

Providence

Providence Digital Commons

2023 South Division Nursing Research
Conference

South Division Nursing Research Conference
(formerly So Cal Nursing Research Conference)

9-14-2023

Poster: Clinical Practice Panel: Don't Skip a Beat, Follow the Sheet! Designing a Clinical Care Map for Open Heart Patients in the ICU

Danielle Fogel

Providence Saint John's Health Center, danielle.fogel@providence.org

Nico Vargas

Providence Saint John's Health Center, nicolas.vargas@providence.org

Follow this and additional works at: https://digitalcommons.providence.org/south_division_nursing_conference_23



Part of the [Cardiology Commons](#), [Critical Care Commons](#), and the [Critical Care Nursing Commons](#)

Recommended Citation

Fogel, Danielle and Vargas, Nico, "Poster: Clinical Practice Panel: Don't Skip a Beat, Follow the Sheet! Designing a Clinical Care Map for Open Heart Patients in the ICU" (2023). *2023 South Division Nursing Research Conference*. 10.

https://digitalcommons.providence.org/south_division_nursing_conference_23/10

This is brought to you for free and open access by the South Division Nursing Research Conference (formerly So Cal Nursing Research Conference) at Providence Digital Commons. It has been accepted for inclusion in 2023 South Division Nursing Research Conference by an authorized administrator of Providence Digital Commons. For more information, please contact digitalcommons@providence.org.



Don't Skip a Beat, Follow the Sheet!

Designing a Clinical Care Map for Open Heart
Patients in the ICU

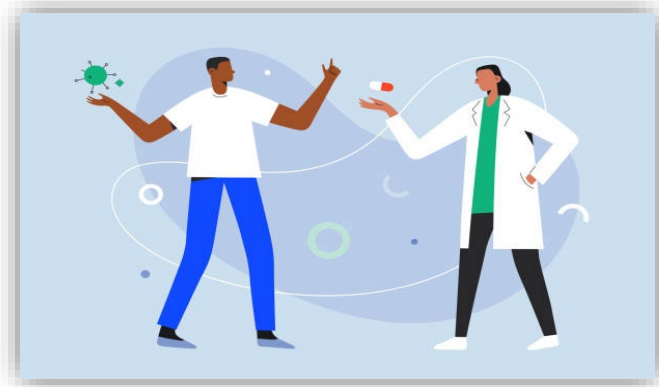
Fogel, Danielle, BSN, RN, CCRN
Vargas, Nico, ADN, RN

Providence Saint John's Health Center

Background & Problem



Time to extubation: 43% of open-heart patients are extubated in less than 6 hours (national benchmark)¹



High nurse turn over and new open-heart trained nurses



Increased nurse burn out and low confidence

Literature Review

Does early extubation after cardiac surgery lead to a reduction in intensive care unit length of stay?

- (Taylor et al., 2022)²
- Systematic review 4 studies
- Early extubation defined:
 - in the OR
 - <6 h of surgery
 - <8 h of surgery
- Early extubation associated with reduced ICU LOS in all

The Effect of Care Pathways on Coronary Care Nurses: A Preliminary Study

- (Daghash et al., 2022)³
- Pre/posttest one-group quasi-experimental design
- Statistically significant reduction in nurse burnout
- Slight improvement in autonomy level

Effects of nurse-led clinical pathway in coronary artery bypass graft surgery: A quasi-experimental study

- (Kebapci et al., 2017)⁴
- Prospective, quasi-experimental design
- Clinical pathway group showed significantly decreased time to extubation and both ICU LOS and overall LOS

Purpose/Aim



Reduce time to extubation by 5%



Increase percentage of open-heart patients extubated within 6 hours, from 43% to 75%

