

Comparison of Maternity Care Outcomes Among Rural Colorado Hospitals Using Birth Certificate Data. H Petrick (M.D., SOM), M Deutchman M.D., and BM Kwan Ph.D., Department of Family Medicine, University of Colorado, Denver, CO.

**Purpose:** The purpose of this study was to determine whether there was a difference among maternity care outcomes between urban, rural, and frontier facilities, if there were differences in maternity care outcomes among the rural/frontier facilities, and if there were population, facility, or differences in clinical care interventions that could account for these differences among the rural/frontier hospitals.

**Methods:** Colorado Birth Certificate Data from 2016-2018 was used to compare average percentages of adverse maternity care outcomes at urban, rural, and frontier facilities. A heat map of outcomes at rural and frontier facilities was used to identify high and low performing quartiles of facilities. Facility, population, and clinical care intervention differences were compared between high and low performing rural facilities.

**Results:** Rural facilities in Colorado reported worse average percentages of adverse maternity care outcomes compared to urban facilities. Variation in adverse maternity care outcomes among rural facilities also existed. Providers at low performing rural hospitals on average augmented less labors, used vaginal forceps more, and had more clinical chorioamnionitis, unplanned hysterectomies, admissions of the mother to the intensive care unit, meconium aspiration, and hypoglycemia in the infant than high performing rural hospitals. Mothers who delivered babies at low performing rural hospitals tended to live at higher elevations, more often identified as non-white race, reported consuming more alcohol during the 2<sup>nd</sup> and 3<sup>rd</sup> trimesters, and were more often diagnosed with eclampsia and HELLP Syndrome than mothers at high performing rural hospitals.

**Conclusions:** This hypothesis-generating study suggests there were worse maternity care outcomes at rural facilities compared to urban facilities in Colorado and some rural Colorado hospitals may perform better than others. However, due to numerous limitations this cannot be definitively concluded without additional research.