

Maternal Safety

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<https://psnet.ahrq.gov/perspective/maternal-safety>

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The Context of Maternal Safety

Childbirth-related maternal health outcomes have been worsening for some time in the United States. After a dramatic reduction in maternal mortality over most of the 20th century, mortality rates began to climb in the late 1980s. The Centers for Disease Control and Prevention report that the US pregnancy-related mortality ratio has increased from 7.2 deaths per 100,000 live births in 1987 to 18.0 deaths per 100,000 live births in 2014. Maternal mortality has declined outside the US, which now lags behind other industrialized countries in maternal mortality, including many countries with much more limited resources. In a [study of pregnancy-related deaths](#) from 2011–2013 in the US, approximately 30% of these deaths occurred before birth, 17% during birth, 18% in the 1–6 days after birth, and 34% more than 6 days after birth. While there is some controversy about the accuracy of measurement of maternal and pregnancy-related mortality, careful analysis consistently demonstrates that at least 50% of deaths are potentially preventable. In addition, many more women experience serious pregnancy-related complications during and after childbirth that can have profound consequences. The rate of severe maternal morbidity (e.g., massive blood transfusion, eclampsia, hysterectomy, heart failure) has also risen in recent decades, and such complications are 50 times more common than pregnancy-related mortality.

Maternal death is devastating for families, as highlighted in several recent [media reports](#). Serious maternal complications can also have a profound effect on both patients and their families. The burden of maternal morbidity and mortality is especially high in the African American community: from 2011–2014 the [pregnancy-related mortality ratio](#) was more than 3 times higher among black women than white women (40.0 deaths per 100,000 births vs. 12.4 deaths per 100,000). The pregnancy-related mortality ratio was also higher for women of other races (17.8 per 100,000 live births).

The Perinatal Safety Movement

Several visionary leaders were early adopters of patient safety principles in perinatal care. As early as 1999, [Knox and colleagues](#) introduced high-reliability thinking to the inpatient birth setting. They and [others](#)

developed comprehensive perinatal safety programs that included careful attention to aligning clinical practices with current evidence and professional standards, education on safety principles and fetal monitoring, an interdisciplinary perinatal practice committee, ongoing audit and feedback, team training, and development of a perinatal safety nurse role. These initiatives reduced adverse events and liability claims, and they were adopted by a number of [health care systems](#) and [state collaboratives](#).

Over the past decade, a new model emerged for developing and scaling maternal safety initiatives. Initially led by the [California Maternal Quality Care Collaborative](#) and later taken up by the [National Partnership for Maternal Safety](#), the [Council on Patient Safety in Women's Health Care](#), and the [Alliance for Innovation on Maternal Health Program](#), safety bundles were developed and implemented to help maternal care teams be ready for, recognize, respond to, and learn from situations that frequently contribute to maternal death and maternal morbidity. The Council developed a series of maternal safety bundles addressing issues such as hemorrhage, hypertension, safe reduction of cesarean delivery, postpartum care, and opioid use disorder. The Alliance oversees a national network of states deeply engaged in maternal safety work focused on bundle implementation. California has the longest track record with safety bundle implementation and has seen reductions in maternal morbidity and mortality using collaborative improvement models to [implement change at scale](#). Health systems have also demonstrated [improvements in outcomes](#) using this approach. The hemorrhage, hypertension, and safe reduction of cesarean delivery bundles have been widely adopted, and many states are or soon will be working on implementing the opioid use disorder bundle.

While early bundles were inpatient-focused and addressed emergencies such as hemorrhage and hypertensive crisis, bundles are increasingly addressing a broader spectrum of maternal health care. Key principles common to the safety bundles are standardization to improve readiness, recognition, response, and reporting. The bundles aim to ensure organizations have the knowledge, skills, supplies, and appropriate care linkages to recognize existing or developing problems; intervene to mitigate potential harm in an evidence-based, effective, and timely manner; and use data collection and analysis for continuous learning and improvement. Each bundle provides a minimum set of recommendations, with links to a rich array of implementation resources. Like [checklists](#), however, [successful implementation](#) requires significant institutional support, along with a positive safety culture, interprofessional integration, [strong communication practices](#), and cultural humility.

Respectful Maternity Care and the Potential for Emotional Harm

The patient safety movement more generally, and the maternity care community specifically, increasingly recognizes that the experience of care can result in [emotional harm](#), and that, from the [patient and family perspective](#), safety encompasses both the physical and emotional aspects of care. A [global movement](#) emphasizing respectful maternity care that upholds the rights and dignity of all persons has emerged. A [systematic review](#) and a [qualitative synthesis](#) identify breakdowns in respectful care as system-level problems, and the World Health Organization recommends that maternal safety programs explicitly address respectful care as an essential component of quality and safety. Although much of the improvement work on respectful maternity care has focused on other countries, disrespectful care occurs [in the US as well](#) and needs to be addressed.

The Community Maternal Safety Movement

The maternal safety movement has tended to focus on hospital-based birth, to the exclusion of preventive, prenatal, and postnatal care. Historically, the movement has also paid limited attention to issues of health equity, particularly the persistently higher death rates among African American women. Even California, which has reduced its maternal mortality rate by half, has not seen substantial improvement in magnitude of the difference in mortality rates. In May of 2018, the Council published a consensus statement and safety bundle: [Reduction of Peripartum Racial and Ethnic Disparities](#). This bundle focuses on modifiable factors that can be addressed at the clinician and health care institutional level, and some states are beginning to focus on this in their improvement efforts. Key national and local community stakeholders, such as the Black Mamas Matter Alliance and Black Women Birthing Justice, have developed [comprehensive analyses and policy recommendations](#) that illustrate and provide [strategies](#) for addressing the long-term effects of [bias](#) and discrimination on maternal safety.

Summary

Despite two decades of improvement efforts, the US continues to see increasing rates of maternal morbidity and mortality and has only recently developed capacity for spreading maternal safety practices at scale. Many excellent resources for maternal safety are freely available and the hemorrhage, hypertension, and safe reduction of cesarean delivery bundles have been widely adopted. Safety bundles are an important step in addressing preventable maternal death and morbidity and health disparities in maternal mortality. To maximize the effectiveness of safety bundles, it is important for organizations to engage with community stakeholders; take a broad approach to understanding how bias, discrimination, community relations, and public policy affect maternal safety; provide consistently respectful maternity care; and attend to safety culture, interprofessional relationships, and effective communication.