

Alaska Obstetric Hemorrhage Initiative Change Package

Introduction

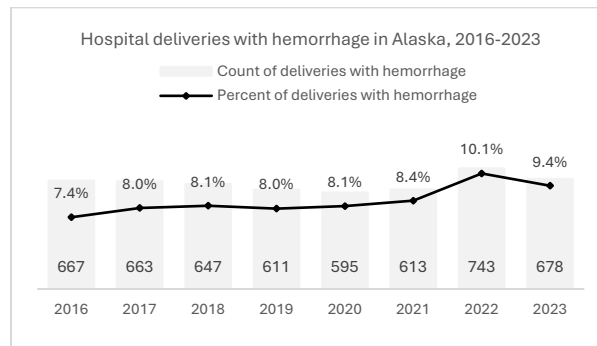
Perinatal Quality Collaboratives (PQCs) exist in most states and are structured and function based on the needs of the population. The Alaska Perinatal Quality Collaborative (AKPQC) is a volunteer, multidisciplinary group of Alaskan maternity health care specialists from both urban and rural areas. The AKPQC was established to promote high-quality maternal and newborn care across Alaska. The AKPQC meets monthly with hospitals and birthing centers to implement evidence-based quality improvement projects. Previous projects have tackled maternal substance use, hypertensive diseases of pregnancy, and birth transfers. The AKPQC plans to implement a state-wide quality improvement initiative focused on hemorrhage in the fall of 2024.

This new quality improvement initiative is occurring at a time that Centers for Medicaid & Medicare Services (CMS) is setting new expectations for labor and delivery units, as a part of their Maternal Morbidity Structural Measures.⁵ Acknowledging the growing importance of state PQCs in promoting maternal safety measures, CMS assesses whether hospitals are cooperating with their state PQCs with emphasis on readiness, data collecting and continuous quality improvement.

Problem Statement

Obstetric hemorrhage (OH) is the most common complication of childbirth.⁸ Defined as the cumulative blood loss of $\geq 1,000$ mL accompanied by signs and symptoms of hypovolemia within 24 hours following the birth process,¹⁰ OH accounts for most deaths within 4 hours of birth, and for the majority of maternal deaths worldwide.¹ In the U.S., OH remains a prominent factor in maternal mortality, responsible for 13.7% of pregnancy-related deaths from 2017 to 2019.⁷ Uterine atony accounts for 70-80% of cases of PPH.²

Preliminary data show rates of hospital deliveries with hemorrhage in Alaska have been increasing from 7.4% of deliveries in 2016 to 9.4% in 2023.



The Alaska Perinatal Quality Collaborative will decrease the 6-month statewide rate of severe maternal morbidity among cases of hemorrhage 20% from a baseline of 8.0% for July-December 2023 to 6.4% for July-Dec 2025.

Initiative Implementation

With input from multiple stakeholders statewide, the AKPQC developed the following change package with specific strategies and resources to improve the care of pregnant people experiencing hemorrhage. These strategies to improve care are based on the Alliance for Innovation for Maternal

Health (AIM) Obstetric Hemorrhage Change Package⁹. The AKPQC is recruiting hospital teams to participate in the initiative, and expert faculty will be identified to provide support to hospitals during the 18-month implementation phase.

Learning Sessions

There will be three, day long learning sessions during this initiative. At learning session one, AKPQC staff and faculty will present a vision for ideal care and provide an overview of the change package and measurement plan. Hospital teams will also receive training on quality improvement methodologies which will enable them to test the changes locally.

At the second and third learning sessions, hospital teams will learn from each other as they report on successes, barriers, and lessons learned using general sessions, workshops, storyboard rounds, and informal dialogue and exchange.

Action Periods

Between learning sessions, hospital teams will engage in action periods that provide opportunities for learning and engagement with other hospitals and AKPQC staff and faculty. The goals of the action periods are to support teams in their improvement work, build collaboration and shared learning, and assess progress on implementation.

Action periods will include the following supports:

- Monthly reporting system: The AKPQC will host a data system to collect data and review progress on implementation at each hospital. The AKPQC will review each report monthly and will provide feedback to hospital teams.
- Hospital team meetings: Hospital teams will participate in monthly, one-hour virtual meetings on various topics and quality improvement methods. The meetings will be hosted by AKPQC staff and faculty and will feature opportunities to highlight successes and learning of hospital teams.
- Online communication platform: The AKPQC will support and monitor an online communication platform for hospital teams to share resources and connect with each other and with AKPQC staff and faculty throughout the initiative.

