natural history and other resources (Pratt et al., 2012; Scott et al., 2009; Scott et al., 2010). All clinicians need better resources and tools to help them support women, their families,

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and their colleagues after severe maternal events.

This article is reflective of the collective expertise of the Patient, Family, and Staff Support Work Group (Council on Patient Safety in Women's Health Care, 2016b), whose members are experts in psychology, nursing, midwifery, medicine, sociology, patient advocacy, and public health. Work group members represented the following organizations: American College of Obstetricians and Gynecologists; American College of Nurse-Midwives; Society for Maternal–Fetal Medicine; California Maternal Quality Care Collaborative at Stanford University; Society for Obstetric Anesthesia and Perinatology; Association of Women's Health, Obstetric and Neonatal Nurses; CDC; Preeclampsia Foundation; Amniotic Fluid Embolism Foundation; Pulse; and Tara Hansen Foundation.

Unlike the clinical safety bundles that fit closely to a biomedical model, the topic of this bundle required that we draw from relevant literature in psychology, social work, and the social sciences in addition to nursing, midwifery, and medicine. The workgroup organized the bundle in the four R action domains used in previous bundles: *Readiness*, *Recognition and Prevention*, *Response*, and *Reporting and Systems Learning* (Lyndon et al., 2010). The bundle is intended to be a guide to assist facilities in patient safety and quality improvement efforts and to provide support for all involved after a severe maternal event. The bundle can be integrated into facility responses to postpartum hemorrhage or hypertensive disorders of pregnancy. Nurses and other clinical leaders at birthing facilities can adapt the bundle resources to their local contexts.

Readiness: Every Unit

The *Readiness* domain includes four components that refer to policies and protocols at the facility level and the availability of required resources and services to care for women at risk of severe maternal events. The first three components of *Readiness* are discussed in the following sections as they relate to women, families, and clinicians:

1. **Develop a Unit-Based Protocol**
2. **Establish a Response Team**
3. **Provide Unit Education on Protocols, Including Drills and Debriefs**

Women and Families

Women and families need timely, clear information and resources for emotional support after a severe event. A unit protocol to address these needs might include tools and resources that provide education about the event, a description of potential immediate or delayed experiences, coping mechanisms, peer or group support, and trained volunteers and professionals to provide guidance. Education and therapeutic support are instrumental resources for patients and families (Vallin et al., 2019). A crucial component of such a protocol is the designation of a support person for the woman and her family during and after a severe event. Health care leaders may consider the use of social services or spiritual care programs as part of the response team (Daniels et al., 2020; Lewis et al., 2019; Scott et al., 2010). Drills are one way that clinicians learn key clinical skills and treatment protocols. However, drills can also be a mechanism to incorporate the elements of this bundle by practicing effective communication, working out the role of the designated support person, and determining how to routinize the support needs of all involved in a severe maternal event.

Clinicians

Multidisciplinary teams, including representatives from obstetrics and other medical specialties (family medicine, anesthesia, pediatrics, etc.), nursing, midwifery, social work, mental health, occupational health, and birth facility leadership should work together to customize a workable and feasible protocol that accounts for the diverse needs of all. Nurses are essential to the response team and should be included in the development of departmental protocols (Association of Women's Health, Obstetric and Neonatal Nurses, 2012). Additional team members designated for the response team will depend on the resources and personnel at each birth facility. It is important to have clear guidelines as to when and how the team is activated. Examples of resources with which to develop a unit-based protocol include the Communication for Obstetric and Perinatal Events (Albert Einstein College of Medicine & Montefiore Medical Center, n.d.) and a resource guide for patients and families after a severe maternal event (Morton et al., 2015).

Care and support for the members of the team involved after an adverse event should be the norm, and language to this effect should be

included in the facility's policy that describes the response to adverse events. Opportunities to educate all team members, including nurses, can occur through department meetings, professional conferences on morbidity and mortality, e-mails sent to involved clinicians after an event, and even screensaver templates within the institution. The core messages from facility leadership can include normalization of the emotional effects of severe events and explanations of available resources for support.

