

BACKGROUND

- Local anesthetic systemic toxicity (LAST) is a life-threatening perioperative outcome that has become more prevalent in recent decades due to the increased use of local anesthetic (LA) techniques to provide opioid-sparing anesthetics (El-Boghdadly et al., 2018).
- Early signs and symptoms of LAST can quickly progress to seizures and cardiopulmonary collapse (Wadlund, 2017).
- Prompt recognition and treatment of LAST are imperative to affected patients' survival (Wadlund, 2017).
- Prevention is a key intervention in reducing the severity and frequency of LAST (El-Boghdadly et al., 2018).

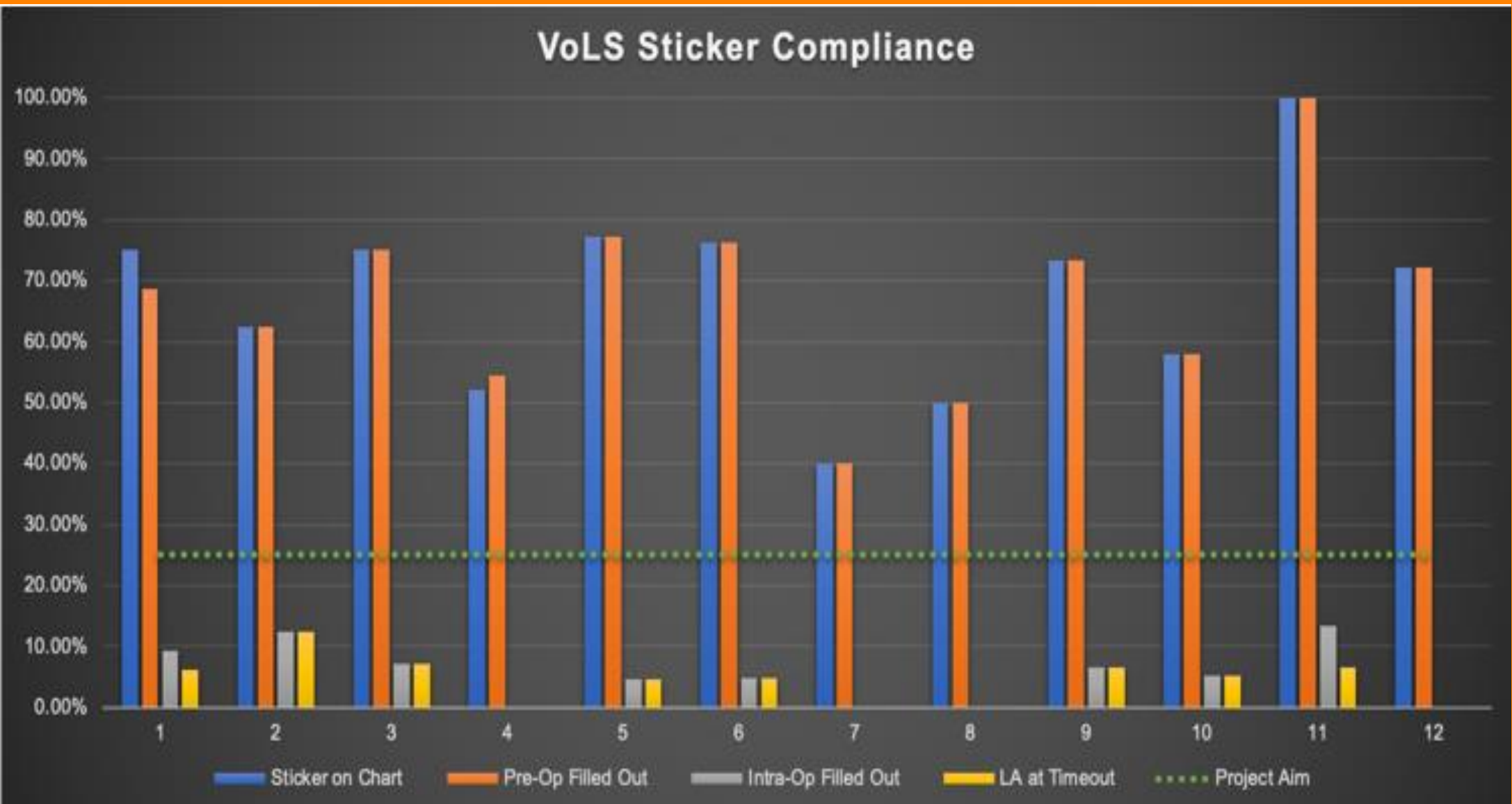
LOCAL PROBLEM

- The project took place at an academic, level-one trauma center.
- Participants in this project included patients receiving pre-procedural blocks, identified by the Multimodal Acute Pain Service (MAPS) team, and their respective anesthesia providers.
- The prevalence of potential LAST events at the project site (3 in 4,650 cases = 0.06%) was approximately twice the frequency observed in 2018 by El-Boghdadly et al. (0.27 in 1,000 cases = 0.03%).
- After performing a strengths, weaknesses, opportunities, and threats (SWOT) analysis, the project team identified the lack of a standardized communication tool to track and confirm total LA dosing.
- Our project aim was to achieve at least 25% compliance in inserting our verification of local anesthetics sticker (VoLS) into the patient chart and 25% compliance in completely filling out the tool/sticker during the 12-week project implementation phase.

METHODS

- The Evidence-based Practice Improvement (EBPI) process model was used as the framework for this project.
- Search and appraisal of literature supported the use of standardized communication tools to reduce omission of documentation information and improved accuracy with handoffs.
- Our project group created a communication sticker, attached to the patient's physical chart, documenting perioperative and intraoperative local anesthetic dosing, and discussion of doses at surgery timeout.
- Our project measured completeness of documentation of the communication sticker over 12 weeks, throughout the perioperative period, and the percentage of VoLS tracking stickers inserted into the patient chart over the same 12 weeks.