Hospital team meetings will be held virtually via Zoom. The AKPQC will host learning sessions in-person but will also include a virtual component.

Expectations of the AKPQC and Participating Hospitals

The AKPQC staff and faculty will:

- Develop the change package and measurement plan
- Recruit hospital teams to join the initiative
- Plan and facilitate engaging and informative learning sessions
- Plan and facilitate monthly hospital team meetings during action periods
- Provide as needed technical assistance to hospital teams
- Provider Quality Improvement coaching/support via our contractor, Alaska Hospital & Healthcare Association

- Manage the AKPQC Data System and support hospital teams with data submission
- Review monthly reports and provide feedback to hospital teams

Participating hospitals will:

- Sign a memorandum of understanding and data use agreement
- Designate a senior leader to serve as a sponsor for the frontline team and identify a frontline leader to drive the day-to-day improvement work
- Identify frontline team members with expertise in obstetrics, newborn care, and quality improvement
- With support of the day-to-day leader, hospital teams will:
 - Conduct tests of the recommended changes in alignment with their aims
 - After successful testing and adaptation, implement and spread changes to other units
 - Actively participate in learning sessions and monthly hospital team meetings
 - Submit a monthly report with process, structure, and balancing measure data as well as updates on implementation through the AKPQC Data System
- Provide resources to support the improvement team, including sufficient time to devote to this effort
 - Team members should have adequate time for weekly team meetings, testing changes/PDSA cycles, and engaging with senior leadership
- Identify and include a patient/family member as a regular member of the improvement team (encouraged but not mandatory)
- Send teams to in-person learning sessions

Key Changes

Listed below are the key changes for this change package. Please note that a facility may already be successful in implementing parts of the change package prior to the initiative. This list of key changes is meant to serve as options that a facility can pick and choose from. Selecting specific changes to focus quality improvement work will look different from facility to facility.

Readiness

Every Unit/Team

Change Concepts and Ideas:

1. Develop processes for the management of patients with obstetric (OB) hemorrhage, including:
 - a. A designated rapid response team co-led by nursing, obstetrics, and anesthesia with membership appropriate to the facility's Level of Maternal Care
 - i. Create OB response team with specified roles and responsibilities
 - ii. Establish a known phrase (appearing on overhead page or in digital alerts) for hemorrhage emergencies so all disciplines develop situational awareness

- b. A standardized, facility-wide, stage-based, obstetric hemorrhage emergency management plan with checklists and escalation policy
 - i. Develop clear emergency hemorrhage protocol that includes stage based algorithm and systems of escalation
 - c. Emergency release and massive transfusion protocols to ensure immediate access to blood products
 - i. Create emergency release and massive transfusion protocols
 - ii. Develop blood availability dashboard and protocols specific to shortages with clarity about decision-maker
 - iii. Document communication from outpatient OB visits about red cell alloantibodies/any abnormalities and expected delivery dates
 - d. A protocol, including education and consent practices, to collaborate with patients who decline blood products, but may accept alternative approaches
 - i. Develop or adapt protocol for declination of blood products and have clear documentation in patient record
- 2. Maintain a hemorrhage cart or equivalent with supplies, checklists, and instruction cards for devices or procedures where antepartum, laboring, and postpartum patients are located
 - a. Create supply list for cart with multidisciplinary input
 - b. Place carts in all relevant care areas where unplanned birth could occur (e.g., antepartum, labor & delivery, emergency department operating room, postpartum unit)
 - c. Have reliable and regular restocking system for both after use and to keep materials up to date
 - d. Include materials like uterine devices (e.g., Bakri balloon tamponade, Jada uterine vacuum), uterine compression sutures, and quick reference diagrams of the B-lynch procedure technique
- 3. Ensure immediate access to first- and second-line hemorrhage medications in a kit or equivalent per the unit's obstetric hemorrhage emergency management plan
 - a. Localize all key uterotonics and other medications (oxytocin, methylergonovine, hemabate, misoprostol, tranexamic acid) together in proximity to labor & delivery, operating room, and emergency departments and ensure appropriate storage
 - b. Have order sets for hemorrhage medications in electronic health record (EHR)
- 4. Conduct interprofessional and interdepartmental team-based drills with timely debriefs that include the use of simulated patients
 - a. Have drills for use of cart and obtaining medications with use of stage-based algorithm and activation of rapid-response team
 - b. Have drills for measurement of QBL and use of blood bank dashboard
 - c. Ensure that simulations include varied forms of patient expression and include processing with patient
 - d. Ensure that regular drills and simulations are held on all shifts for all OB staff and providers (including anesthesia, blood bank, and support departments) and test all parts of system

Recognition and Prevention

Every Patient

Change Concepts and Ideas:

1. Assess and communicate hemorrhage risk to all team members as clinical conditions change or high-risk conditions are identified; at a minimum, on admission to labor & delivery, during the peripartum period, and on transition to postpartum care
 - a. Conduct formal assessment for hemorrhage risk at multiple points in prenatal, delivery, and postpartum care and document in EHR with associated alerts
 - b. Conduct formal assessment for anemia and use anemia protocol
 - c. Match risk level to intended delivery hospital level
 - d. Review and document risk during huddles, shift changes, and at times of transfer then note level of risk on census board
 - e. Discuss risk assessment and its implications with patient and family;
 - f. Consider including an “equity pause” to look at bias risk within multidisciplinary care planning and to ask, “What are considerations to ensure respectful care without discrimination?”
 - i. Please note, an equity pause is an emerging idea being tested in different fields. If you are interested in trying it, start small and consider testing on admission, during shift change, or at transfer to postpartum. It mirrors an operating room time out to prevent harm.
 - g. Have anesthesia consult (depending on setting) for high-risk patients (antepartum if high risk determination is antepartum)
 - h. Screen and treat for anemia antenatally and implement a protocol for IV iron therapy in those with moderate to severe iron deficiency anemia
 - i. Discuss option of epidural analgesia with high-risk patients
2. Measure and communicate cumulative blood loss to all team members, using quantitative approaches
 - a. Perform quantifiable blood loss (QBL) as part of patient assessment in and across care settings (adapted to capability of hospital): emergency department, operating room, labor & delivery, postpartum, intensive care unit
 - b. Pair specific QBL total with stage-based algorithms (including on postpartum unit with triggering of rapid-response team when threshold is met)
 - c. Calculate and provide real-time QBL updates to team
 - d. Have specific method for calculating volume of amniotic and irrigation fluids
 - e. Make sure scales are available in appropriate rooms with tared weights of pads and drapes
 - f. Use calculation tools and have laminated listed dry weights on cart or use apps with similar information
 - g. Use QBL alerts in HER
 - h. Continue QBL in recovery phase to assess for active on-going blood loss
3. Actively manage the third stage of labor per departmentwide protocols
 - a. Establish, disseminate, and verify use of a protocol to actively manage third stage of labor

4. Provide ongoing education to all patients on obstetric hemorrhage risk and causes, early warning signs, and risk for postpartum complications

Response

Every Event

Change Concepts and Ideas:

1. Utilize a standardized, facility wide, stage-based, obstetric hemorrhage emergency management plan, with checklists and escalation policies for stage-based management of patients with obstetric hemorrhage
 - a. Advance preparations made based on hemorrhage risk (e.g., cell saver, blood bank notification, etc.)
 - i. Designate a patient and identified support network liaison to provide updates in real-time and include these communications on emergency checklist
 - ii. Perform multi-disciplinary debriefing at the following timepoints:
 1. After resolution of an acute hemorrhage
 2. At the time of transfer to reassess hemorrhage risk and to convey risk to the postpartum team
 - b. Develop standardized checklists/policy for use across all areas of organization
 - c. Evaluate patients for etiology of hemorrhage
 - d. Use of obstetric rapid response team
 - e. Evidence-based medication administration or use of nonpharmacological interventions
 - i. Communicate directly with patient about clinical concerns and planned management, prior to performing any physical interventions such as bimanual pelvic exam, tamponade placement, or speculum exam
 - ii. Include patient-reported pain in assessment and have clear plans for pain management
 - iii. Using respectful care training, respond in real time to staff and providers' cultural assumptions about pain, which can show up as positive bias and negative bias
 - iv. Ensure that qualified interpreters are being used with patients and identified support network who need them
 - v. Following transfer, continue to monitor patient with emergency management checklist
2. Provide trauma-informed support for patients, identified support network, and staff for all obstetric hemorrhages, including discussions regarding birth events, follow up care, resources, and appointments
 - a. Have clear mechanism with a designated provider to ensure all family support processes are completed following hemorrhage
 - b. Provide written summary of events following hemorrhage to patient and family
 - c. Ensure processes to support infant feeding preferences following hemorrhage

