

## Out of Hospital Neonatal Outcomes (OHNO) registry

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USA

The increasing popularity of out-of-hospital births in the United States, now comprising approximately 1 percent of deliveries, reflects a shift toward low-intervention and personalized birthing experiences. While often appropriate for low-risk pregnancies, these settings may lack the resources needed to manage unexpected complications. Major medical organizations, including ACOG and AAP, recommend hospital births as the safest option for both mothers and newborns. We conducted a retrospective cohort study at Cook Children's Medical Center (CCMC), a Level IV NICU in Fort Worth, Texas, to examine outcomes following elective out-of-hospital births. From 2020 to 2024, 226 neonates were admitted to CCMC after being delivered at home or in freestanding birthing centers. Data were supplemented by surveys from six regional birthing centers that addressed emergency preparedness, staffing, clinical protocols, and transfer patterns. Most patients were non-Hispanic White, followed by African American, Asian, and American Indian individuals. Birthing centers accounted for 25 percent more NICU admissions than home births. Common reasons for admission included respiratory distress, neurologic complications, infection, and hyperbilirubinemia. Infants born at home required more intensive care, had longer NICU stays (25.22 vs. 8.66 days;  $p < 0.033$ ), more frequent antibiotic use, and higher rates of sepsis. Ten neonatal deaths were reported: six from home births, two from birthing centers, and two in transit. Compared to Tarrant County's infant mortality rate of 0.6 percent, our cohort of otherwise presumed healthy neonates had a mortality rate of 4.4 percent. Survey responses revealed inconsistent adherence to safety standards. Although all centers performed GBS screening, only half administered antibiotics when indicated. Access to emergency tools and transfer readiness varied significantly.

These findings support the need for improved oversight, consistent clinical protocols, and better emergency preparedness in out-of-hospital birth settings. Public health efforts should promote informed decision-making and explore state-level regulatory improvements.

### Biography

Lucy Eletel is a fourth-year medical student at the Anne Burnett Marion School of Medicine at TCU with a focus on maternal and infant health equity. For the past four years, she has led a community-based research initiative aimed at addressing the infant mortality crisis in Tarrant County. Through partnerships with local birthing centers, she investigates outcomes of out-of-hospital births and works to develop standardized, evidence-based guidelines for maternal and neonatal care. Her work is grounded in collaboration, public health principles, and a commitment to improving outcomes for underserved populations. By combining clinical insight with community engagement, Lucy aims to support safer birth experiences and inform policy at the local and state levels.

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