Nurses and providers should be cognizant of their own and their peers' emotional responses to severe maternal events, most especially in the case of maternal death. Feelings of self-doubt among clinicians are often accompanied by sadness and guilt but not openly discussed. This silent suffering, defined as the *second victim phenomenon*, prompted The Joint Commission (2018b) to call for health care facilities to develop and implement system-wide or unit-based second victim rapid responses. Many institutions already have resources to support clinicians after adverse events; these include employee assistance programs, social work, spiritual care, and psychology or psychiatry services. Department and facility leaders should coordinate with staff from these services to ensure that they are aware of the need for support after a severe maternal event so that they are prepared to respond quickly, and their contact information should be readily accessible.

In addition to these formal services, peer support models have become increasingly important (Jonas-Simpson et al., 2013). Multiple medical centers have described the success of these programs (Johns Hopkins University & Health System, 2018; University of Missouri Health Care, 2020), and the state of Massachusetts has undertaken a pilot project to bring peer support to all hospitals (Betsy Lehman Center for Patient Safety, 2020). Peer support has been shown to help clinicians, is associated with improved patient safety attitude scores among staff after adverse events (Scott et al., 2010), and may even help reduce staff turnover and absenteeism (Burlison et al., 2016; Moran et al., 2017). Many resources are available to help develop a peer support program (Pratt et al., 2012).

After a protocol and response team are established, institutional leaders must provide resources and support for ongoing, unit-based clinician education. Drills are an effective way to train all team members to anticipate critical clinical situations and respond appropriately. Drills also improve team building and emergency response skills. Unit leaders can ensure that drills are also used to help clinicians prepare emotionally for severe maternal events, learn how to engage in better self-care, and understand the importance of peer support afterward. Debriefing from a drill and from an actual event gives teams the opportunity to review the extant protocol, find and correct systems issues, and reflect on individual skills and actions. The process of drilling and debriefing around emergent obstetric situations that may result in severe maternal events has the potential to improve outcomes by helping all clinicians recognize and respond to serious clinical indicators in a timely and effective manner (Riley et al., 2011). These processes also promote collegiality and reinforce the positive effects of team building. Debriefing is a necessary part of the learning process, and most clinicians want to debrief after adverse outcomes (Gazoni et al., 2012).

Ensuring that nurse leaders participate in all aspects of planning, protocol development, and implementation is key to the success of the program. Culture change can be slow and difficult, and the implementation of clinician support requires substantial institutional resources and commitment. If clinicians do not feel safe discussing adverse events and errors, unit leaders can work to develop a "just culture" (Duffy, 2017). Training peer supporters takes hours, and the implementation of a full peer support program requires months (Pratt et al., 2012). Peer supporters should drill or practice supporting clinicians and be skilled in active listening techniques, empathy, and support tools for emotional balance (e.g., mindfulness, meditation).

4. Inform Women, Families, and Clinicians and Encourage All to Voice Concerns

Open communication is a key factor in most satisfying health care relationships (American College of Obstetricians and Gynecologists, 2014). To achieve and promote a culture of open communication, discussions among women, their family members, and clinicians should begin well before a severe event wherever possible, so that all parties are informed about the developing situation (The Joint Commission, 2018a). Open communication increases the likelihood of shared information or concerns and

builds trust among women, their families, and maternity clinicians, which subsequently increases the quality of health care planning and consensus around care decisions (American College of Obstetricians and Gynecologists, 2014). Open communication can be practiced during drills and debriefs, as noted. Dialogue between clinicians and pregnant women about severe maternal events works best when it includes discussion of all relevant risk factors, warning signs and symptoms, and potential short- and long-term complications. This dialogue should incorporate active listening and encouragement for women and their family members to voice concerns and ask for clarification (Shay & Lafata, 2014).

One example of a readiness model is the Stop! Look! and Listen! campaign developed by the Rutgers Robert Wood Johnson Medical School, Robert Woods Johnson University Hospital, and the Tara Hansen Foundation (Tara Hansen Foundation, n.d.). The campaign encourages maternity clinicians, women, and their family members to work together as a team. A key focus of this model is that women and their families are encouraged to speak up, voice any concerns about worrisome symptoms, and be persistent if their concerns are not addressed. Women and their families are encouraged to write down questions before talking with clinicians. This exercise can facilitate discussion and help minimize unaddressed patient or family needs. Maternity clinicians are advised to stop and listen to all concerns, examine the woman for possible developing complications, and not disregard what might otherwise be considered benign concerns (Tara Hansen Foundation, n.d.). Of importance, all members of the health care team should also feel empowered to speak up and express concerns at any time.

Depending on the circumstances, a hospital-based team may not have an established relationship with a critically ill woman, let alone with her family, which makes communication about a serious situation potentially problematic. This scenario differs from the type of communication common to an oncology setting, for example, in which the health care team has time and preparation to break bad news in a culturally sensitive and patient-centered manner. Maternity clinicians typically receive little training on how to best communicate with patients and their families, particularly about severe events that are very dynamic and evolve rapidly (Karkowsky & Chazotte, 2013; Karkowsky et al., 2016). During and after severe events, interactions with clinicians are extremely influential to how women recover and heal (Reed et al., 2017). Several examples of communication tools are included in the bundle (Council on Patient Safety in Women's Health Care, 2017), and these resources help ensure that women and their families understand the importance of sharing their health concerns, which is a crucial component of safe and quality health care (Koh et al., 2013).

Recognition: Every Woman, Family, and Maternity Clinician

The *Recognition* domain includes two components that relate to clinician capacity and assessment to identify acute stress disorder among those involved in a severe maternal event. These components are discussed in the following sections as they relate to women, families, and clinicians.

5. **Perform Timely Assessment of Emotional and Mental Health Status of Women, Families, and Maternity Clinicians**
6. **Build Capacity Among Maternity Clinicians to Recognize Signs of Acute Stress Disorder**

Women and Families

Women who are recovering from severe events are likely to feel emotionally and physically overwhelmed. It is important for nurses to monitor emotional vital signs during the postpartum period, particularly for women who experience severe maternal events. Left unaddressed, signs of acute stress disorder can develop into more serious mental health conditions (Hall & Hall, 2016).

When nurses perform postpartum assessments, care should be taken to validate and reassure the woman and to recognize signs of acute stress disorder. The tool included in the bundle, Recognizing the Signs of Acute Stress Disorder in Postpartum Women in the Hospital Setting, outlines each symptom of the acute stress reaction, including behavioral signs and appropriate (and inappropriate) clinician responses (Hall, 2014). Although this tool is focused specifically on women's acute stress, clinicians may see similar reactions in family members or colleagues that warrant intervention or consultation with a mental

health care professional. Clinicians can also educate women and families about how to identify common signs and symptoms of distress. This will help them self-report distress symptoms and seek help (Hall & Hall, 2016). In the aftermath of maternal death, the facility response can include assessments of family members for signs of significant emotional distress and mechanisms through which to offer supportive resources.

Clinicians

It is crucial for clinicians to recognize the signs of emotional distress (or acute stress reactions) and consistently assess for such signs before they engage in an intervention protocol. This topic requires regular education and training on how women and families process severe maternal events and how to ensure appropriate referrals for psychological support for all members of the multidisciplinary team. Maternity clinicians can build capacity to recognize the signs of acute stress disorder by familiarizing themselves with the symptoms of acute stress and their manifestations.

Performance of timely assessment requires that birth facility leaders actively monitor the mental and emotional status of all individuals who are involved in a severe maternal event at any point. Instruments such as the Breslau Post-Traumatic Stress Disorder Screening Tool can be useful to screen mental and emotional health (Breslau et al., 1999). This seven-item, empirically derived tool is used to identify symptoms of PTSD, and its utility is bolstered by free access, brevity, and ease of use, especially within the health care setting. The Breslau tool can be formally administered beginning 1 month after severe maternal events as an initial screening for PTSD for clinicians, women, and families.

Clinicians may be uncomfortable discussing their emotional states after adverse events because they do not want to appear weak, discussion of these events may be emotionally difficult, or they feel traumatized (Slade et al., 2020). As a result, most staff do not receive any emotional support (McCready & Russell, 2009; Scott et al., 2009). Therefore, birth facility leaders should actively reach out to clinicians involved in severe maternal events, especially after a maternal death. The development of a list of trigger events that automatically initiate a link between the clinician and emotional support resources can be helpful.

Effective management of severe maternal events requires a multidisciplinary team approach that includes tools and resources to address emotional and physical health needs of everyone involved.

The acute emotional distress caused by adverse clinical outcomes, most especially in the case of a maternal death, can have a profound negative effect on the care clinicians provide for subsequent women. Turrentine and Ramirez (1999) found that after the births of newborns with severe shoulder dystocia or very low Apgar scores, obstetricians increased their use of cesarean births, perhaps unnecessarily. Emotional exhaustion, as can be seen after adverse outcomes, has been associated with increased rates of subsequent adverse events (Shanafelt et al., 2010). Slade et al. (2020) reported that 91% of their sample of 839 obstetric physicians wanted an institutional system of care. Thus, department leaders should consider methods to relieve staff of their clinical duties after adverse events to help them heal emotionally and to decrease the risk for additional harm caused by an emotionally distraught caregiver.