- d. Begin trauma care in postpartum setting with conversation and referral to trauma specialist
- e. Screen for maternal depression and PTSD and depression following trauma
- f. Ensure that patient can talk with a provider who was at the event
- g. Ensure private space for family meetings
- h. Have protocol for patients experiencing infant loss
- i. Understand if family has any equity concerns about care given and screen for equitable care with scales (Mother's Autonomy in Decision Making (MADM), Mothers on Respect Index (MORI)) after each delivery

Reporting and Systems Learning

Every Unit

Change Concepts and Ideas:

1. Establish a culture of multidisciplinary planning, huddles, and post-event debriefs for every obstetric hemorrhage, which identify successes, opportunities for improvement, and action planning for future events
 - a. Conduct huddles in conjunction with stage-based algorithm to be responsive to evolving clinical scenarios
 - b. Have immediate, documented post-event debrief (with equity lens) for support and learning
 - c. Archive debriefing documentation for OB hemorrhage events and review systematically with unit-specific and QI leadership teams
2. Perform multidisciplinary reviews of serious complications per established facility criteria to identify systems issues.
 - a. Have formal review following serious hemorrhage to assess alignment with standard policies and procedures (with appropriate updates) and to identify opportunities for improvement (including identification of discriminatory practices)
 - b. Establish, review, and update as needed facility criteria and processes for review of serious hemorrhages
 - c. Include execution of QBL in review
3. Monitor outcomes and process measures related to obstetric hemorrhage, with disaggregation by race and ethnicity due to known racial and ethnic disparities in obstetric hemorrhage outcomes
 - a. Identify key processes and outcomes for quality improvement data collection
 - b. Collaborate with health information technology (HIT) or appropriate staff to modify EHR and automate data collection and reporting
 - c. Set specific goals for closing identified disparities using the SMARTIE format (strategic, measurable, ambitious, realistic, time-bound, inclusive, and equitable)
 - d. Collect and analyze REAL data
 - e. Review all process and outcome data disaggregated by REAL to assess for disparities with unit-specific and QI leadership teams

4. Establish processes for data reporting and the sharing of data with the obstetric rapid response team, care providers, and facility stakeholders to inform care and change care systems, as necessary
 - a. Include race/ethnicity data in the analysis of OB hemorrhage morbidity review and debriefing documentation to identify potential bias and need for systemic changes or staff education
 - b. Establish and maintain health equity rounds (like department grand rounds) led by someone with appropriate experience
 - c. Develop run charts and reports for staff with both outcome and process measures. Include REAL data in reports and run charts
 - d. Disaggregate data to inform content of health equity and clinical rounds and other staff education opportunities

Respectful, Equitable, and Supportive Care

Every Unit, Provider, and Team Member

Change Concepts and Ideas:

1. Review policies to address potential disparities in outcomes
2. Include each patient that experienced an obstetric hemorrhage and their identified support network as respected members of and contributors to the multidisciplinary care team and as participants in patient centered huddles and debriefs
 - a. Debrief the patient and family prior to discharge
3. Engage in open, transparent, and empathetic communication with pregnant and postpartum people and their identified support network to understand diagnoses, options, and treatment plans, including consent regarding blood products and blood product alternatives.
 - a. Provide communication in the patient's preferred language and support access to interpretation services; provide educational materials for patients in common languages spoken in your community
 - b. Educate clinicians on providing respectful care by engaging in the lifelong learning of cultural humility, understanding that individuals cannot learn all aspects of any culture, including their own

Further respectful care change ideas are integrated throughout the previous primary drivers as well.

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