Reduction of General Anesthesia Rate by Improving Multidisciplinary Communication Before Unscheduled Cesarean Sections

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Introduction:

- The use of general anesthesia (GA) for cesarean section (C/S) is associated with elevated maternal risk[1].
- Our overall GA rate for C/S ranged from 9-17%, with GA use for unscheduled C/S specifically as high as 22% in 2020.
- Failures of communication in healthcare are common and can lead to suboptimal patient care as well as staff dissatisfaction and poor work environment[2,3].
- On labor and delivery, communication about unscheduled C/S was often fragmented and incomplete, which can contribute to avoidable use of GA.

Methods:

- Using the Model for Improvement, we sought to understand the failures leading up to unscheduled C/S that may lead to avoidable GA use.
- We found that communication among nursing, anesthesia, and obstetric (OB) teams was fragmented, delayed, and frequently incomplete and inadequate for providing coordinated multidisciplinary care.
- We developed and introduced a **multidisciplinary, patient centered pre-C/S huddle** attended by representatives from nursing, anesthesia, and OB.
- A standard checklist of critical information was used as a discussion guide. It was tested and refined through iterative PDSA cycles prior to implementation.

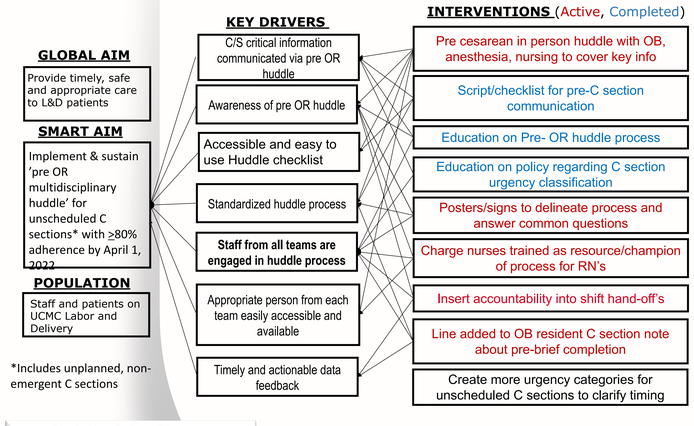


Fig 1: Key Driver Diagram

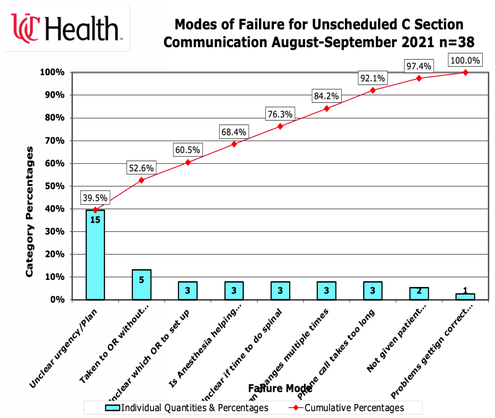


Fig 2: Pareto Chart

Pre-C Section Huddle: UNSCHEDULED

Location: Patient's room

Attendees:

- ☐ OB R4/R3 resident
- ☐ Patient's RN
- ☐ Charge RN
- ☐ Anesthesia representative

Time spent in huddle:

Discussion Checklist:

- ☐ Indication for cesarean
- ☐ Decision time
- ☐ Classification of cesarean- unscheduled vs emergent
- ☐ Agreement on expected timing: Define goal time in the OR
- ☐ Mode of anesthesia
- ☐ Antibiotics requested/who will obtain them
- ☐ Peds needs (NICU, Fetal Care) or other key neonatal information
- ☐ Which MDs are performing the cesarean section
- ☐ Acknowledgement that everyone in agreement with plan
  - If there are concerns for safety that are not appropriate to discuss in front of the patient, then the phrase, **"LETS STEP OUT TO DISCUSS LOGISTICS"** can be used to alert the team that a discussion outside of the room needs to occur.

Fig 3: Huddle Checklist

Measures:

Outcome measures:

1) GA rate for unscheduled C/S
2) Satisfaction with communication regarding C/S plan among anesthesia, nursing, and OB teams.

Process measures:

1). Adherence to pre-C/S multidisciplinary team huddle.

Balancing measure:

1) Decision to incision interval (DTI) for unscheduled C/S.

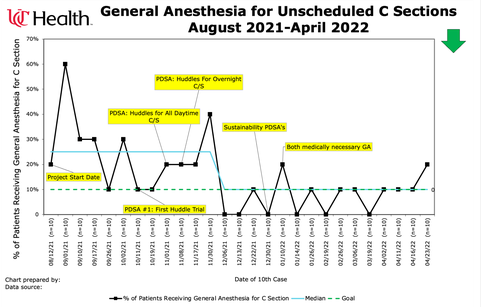
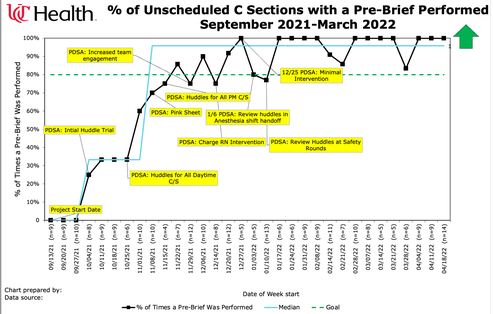
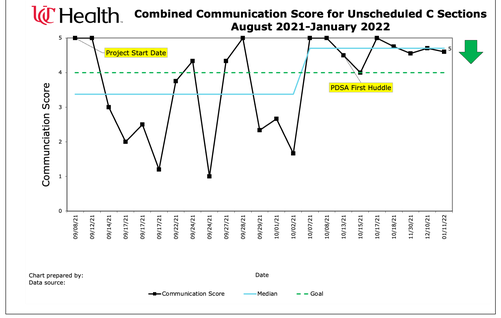
	Process 1	Process 2	Process 3
Changes Tested	**Patient Centered pre C/S huddles to improve communication**	**Data Collection/Huddle completion tracking**	**Increase Staff Engagement in huddle process**
# of PDSA's/ Ramps	**2 Ramps 11 PDSA's**	**2 Ramps 12 PDSA's**	**3 Ramps 11 PDSA's**
Results	**Huddles improved communication between teams, reduced GA for unscheduled C/S, and were well received by patients**	**Successful measures included anesthesia team returning huddle checklist and noting # of C/S and huddles at shift change.**	**Most measures increased knowledge/awareness of huddles. Review at mid-shift safety huddle facilitated discussion of missed opportunities**

Table 1: Summary of Plan-Do-Study-Act (PDSA) cycles

Conclusions:

- System barriers led to unclear and inaccurate communication surrounding unscheduled C/S.
- Implementation of a **multidisciplinary in-person pre C/S huddle** improved communication between teams and reduced general anesthesia rates for unscheduled C/S.
- Our next steps are to ensure sustainability of the process and continue to mitigate other causes of avoidable GA use for C/S.

References:

1. Mushambi et al. *Anaesthesia*. 2015;70(11):1286-1306.
2. Lingard LS et al. Qual Saf Health Care. 2004;13:330–334
3. Shortell SM et al. Med Care. 1994;32:508–525

Results: