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Obstetric Hemorrhage in Alaska, 2016–2023

Background

Obstetric hemorrhage (OH) is the most common complication of childbirth.¹ Defined as the cumulative blood loss of ≥1,000 mL accompanied by signs and symptoms of hypovolemia within 24 hours following the birth process,² OH is the leading cause of maternal death, causing >27% of postpartum deaths worldwide.³ In the U.S., OH remains a prominent factor in maternal mortality, responsible for 13.7% of pregnancy-related deaths from 2017–2019.⁴ This *Bulletin* describes current trends and characteristics of people experiencing OH in Alaska.

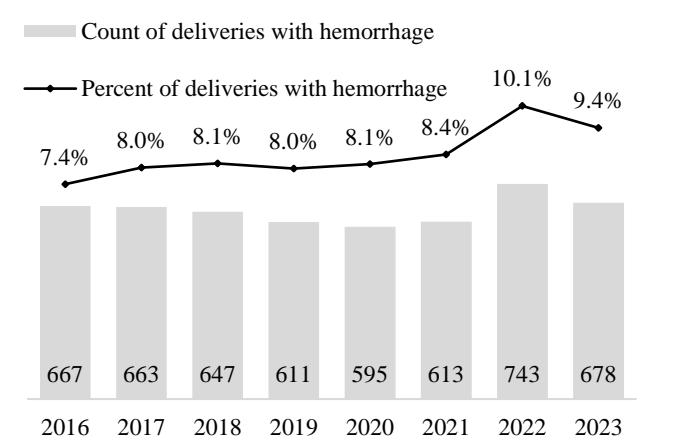
Methods

We used Alaska Health Facilities Data Reporting (HFDR) system inpatient data for this analysis. Following guidance from the Alliance for Innovation in Maternal Health, birth hospitalizations with OH were identified using ICD-10-CM diagnosis codes for placenta previa (O44.x), abruption (O45.x), antepartum hemorrhage (O46.x), and postpartum hemorrhage (O72.x and O43.x).⁵ Records were included if these codes were present for the principal diagnosis or any secondary diagnoses. Hospitalizations that included only a transfusion, without a corresponding diagnosis code for hemorrhage, were not included in the numerator. We evaluated the annual trend in the proportion of deliveries with OH that occurred during 2016–2023 using a quasi-Poisson model. To assess significant changes among population subgroups, we compared percents for two 4-year periods (2016–2019 and 2020–2023) using chi-square tests.

Results

The percent of hospital deliveries with OH in Alaska increased from 7.4% in 2016 to 9.4% in 2023, with a peak of 10.1% in 2022 (Figure).

Figure. Annual Number and Percent of Hospital Deliveries with Obstetric Hemorrhage in Alaska, 2016–2023



Between 2016–2019 and 2020–2023, statistically significant increases in the percent of deliveries with OH were observed among residents of the Anchorage, Interior, Southeast and Southwest regions as well as Pacific Islander/Native Hawaiian, Alaska Native/American Indian (AN/AI), White mothers, and both payer statuses (Table). During both periods, the percent of deliveries with OH was highest among residents in the Northern and Southwest regions; AN/AI, Asian Non-Hispanic (NH), and Pacific Islander NH mothers; and those on Medicaid.

During 2020–2023, in some groups more than 10% of hospital deliveries involved OH (Northern and Southwest region residents, AN/AI and Pacific Islander non-Hispanic mothers, and Medicaid-funded deliveries).

Table. Percent of Hospital Deliveries with Obstetric Hemorrhage in Alaska by Maternal Characteristics

	2016–2019	2020–2023
Statewide*	7.9%	9.0%
Residence Region		
Anchorage*	7.6%	8.6%
Gulf Coast	7.5%	7.3%
Interior*	5.5%	7.7%
Mat-Su	6.8%	7.0%
Northern	12.3%	12.6%
Southeast*	6.3%	8.5%
Southwest*	12.5%	15.6%
Maternal Race/Ethnicity		
AN/AI*	10.5%	12.7%
Asian NH	11.0%	9.7%
Black NH	5.0%	7.1%
Hispanic	8.8%	8.5%
Pacific Islander NH*	11.3%	14.2%
White NH*	5.8%	6.7%
Medicaid Status		
Medicaid*	8.8%	10.1%
No Medicaid*	6.7%	7.8%

*Statistically significant difference $p<0.05$

Discussion

A recent increase in the percent of hospital deliveries with OH has occurred in Alaska, with some sub-populations being disproportionately impacted. This analysis was unable to determine if the change was due to improved recognition and data accuracy or if it represents a true increase in cases.

All members of an inpatient or out-of-hospital obstetric team, including physicians, midwives, and nurses should be prepared to manage patients experiencing OH, as it can quickly lead to severe morbidity and mortality.² The Alaska Perinatal Quality Collaborative (AKPQC) is a volunteer, multidisciplinary group of maternity healthcare specialists from many Alaska communities. AKPQC was established to promote high-quality maternal and newborn care through collaboration with hospitals and birthing centers to implement evidence-based quality improvement projects. Due to the observed increase of OH and feedback from participating facilities, in January 2025, AKPQC plans to implement a state-wide quality improvement initiative focused on OH. Facilities and clinicians not already connected with AKPQC can contact AKPQC@alaska.gov for more information.

References

1. Wormer KC, Jamil RT, Bryant SB. Acute Postpartum Hemorrhage. [Updated 2023 May 8]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK499988/>
2. Postpartum hemorrhage. Practice Bulletin No. 183. American College of Obstetricians and Gynecologists. Obstet Gynecol 2017; 130: e168-86. Available from: <https://www.acog.org/clinical/clinical-guidance/practice-bulletin/articles/2017/10/postpartum-hemorrhage>
3. Say L, Chou D, Gemmill A, Tuncalp O, Moller AB, Daniels J, et al. Global causes of maternal death: a WHO systematic analysis. *Lancet Glob Health* 2014;2: e323–33.
4. Trost SL, Beauregard J, Njie F, et al. Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017–2019. Atlanta, GA: Centers for Disease Control and Prevention, US Department of Health and Human Services; 2022.
5. Alliance for Innovation in Maternal Health. Obstetric Hemorrhage Patient Safety Bundle, Core Data Collection Plan. Available at <https://saferbirth.org/wp-content/uploads/Obstetric-Hemorrhage-Patient-Safety-Bundle-2.pdf>.