Response

The *Response* domain consists of three components that refer to timely, supportive communication with women and families and offering support and resources. The three components of *Response* are discussed in the following sections as they relate to women, families, and clinicians.

7. **Provide Timely Interventions**
8. **Communicate With Women and Families**
9. **Offer Support and Resources**

Women and Families

Throughout a severe event, women and families require timely, effective information that includes concise and regular updates about the clinical situation by a designated support person, what is being done to address it, and the services of an advocate or a medical interpreter, when necessary. Beyond performing screening assessments, maternity clinicians can establish and follow protocols to connect women and their families who experience acute stress reactions with available mental health resources for ongoing support, intervention, and other assistance.

These protocols can include emotional support interventions to address the concerns of women and families about infant status and provide reassurance that the clinicians are doing everything they can. If possible, keeping the newborn in the room or providing sensitive lactation services may be tangible forms of emotional support. Over the course of a surviving woman's recovery, clinicians need to stay focused on her needs and refrain from personal or social conversations while providing bedside care (Hall & Hall, 2016). For families whose loved one is recovering or has died, the support protocol might include the provision of facility-based care for the newborn (e.g., admission to NICU or nursery) as the family responds to the unexpected needs of caring for a newborn and making other necessary arrangements.

As with any medical trauma, the psychological trauma women can experience as a result of a severe maternal event can be best managed by a collaborative, multidisciplinary team of health care and mental health care professionals who work together to provide empathic, integrative care (Hall & Hall, 2016). The course of psychological and physical events after a maternal complication can evolve and intensify over time for women and their families (Beck, 2011). Discharge plans should include coordination with community-based mental health resources and supports. Continued support needs may be assessed at the first postpartum visit, which should be scheduled during the first 7 to 10 days after discharge, with additional referrals as needed. An option for smaller facilities is to identify resources from associated larger organizations and determine available support services. Regional perinatal networks are another potential resource.

Clinicians

Once a severe maternal event occurs, clinicians need to activate the resources and tools described in the readiness and recognition sections of the bundle in a timely way. The clinicians involved should be identified and offered support immediately. Whenever possible, the clinicians should be relieved of their clinical duties, not as judgment or punishment, but to allow them time to emotionally process the event. Appropriate screening for acute stress disorder among involved clinicians may also be indicated to assess their ability to continue to provide care. This initial support will likely not be adequate, and clinicians may deny significant emotional distress immediately after the event. The psychological and physical effects of the event may evolve and even grow over time (Scott et al., 2009). It is crucial that emotional support be offered periodically over the weeks and months that follow. Nurse leaders should be vigilant about staff turnover during this time and conduct exit interviews to determine the reason for an individual's departure and needs for support.

Resources to address the emotional needs of clinicians who experience distress after a severe maternal event should be readily available. A wide variety of mindfulness, meditation, and relaxation apps exist that can be helpful in times of emotional upheaval. For example, the *Virtual Hope Box* is a free app designed for use by U.S. military personnel. The app offers relaxation and meditation, games for mindfulness, inspirational quotes, and even a photo gallery to which users can upload personal, joy-inducing photos. Many similar apps exist, and birth facility leaders should develop a catalog of these apps to share with clinicians.

Gazoni and colleagues (2012) found that 5% of anesthesiologists reported use of drugs or alcohol in the aftermath of major adverse events that occurred in the operating room. The actual incidence is almost certainly greater. Clinicians should be monitored for signs of intoxication, and resources should be readily available if intoxication is noted. Similarly, Shanafelt and colleagues (2010) found a 6% annual incidence of suicidal ideation among surgeons in the United States, and being involved in a major adverse event or medical error was greatly predictive. Clinicians should have ready access to formal psychiatric treatment should these symptoms occur.

Clinicians, Women, and Families

A severe maternal event represents a challenging clinical situation and an emotionally intense family situation. A woman's birth support team may include a spouse/partner, doula, extended family members, and/or friends. Effective communication is central to everyone's experience and helps establish trust and confidence in the maternity care team. Women and their support team benefit from caring, supportive words and actions from clinicians who recognize and address factors in childbirth that are likely to trigger PTSD (Daniels et al., 2020; Dekker et al., 2016).

