



Beyond Severe Maternal Morbidity: Exploring Reasons for ICU Transfer during Delivery Hospitalizations

Alana Davidson, BS, Rebecca S. Himmelwright, MD, Kait Brennan, DO, MPH, Matthew Fuller, MS, Ashraf S. Habib, MBBCh, MSc, MHSc, FRCA, Vijay Krishnamoorthy, MD, MPH, PhD, Jerome Federspiel, MD, PhD, Marie-Louise Meng, MD

Background

- ICU admission during delivery hospitalizations is rare but can be used as a marker of critical illness
- Most ICU admissions do not meet CDC criteria for SMM

Aims

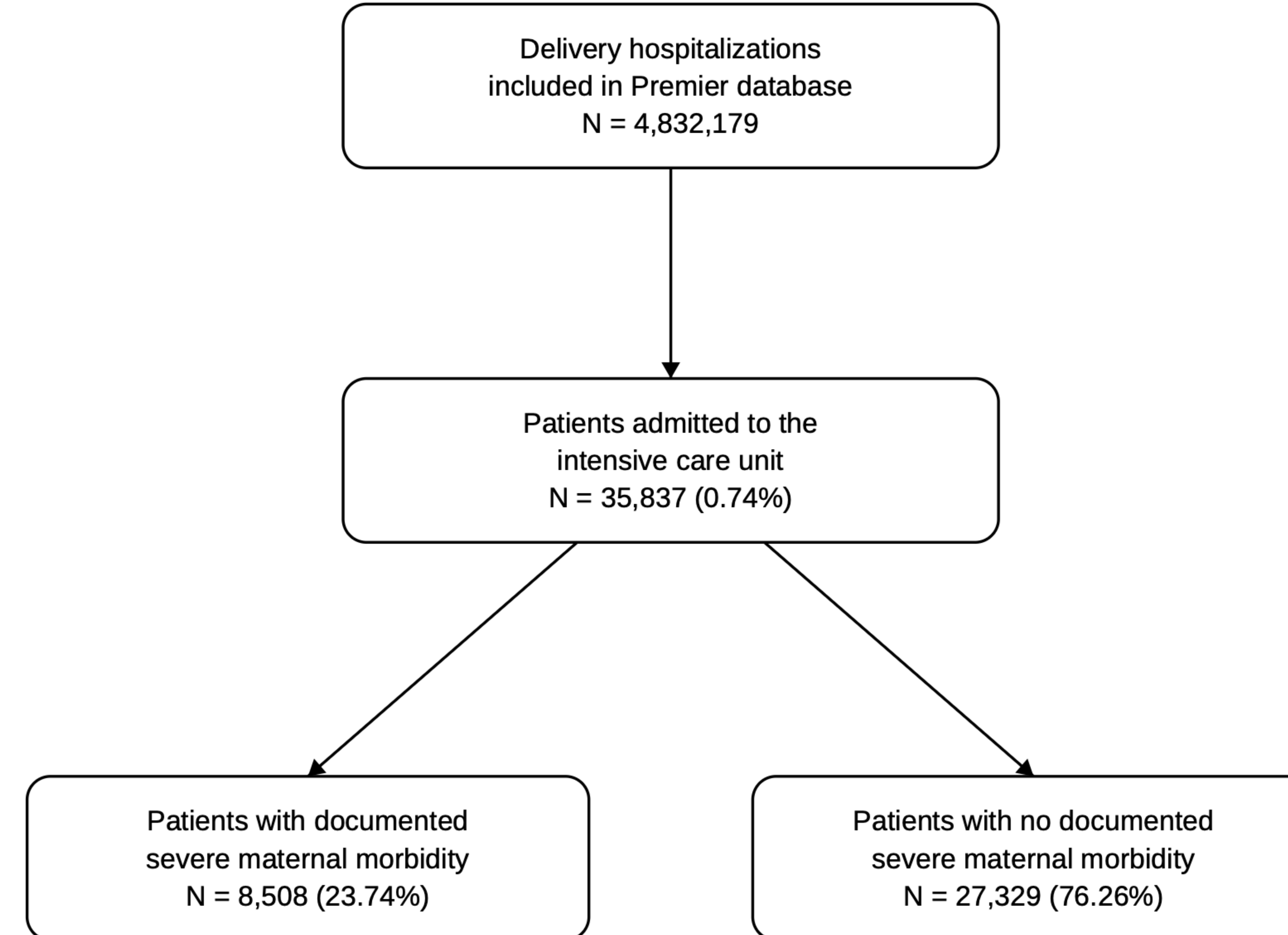
1. Characterize the reasons for ICU admission in delivery hospitalizations not involving an SMM event
2. Evaluate the factors associated with non-SMM ICU admission

Hypothesis

ICU admissions without SMM are driven by patients with comorbid conditions and their need for monitoring

Study Design and Methods

- Retrospective cohort study using Premier database
- Descriptive analyses and multivariable logistic regression



Results

- 4.8 million deliveries analyzed
- ↑ ICU-level resource utilization in patients w/ SMM
- ↑ Non-SMM ICU admission associated with:
 - *Cardiomyopathy, pulmonary HTN, PEC*
 - *Smaller hospitals (<400 beds)*

	SMM (including 4u RBCs) (n=8508)	No SMM (n=27329)
	N (%), mean ± standard deviation, or median [25 th percentile, 75 th percentile]	
Invasive BP monitoring	1897 (22.3%)	1142 (4.2%)
Telemetry	204 (2.4%)	256 (0.9%)
Invasive cardiac monitoring	186 (2.2%)	50 (0.2%)
ICU nursing	55 (0.6%)	252 (0.9%)
Blood product administration	4260 (50.1%)	1295 (4.7%)
IV fluid administration	7961 (93.6%)	24502 (89.7%)
Volume (L)	7.5 [3, 13.7]	3.5 [1.1, 6.5]
≥ 3L	6299 (74.0%)	15077 (55.2%)
≥ 5L	5404 (63.5%)	9654 (35.3%)
≥ 10L	3204 (37.7%)	3095 (11.3%)
Diuresis	765 (9.0%)	671 (2.5%)
ICU length of stay	3.1 ± 6.2 2 [1, 3]	2.5 ± 3.9 2.[1, 3]

Table 1. ICU-level resource utilization in patients with and without SMM

Conclusions and Discussions



ICU admission without
SMM are not fully
explained by expected
ICU-level interventions



ICU transfer may have
unintended
consequences



More intentional ICU triage
is needed