

Emergency Obstetric Services (EOS) Survey Report

Transport Sub-Report FEBRUARY 2024

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Background

The Emergency Obstetric Services (EOS) Survey contained questions about the transport of pregnant patients. Transport is a critical component of risk-appropriate care as it provides the means to receive care at a higher-level facility if necessary [3]. The Emergency Medical Treatment and Labor Act (EMTALA) allows for the transport of screened patients with emergency medical conditions (including obstetric emergencies) if the hospital does not have the capacity to stabilize the patient [4]. This report summarizes the transport section of the EOS survey.

Emergency Obstetric Services Study Abstract

Objective: To gather information on the local capacity and preparedness to support emergency obstetric services in Montana communities.

Study Design: The University of Montana Rural Institute for Inclusive Communities (UM) research team adapted a survey developed by Kozhimannil et al. 2021 on emergency obstetric services in rural hospitals without obstetric units in the United States [1]. The survey comprises components of the World Health Organization's (WHO) Emergency Obstetric Care (EmOC) indicators and other measures of emergency obstetric capacity [2].

Results: Of the 34 hospitals without an obstetric unit, 32 (94.0%) participated in the survey. More than half (51.6%) of the hospitals had experienced an emergency room birth within the last two years, and 34.4% had experienced a close call or other unanticipated adverse birth outcome. When hospitals needed to transfer a patient, 37.0% of respondents had experienced challenges arranging transport for a pregnant patient. Only one surveyed hospital met all the assessed criteria of the WHO's guidelines for Basic Emergency Obstetric Care (BEmOC).

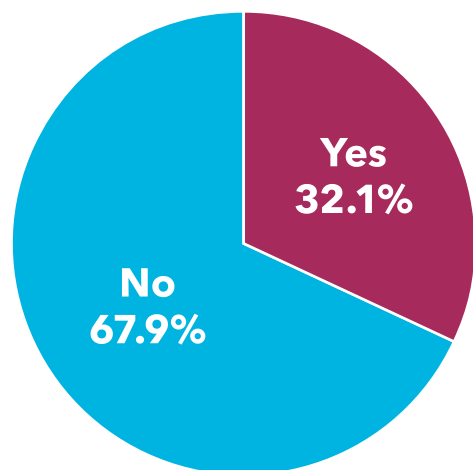
Conclusion: The EOS survey provides valuable information on the perinatal care system in Montana by highlighting the role of rural hospitals without obstetric units in providing obstetric care. The survey results can inform activities to strengthen perinatal care networks, ultimately leading to improved maternal and infant health outcomes in Montana.

Results

Policies & Procedures

Well-defined transport policies and procedures for risk-appropriate care improve outcomes for at-risk pregnant patients [5, 6]. By facilitating and maintaining the relationships with transport teams, challenges in transporting pregnant patients can be reduced[5]. As illustrated in Figure 1, 32.1% of surveyed hospitals have a written protocol or formal policy describing the transport of pregnant patients.

Figure 1. Montana Hospitals without Obstetric Units that have a **Transport Protocol or Formal Policy for Pregnant Patients (N=28)**



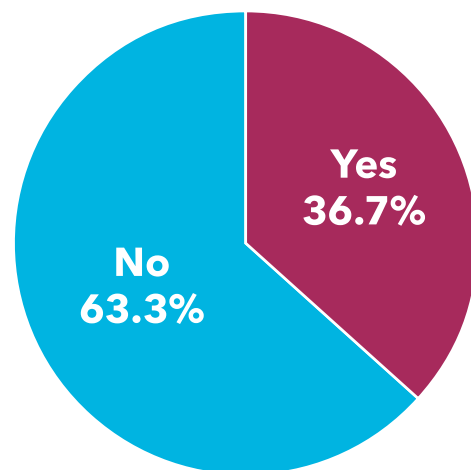
Emergency Obstetrics Survey conducted October 18, 2021, to December 10, 2021

More than one-third (37.9%) of the transport policies consist of a formal agreement with another hospital that has obstetric services. In contrast, other hospitals may rely on the choice of the patient, availability at a hospital that provides a higher level of care, or their proximity to a birthing hospital. Nearly all surveyed hospitals (96.9%) indicated that transfer occurs using either ambulance services or flight transport.

Transport Challenges

More than one-third (36.7%) of non-birthing hospitals indicated that they had previously experienced challenges in coordinating urgent transport of pregnant patients, as seen in Figure 2.

Figure 2. Montana Hospitals without an Obstetric Unit that **Experienced Transport Challenges (N=30)**



Emergency Obstetrics Survey conducted October 18, 2021, to December 10, 2021

Among the most frequently experienced challenges hospitals faced included weather (90.9%), transport availability (63.6%), or the availability of an accepting provider (36.4%).

Other Findings

In addition to transporting patients, the survey also revealed how dependent non-birthing hospitals are on transport for other services. This became apparent in questions about access to medical products for obstetric emergencies. Nearly all hospitals (82.7%) reported utilizing either flight services or ambulance services to transport blood supplies for obstetric emergencies, with one hospital emphasizing the dependence on flight teams during these emergencies, *“Hope and pray the flight team has some [blood] on board.”*

Recommendations

Enhancing the provision of risk-appropriate care in the state will require improvements to the transport system. In the event of obstetric emergencies, hospitals without obstetric units in Montana need a clear protocol to arrange transport of pregnant patients to receive risk-appropriate care [5]. Policies create a standardized process for risk assessment, initiating transport, and coordinating with the receiving hospital [7]. The development or reestablishment of these policies and protocols need to involve the emergency services community, hospitals without obstetric units, and receiving facilities. Their coordination is essential to reducing maternal morbidity and mortality in Montana.

We recommend the on-going maternal health system needs assessment coordinated through the MOMS program to gather additional information from birthing and non-birthing facilities to better understand the perinatal transport system in Montana. The MOMS program can use this information to develop strategies to strengthen transport across the system, including EMS transport and between-hospital transport.

Conclusion

Successful hospital-to-hospital transport to a greater level of care, whether by ground or air, can significantly impact maternal and neonatal outcomes [3]. By strengthening Montana's obstetric transport system, these changes would contribute to improved outcomes for pregnant people and their infants [6].

References:

- [1] K. B. Kozhimannil, J. D. Interrante, M. S. Tuttle, M. Gilbertson, and K. D. Wharton, "Local Capacity for Emergency Births in Rural Hospitals Without Obstetrics Services," *J. Rural Health*, vol. 37, no. 2, pp. 385–393, Mar. 2021, doi: 10.1111/jrh.12539.
- [2] World Health Organization et al., "Monitoring Emergency Obstetric Care: A Handbook," 2009. <https://www.who.int/reproductivehealth/publications/monitoring/9789241547734/en/Allowed=y> (accessed Apr. 12, 2022).
- [3] C. L. DeSisto, R. Oza-Frank, D. Goodman, E. Conrey, and C. Shellhaas, "Maternal transport: an opportunity to improve the system of risk-appropriate care," *J. Perinatol.*, vol. 41, no. 9, pp. 2141–2146, Sep. 2021, doi: 10.1038/s41372-021-00935-9.
- [4] Centers for Medicare & Medicaid Services (CMS), "Emergency Medical Treatment & Labor Act (EMTALA)." <https://www.cms.gov/Regulations-and-Guidance/Legislation/EMTALA> (accessed Apr. 17, 2022).
- [5] E. M. Okoroh, C. D. Kroelinger, S. M. Lasswell, D. A. Goodman, A. M. Williams, and W. D. Barfield, "United States and territory policies supporting maternal and neonatal transfer: review of transport and reimbursement," *J. Perinatol.*, vol. 36, no. 1, pp. 30–34, Jan. 2016, doi: 10.1038/jp.2015.109.
- [6] R. C. Pacagnella, J. G. Cecatti, M. J. Osis, and J. P. Souza, "The role of delays in severe maternal morbidity and mortality: expanding the conceptual framework," *Reprod. Health Matters*, vol. 20, no. 39, pp. 155–163, Jun. 2012, doi: 10.1016/S0968-8080(12)39601-8.
- [7] C. Holman, A. L. Glover, K. Fertaly, and M. Nelson, "Montana Levels of Care Assessment Tool (LOCATe) Statewide Report," 2022. [Online]. Available: <https://www.mtmoms.org/levels-of-care-assessment-tool-locate/>

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