

◎ Background & Hypothesis

- **Background:** Hospital variation in obstetric complication rates ¹
- **Problem:** Unclear – differences in rates of surgical complications during cesarean delivery (CD) across US hospitals.
- **Aim:** Examine hospital-level variation in CD-related surgical complications using an index of surgical morbidity – Severe Perioperative Surgical Morbidity (SPSM) ²
- **Justification:** Inform need – hospital-level surgical quality improvement efforts
- **Hypothesis:** Variation exists in hospital-level SPSM rates during CD – not fully explained by case-mix / hospital factors

1. Glance Health Affairs 2014; 33: 1330-6

2. Butwick. Obstet Gynecol 2025 – ahead of print

© Study Design and Methods

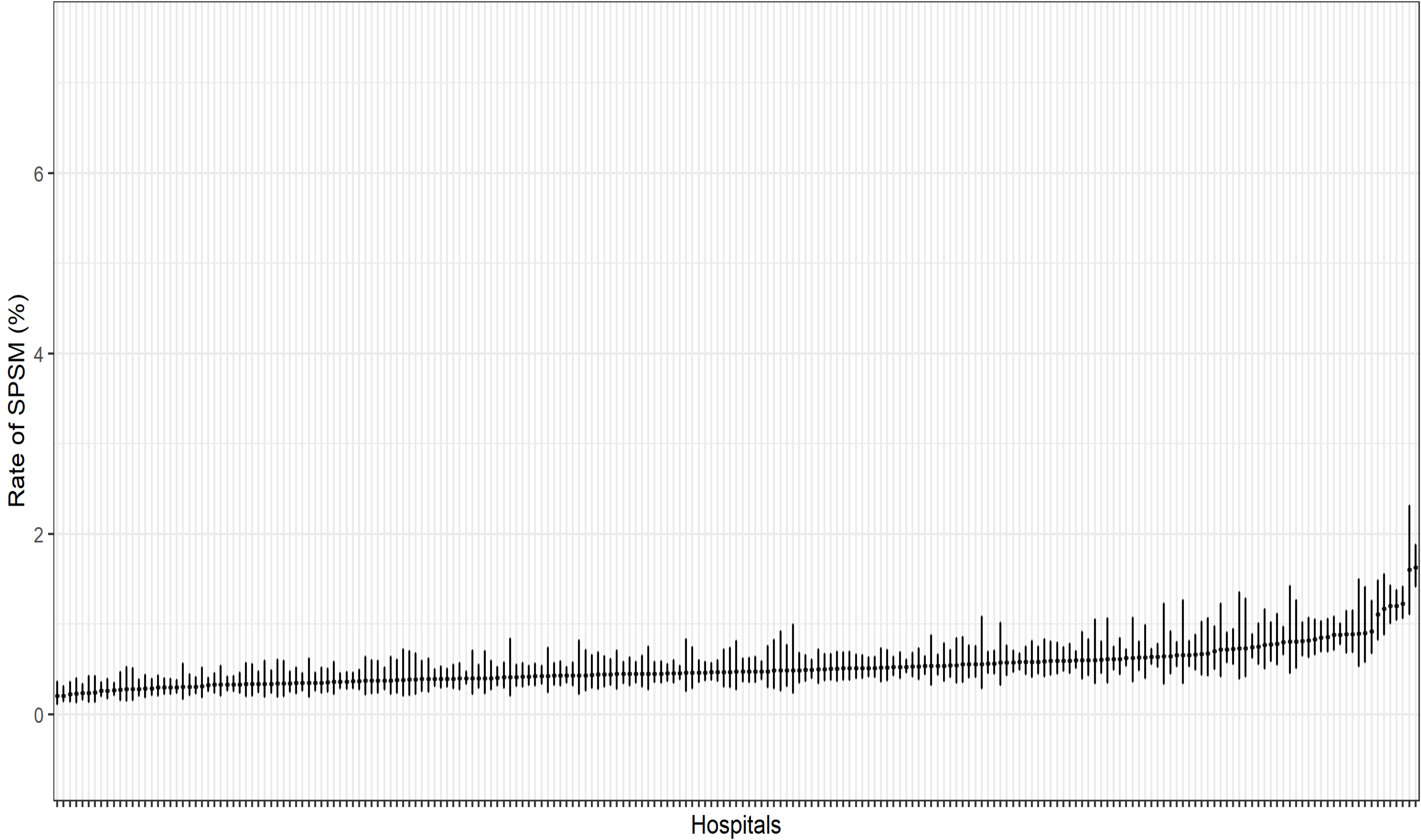
- **Study Design:** Retrospective cross-sectional population-based study
- **Data Source:** Linked California Vital Statistics and hospital discharge data
- **Study Population:** Cesarean delivery in California (2016 – 2021); singleton pregnancies; 20 – 44 weeks' gestation
- **Exposure:** Delivery hospital
- **Outcome:** SPSM
- **Statistics:** Mixed effects logistic regression; adjustment for patient and hospital factors; median odds ratio (OR) / intra-class correlation coefficient (ICC)— quantify hospital variability

◎ Results

- **Study Cohort:** 668,282 CDs; 9,751 (1.4%) = SPSM

	Model 1 ^a	Model 2 ^b	Model 3 ^c
Hospital level variance (se)	0.32 (0.037)	0.22 (0.03)	0.17 (0.03)
Median OR (95% CI)	1.71 (1.60 – 1.81)	1.56 (1.48 – 1.64)	1.48 (1.41 – 1.56)
ICC (95% CI)	0.089 (0.07 – 0.11)	0.06 (0.05 – 0.08)	0.05 (0.04 – 0.06)

Adjusted Rate of SPSM by Hospital with 95% CI



^a Null model; ^b adjusted for patient (sociodemographic and obstetric) factors; ^c adjusted for patient and hospital factors

© Conclusion and Discussion

- **Moderate variability in SPSM prevalence** across California hospitals
- **Variability not fully explained** by patient case-mix & hospital factors
- **Need to identify unaccounted for factors** that account for the variability e.g. surgical team experience; hospital resources → QI surgical initiatives