Birth facilities should have established, carefully planned communication strategies to address severe maternal events with multidisciplinary

teams that include maternity care providers and social workers, mental health professionals, spiritual care providers, and others as needed. One communication strategy could be a 3- to 5-minute huddle to identify who will lead the communication and which team members should be included, as well as to help team members establish calm to promote effective crisis communication. This communication strategy is not meant to be a long plan. The designated support person will provide families with continued updates, explain when they might anticipate the next update, and share contact numbers for immediate communication when needed. This approach is vital to improve how bad news is delivered and, thus, a crucial factor in reducing confusion about what happened. In the absence of this type of communication, family members may begin to question the quality of patient care and the integrity of the health care team members.

In a rapidly evolving clinical situation, it may not be feasible to have all members of the team available for timely communications. After the acute nature of the event has resolved, it is ideal to have a carefully planned summary communication, or debriefing, with the woman and/or family members. It is important to recognize that families who experience emotional shock in the setting of unexpected complications may not absorb or understand information while in distress. Therefore, clinicians should be mindful to limit use of specialized medical terminology and understand that they may need to repeat the same information several times. Also, to alleviate or further decrease discord or confusion among what might be several concerned members of the woman's support team, clinicians should take measures to ensure that the spouse/partner and the woman's immediate family receive the same crucial information. Clinicians may use their professional judgment as specified in the Special Circumstances clause of the Health Insurance Portability and Accountability Act Privacy Rule when sharing health information with family members and friends of a woman who is unable to provide explicit consent, so long as the information being shared is in the patient's best interest (U.S. Department of Health and Human Services, 2017). Under certain circumstances, disclosure of protected health information related to another person's involvement in an individual's care and for making notifications about the individual's location, general condition, or death may be allowed.

The bundle includes the recommendation that women and families be provided the patient clinical summary (Council on Patient Safety in Women's Health Care, 2020b). This summary is useful for women and families to have a short record of what occurred and can be shared with future care providers. Where possible, support groups or organizations centered on a particular condition or outcome (e.g., preeclampsia, amniotic fluid embolism, or peripartum cardiomyopathy) can be helpful for women and their family members to access beneficial services for their emotional health. Several resources and checklists are available to help clinicians prepare for increasing the amount and type of support they provide during and after a severe maternal event (Albert Einstein College of Medicine & Montefiore Medical Center, n.d.; Morton et al., 2015). Emotional support of the clinician is entirely about communication. When clinicians participate in the root cause analysis or case review with a quality improvement approach and evaluate the effectiveness of patient/family communication after a severe maternal event, communication may help them heal and even thrive (S. Scott, personal communication, April 4, 2020). Disclosure coaching can help clinicians feel prepared to have these difficult conversations with patients and/or families (Committee on Patient Safety and Quality Improvement, 2016).

Reporting and Systems Learning

The *Reporting and Systems Learning* domain includes incorporation of the needs and perspectives of women, family members, and clinicians when addressing system-level improvements. Applying the principles of continuous quality improvement at the birth facility level is vital to the process of systems learning and improving maternal safety and quality of life. National maternal safety and quality improvement initiatives, such as the American College of Obstetricians and Gynecologists AIM Program (Council on Patient Safety in Women's Health Care, 2020a), CDC state-based Perinatal Quality Collaboratives (CDC, 2020a), and Association of Maternal and Child Health Programs–CDC Review to Action (Review to Action, 2020), offer birth facilities support and resources to implement evidence-based and best practices in maternal safety, as well as data monitoring tools and reports to identify opportunities for improvement on an ongoing basis.

Other examples of quality-driven programs that promote reporting and systems learning within

birth facilities are The Joint Commission's (2020) Perinatal Care Certification and Institute for Healthcare Improvement's (2020) Better Maternal Outcomes Rapid Improvement Network. One of the most effective ways that a birth facility can promote a reporting and systems learning culture is through the establishment of an interprofessional perinatal quality committee made up of maternity clinicians and quality and risk management patient safety experts who review severe maternal events on a regular basis to identify systems-level opportunities for improvement and to share lessons learned with colleagues and coworkers. Another innovative approach is to partner with or establish a patient and family advisory council where volunteer former patients and families collaborate with birth facility clinicians to provide guidance on how to improve the patient and family experience during and after adverse events. An example of this approach is the Johns Hopkins Hospital Patient and Family Advisory Council (Johns Hopkins Hospital, 2020).

