

PERIOPERATIVE EFFICIENCY FOR CESAREAN DELIVERY BY CARE MODEL

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Background

- Wide variation in perioperative efficiency across systems
- Cesarean delivery is a major driver of OR throughput & LOS
- Impact of care model (community vs academic) unclear

Hypothesis

- Community hospitals demonstrate greater efficiency
- Differences persist after adjusting for ASA class, COVID period, surgery type

STUDY DESIGN & METHODS

Study Design

Retrospective multicenter study
(2019–2025)

3 hospitals:

- 1 community
- 2 academic centers

N = 33,562 cesarean deliveries

Outcomes

LOS + 5 perioperative intervals:

- Anesthesia start-to-incision
- Incision-to-procedure end
- Procedure end-to-out of room
- Out of room-to-anesthesia stop
- Anesthesia stop-to-discharge

Analysis

Multivariable **negative binomial regression**

Adjusted for:

- ASA class
- COVID-19 period
- Surgery type

RESULTS: MULTI-CENTER COMPARISON

Hospital site strongly predicted all perioperative timing outcomes ($p < 0.0001$).

Efficiency Metric (Minutes)	Community Hosp.	Academic A	Academic B
Length of Stay (LOS)	6,463 (4.49 d)	6,832 (4.74 d)	7,387 (5.13 d)
Anesthesia Start-to-Incision	60	89	74
Incision-to-Procedure End	56	75	64
Procedure End to Out of Room	13	19	18
Out of room-to-anesthesia stop	6	13	12
Recovery (Anes. Stop to Disch)	5,461 (3.75 d)	5,405 (3.75 d)	5,791 (4.02 d)

Community Hosp. demonstrated significantly shorter durations in anesthesia and surgical phases ($p < 0.0001$).

CONCLUSIONS & DISCUSSION

- **Conclusions**

- Community care model shows greater perioperative efficiency
- Findings persist after adjustment for: Case mix, COVID period, ASA class

- **Interpretation**

- Likely reflects system-level workflow and operational differences, including the academic mission (teaching/trainees)

- **Implications**

- Community practices may offer scalable strategies
- Opportunity to improve throughput in academic centers

Efficiency differences are system-level, not just patient-level.