Verification of Local anesthetics (VoLS) tracking sticker enhanced communication between perioperative providers regarding local anesthetics.



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INTERVENTIONS

- All patients receiving a pre-procedural regional anesthetic, identified by the MAPS team, had our VoLS sticker placed on their physical chart.
- Stickers were placed by MAPS team nurse practitioner on selected patient charts.
- MAPS team providers administering regional blocks filled out pre-operative portion of VoLS sticker.
- Intra-operative anesthesia providers of selected patients located sticker on chart and filled out intra-operative portion.
- Mainstay of intervention was intra-operative anesthetic providers stating cumulative anesthetic doses received by patient up to surgery timeout.
- All anesthesia providers participating in the care of these MAPS patients were provided with both in-person educational opportunities (table set up in department and brief presentation at weekly grand rounds) and email correspondence/ training on how to complete the VoLS communication sticker.
- PDSA cycles were used to assess the effectiveness of the interventions. Feedback was obtained via interviews and observation during project rollout and in follow-up team meetings.

VoLS Sticker		Date: _____	
Pre-op	Bupivacaine	0.25%	0.5% Other: _____
		60 mL	30mL Other: _____
	Ropivacaine	0.25%	0.5% Other: _____
		60 mL	30mL Other: _____
Intra-op	2% Lidocaine	3 mL	5 mL Other: _____
	Lidocaine:	gtt _____ mg/kg/hr	LTA 4% _____ mL
	LA @ timeout	Yes	No Initials: _____
	LA by surgery	Medication: _____	Concentration: _____
		Volume: _____	

RESULTS

- 67.6% compliance of stickers on MAPS patient chart.
- 67.3% pre-operative dosing filled out
- 5.3% intra-operative dosing filled out
- 4.5% documented LA addressed at timeout

CONCLUSIONS

- One strength was the low-cost solution of LA tracking, which allowed integration into electronic records.
- Met one of the project's aims (> 25% compliance with stickers placed on charts). This provided an opportunity for communication regarding LA between providers.
- Several barriers played a role in not achieving the project's second aim. These included a new electronic health record rollout and a new resident class missing department project education.
- Recommend incorporation of "LA at timeout" prompt built into intraoperative electronic health record.