10. **Establish a Culture of Debriefs (Huddles)**
11. **Multidisciplinary Review of Severe Maternal Morbidity Events to Include the Perspectives of Women and Families**
12. **Monitor Outcomes and Process Metrics**

The following recommendations are simple and effective ways that leaders at birth facilities can begin the work of establishing a robust and systems learning culture that promotes continuous quality improvement.

Women and Families

After severe maternal events, birth facility leaders should develop structured processes to engage women and their families in open dialogue with all members of the health care team to share timely information, support, and opportunities to discuss the outcomes and implications for future health. One such process is debriefs to identify the experiences, perspectives, and needs of women and their families. Although it is not always feasible for women or family members to participate in the debrief after a severe event, members of the health care team should connect with the woman and her family throughout the facility stay and make a concerted effort to offer a debriefing. These debriefs will be longer than the clinical debriefs described earlier. They should include clear descriptions of clinical events leading up to and after the severe event and acknowledge the emotional effects for women and their family members. The debriefing should include listening to the woman's and family's perspectives, discussing how best to address their needs, and offering further meetings, if requested. A summary of this debrief should be provided to the facility's multidisciplinary review of the case.

The family's contribution to maternal safety is important before and after the birth. Some women hesitate to initiate safety alerts for fear of upsetting maternity clinicians or having their concerns dismissed or unaddressed (Lyndon et al., 2015). Open communication is necessary to ensure that women can speak out about their concerns (Rance et al., 2013), and feedback from women and family members can improve maternal safety during pregnancy and childbirth, particularly if maternity care providers demonstrate their commitment to safety in all interactions and in all informational communications, including written materials (Lyndon et al., 2015; Rance et al., 2013). The family perspective on severe maternal events can provide insight not available in the health care record (Daniels et al., 2020; Dekker et al., 2016), and their view of the events before, during, and after the birth is an important source of information with regard to perceived or actual gaps in care and communications.

Although research about the debriefing process for women after severe maternal morbidity events is mixed (Bastos et al., 2015), effective communication with providers has been consistently identified an important aspect of care (Rance et al., 2013). Women with life-threatening, birth-related illnesses or complications experience long-term effects on their mental and physical health (Hinton et al., 2015), and some reported fractured social relationships and finances (Dekker et al., 2016). Women described feelings of isolation and a profound effect on their relationships and imagined futures (Dekker et al., 2016). Dialogue can be used to provide healing for maternity clinicians and families as they process these severe maternal events. Further resources to support women and their families after a severe maternal event are also available (Council on Patient Safety in Women's Health Care, 2016a).

Clinicians

Before a severe maternal event, the multidisciplinary team can practice for possible future events. These educational programs can use

prior case studies. A multidisciplinary briefing (also called a huddle) after hospital admission of a pregnant woman can be an effective tool to improve patient safety, communication, a culture of teamwork, and even efficiency. These briefings can help team members better know and prepare for the birth and postpartum period, anticipate potential complications or adverse events, identify available resources that might be needed, and create a sense of trust, openness, and teamwork. This model of briefing gained significant exposure through the World Health Organization's Surgical Safety Checklist, which incorporated a briefing, a timeout, and a debrief and was associated with dramatic reductions in perioperative morbidity and mortality (Haynes et al., 2009; World Health Organization, 2009). Briefings or huddles are designed to be short and generally last only 2 to 3 minutes (Berenholtz et al., 2009; Hicks et al., 2014).

Common briefing elements are well known to the maternity care team and include the identification of the following: team members, significant medical or obstetric problems, allergies, planned procedures, anesthetics, antibiotics, transfusion concerns, and administrative work completed (history, physical, consents, etc.). We suggest the inclusion of women's and families' needs in this debrief.

Although a briefing is a patient safety tool designed to anticipate and even prevent untoward events, a debriefing may also help teams learn from past events, identify areas for improvement, and build on areas that went well. The debrief is not a time to discuss the appropriateness of clinician decision making. Peer review processes are designed to assess the care provided by the maternity team. In contrast, the debrief should focus on system issues such as communication, role assignment and clarity, and availability of resources. After a severe maternal event, the debrief should include representatives from the quality assurance committee to help protect the conversation from legal discovery and facilitate a process-oriented discussion. Ideally, debrief facilitators would use a template to ensure that all relevant topics are addressed, including psychological outcomes (Harder et al., 2020).

Leaders at facilities that incorporate debriefs should be aware that reliving the experience of a severe maternal event during the debrief can have a significant effect on those involved. Gazoni and colleagues (2012) found that a team debrief was associated with increased feelings of depression, anxiety, feeling responsible, and other negative emotions. This may not be due to the existence of the debrief per se but, rather, to how most debriefs are facilitated, with an emphasis on the clinical facts and decision making rather than on processes of care. A debrief that is focused solely on clinicians' emotional response should be considered to facilitate psychological benefits (Harder et al., 2020). Including clinicians in the root cause analysis and corrective action plans can be helpful to the care of future patients and the ongoing health of clinicians. The clinicians can provide valuable insight that might help change practice and decrease the likelihood of similar events. Clinicians can benefit emotionally by knowing that their experiences can help prevent others from becoming second victims.

Monitoring outcomes is an important factor for determining the success of any quality improvement initiative. The outcomes of importance in the bundle are the emotional well-being of women, their families, and clinicians after severe maternal events (see Table 1). Patient scores on screening tools for acute stress, depression, and PTSD can be used by nurse leaders to monitor prevalence and trends over time among women who did and did not experience severe events. Another

Table 1: Sample Process Measures for Each Domain in the Support After a Severe Maternal Event Bundle

Domain	Sample Process Measures
Readiness	Are support resources for women and families disseminated before discharge?
Recognition	Are women's emotional and mental health assessed on admission and before discharge?
Response	Were support resources provided to everyone involved in the severe event?
Reporting and Systems Learning	Review a subset of process measures from the bundle when doing a formal quality improvement case review for a severe maternal event or other unexpected adverse outcome to identify opportunities for improvement and share lessons learned.

Nurse leaders can use information in this bundle to support the implementation of initiatives to improve maternal safety.

outcome measure could track referrals and postpartum mental health indicators among women who experienced severe maternal events.

Each major adverse event identified is likely to be accompanied by multiple potential second and third victims (Martin & Roy, 2012). *Third victim* refers to a patient who experiences poor-quality care or is harmed by a team still affected by a prior adverse event. By assessing these outcomes, unit leaders can track spikes in complications or changes in practice patterns and, perhaps, intervene with tailored approaches. For example, a sudden increase in the cesarean birth rate could be the result of a previous adverse event after a vaginal birth (Turrentine & Ramirez, 1999). This pattern is especially difficult because the spike in complications tends to increase the emotional stress of the clinician and potentially lead to still more complications. Scott (2015) found that clinicians who received support after adverse outcomes scored higher on safety attitude surveys than those who do not. In addition, a supportive response to adverse events can actually improve the culture of safety (Quillivan et al., 2016).

Finally, leaders of institutions with peer support programs should periodically assess the effectiveness of the program by surveying staff. Scott et al. (2009) described three potential paths forward after becoming a second victim: dropping out, surviving, and thriving. Burlison et al. (2016) and Moran et al. (2017) described the high emotional and financial cost that dropping out can have on an organization. It is hoped that more clinicians can thrive after severe maternal events if they receive emotional support and become involved in maternal quality improvement efforts. It is crucial that birth facility leadership be vigilant for the negative effects that being a second victim can have on subsequent care and maintain a just culture of support when events occur.

Conclusion

Supporting women, families, and maternity care clinicians with informational, emotional, and health resources is a newly recognized priority when severe maternal events occur. Women and their family members who experience severe maternal events are at increased risk of mental health concerns, and there may be serious emotional effects on the clinicians involved. When a maternal death occurs, the devastation is even more profound and requires an even more concerted institutional support of the type outlined here. We have identified evidence-based resources that are available to support everyone involved during and after severe maternal events and offered expert opinions on how these resources can be implemented so that reporting and systems learning can occur. Education and training for nurses and other members of the multidisciplinary team are important to improve the care provided and to help women, families, and maternity clinicians process the event. More research is needed to assess the effectiveness of implementing these interventions in birth facilities. The bundle elements presented here may serve as templates to customize based on local contexts. We strongly encourage birth facility leaders to integrate elements of the support after a severe maternal event bundle when they implement maternal safety bundles on hemorrhage, hypertensive disorders, and other clinical emergencies.

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