

Title: The Effect of Maternity Ward Closures on Cesarean Sections: Evidence from Japan

Author: Akifumi Kusano **Co-authors:** Haruko Noguchi and Yichen Shen

Objectives:

Maternity ward closures have been increasingly observed in many countries, raising concerns about access to maternal care. At the same time, cesarean section rates have increased globally, raising concerns about possible overuse. Recent studies report mixed findings on how closures affect cesarean rates, and the underlying mechanisms remain unclear. This study investigates whether physician workload drives cesarean section rates by examining the effects of hospital-based maternity ward closures in Japan.

Methods:

We use the Survey of Medical Institutions (1996-2020) and Vital Statistics (1996-2020) from Japan. We employ a staggered difference-in-differences design to estimate the effect of hospital maternity ward closures on cesarean rates at clinics and health outcomes for mothers and infants.

Results:

Following hospital maternity ward closures, cesarean section rates at clinics increased by 2.1 percentage points regardless of maternal risk factors. Our results show that deliveries per physician increases 0.076. Event studies confirm that both cesarean rates and workload increase sharply after closures and decline as clinic supply adjusts. Notably, daytime births increased following closures and remained even after workload normalized, suggesting physicians scheduled cesarean sections during working hours. We find no significant effects on health outcomes for mothers and infants.

Discussion:

Our findings demonstrate that physician workload is a key driver of cesarean section rates. When closures increase deliveries per physician at clinics, physicians respond by increasing scheduled cesarean sections during daytime hours. Policy implications include addressing capacity constraints through staffing requirements. Preventing excessive workload may be more effective than attempting to reverse established practice patterns.