

A MULTI-STATE ANALYSIS OF POSTPARTUM READMISSIONS IN THE UNITED STATES

Mark A. CLAPP, MD, MPH
Sarah E. LITTLE, MD, MPH
Jie ZHENG, PhD
Julian N. ROBINSON, MD

Background: Readmission rates are used as a quality metric in medical and surgical specialties; however, little is known about obstetrics readmissions.

Objective: Our goals for this study were to describe the trends in postpartum readmissions over time, to characterize the common indications and associated diagnoses for readmissions, and to determine maternal, delivery, and hospital characteristics that may be associated with readmission.

Study Design: Postpartum readmissions occurring within the first six weeks after delivery in California, Florida, and New York were identified between 2004-2011 in State Inpatient Databases. Of the 5,949,739 eligible deliveries identified, 114,748 women were readmitted over the eight-year period. We calculated the rates of readmissions and their indications by state and over time. The characteristics of the readmission stay, including day readmitted, length of readmission, and charge for readmission, were compared among the diagnoses. Odds ratios were calculated using a multivariate logistic regression to determine the predictors of readmission.

Results: The readmission rate increased from 1.72% in 2004 to 2.16% in 2011. Readmitted patients were more likely to be publicly insured (54.3% vs. 42.0%, $p<0.001$), Black (18.7% vs. 13.5%, $p<0.001$), have comorbidities, such as hypertension (15.3% vs. 2.4%, $p<0.001$) and diabetes (13.1% vs. 6.8%, $p<0.001$), and to have had a cesarean delivery (37.2% vs. 32.9%, $p<0.001$). The most common indications for readmission were infection (15.5%), hypertension (9.3%), and psychiatric illness (7.7%). Patients were readmitted, on average, seven days after discharge, but readmission day varied by diagnosis: day three for hypertension, day five for infection, and day nine for psychiatric disease. Maternal comorbidities were the strongest predictors of postpartum readmissions: psychiatric disease, substance use, seizure disorder, hypertension, and tobacco use.

Conclusion: Postpartum readmission rates have risen over the last eight years. Understanding the risk factors, etiologies, and cause-specific timing for postpartum readmissions may aid in the development of new quality metrics in obstetrics and targeted strategies to curb the rising rate of postpartum readmissions in the United States.