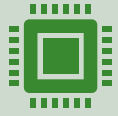


Reduce length of stay in ICU by 5% for open heart patients



Increase nurse satisfaction by 10%

Methods/Approach



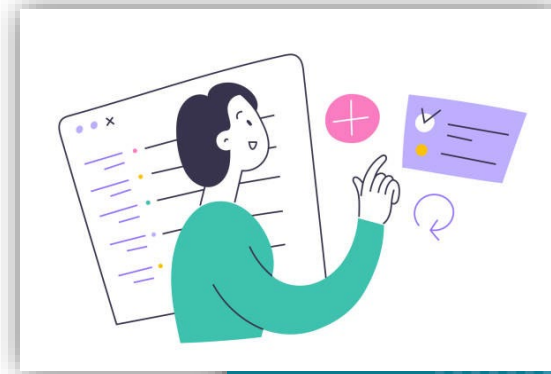
Design: Quality Improvement



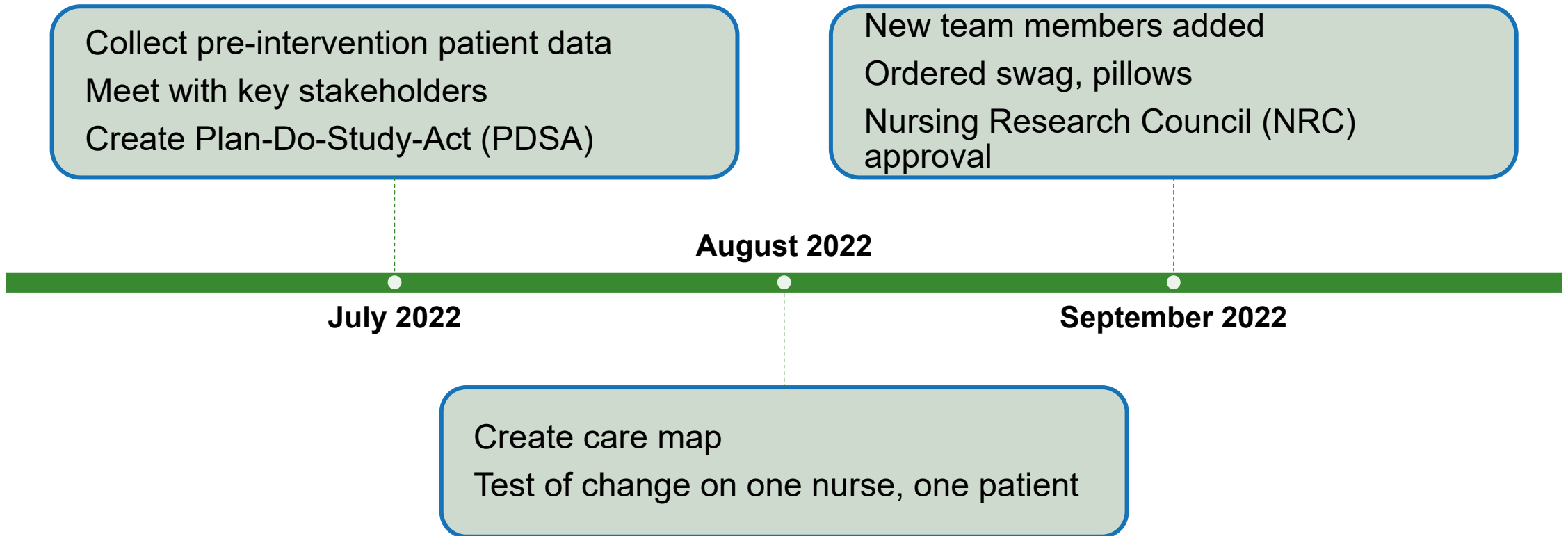
Sample: ICU nurses and open-heart surgery patients



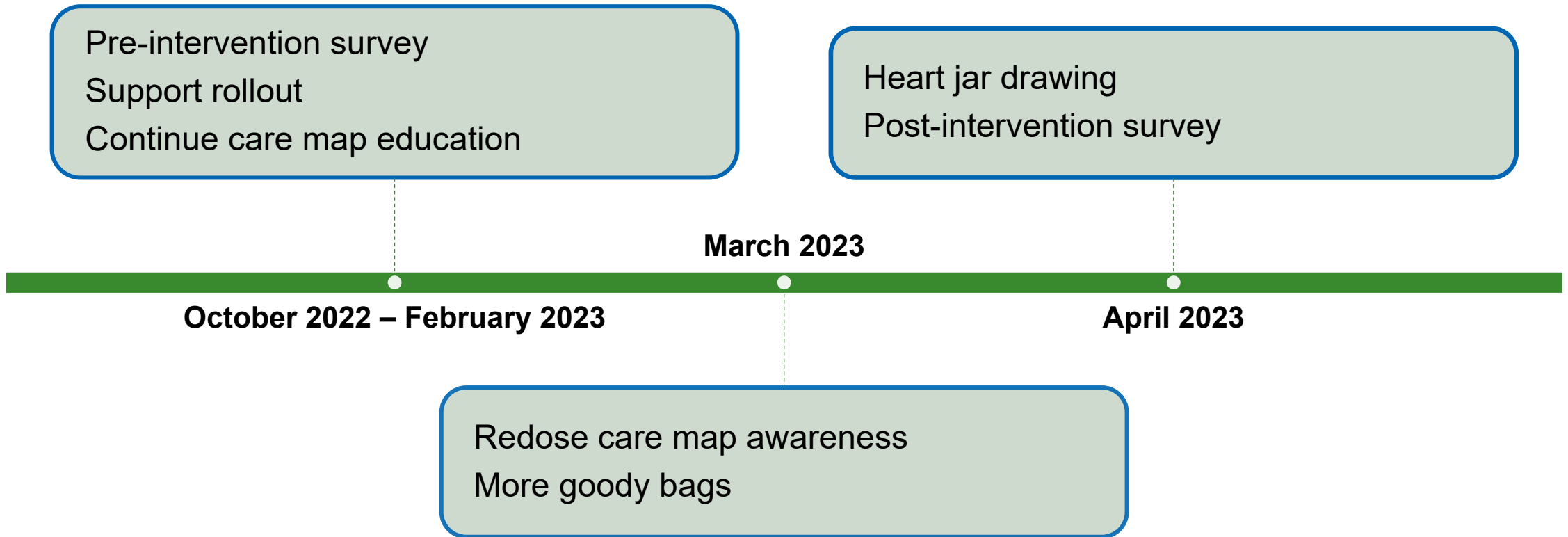
Setting: ICU/CCU at PSJHC



Key Activities and Dates



Key Activities and Dates



Methods/Approach

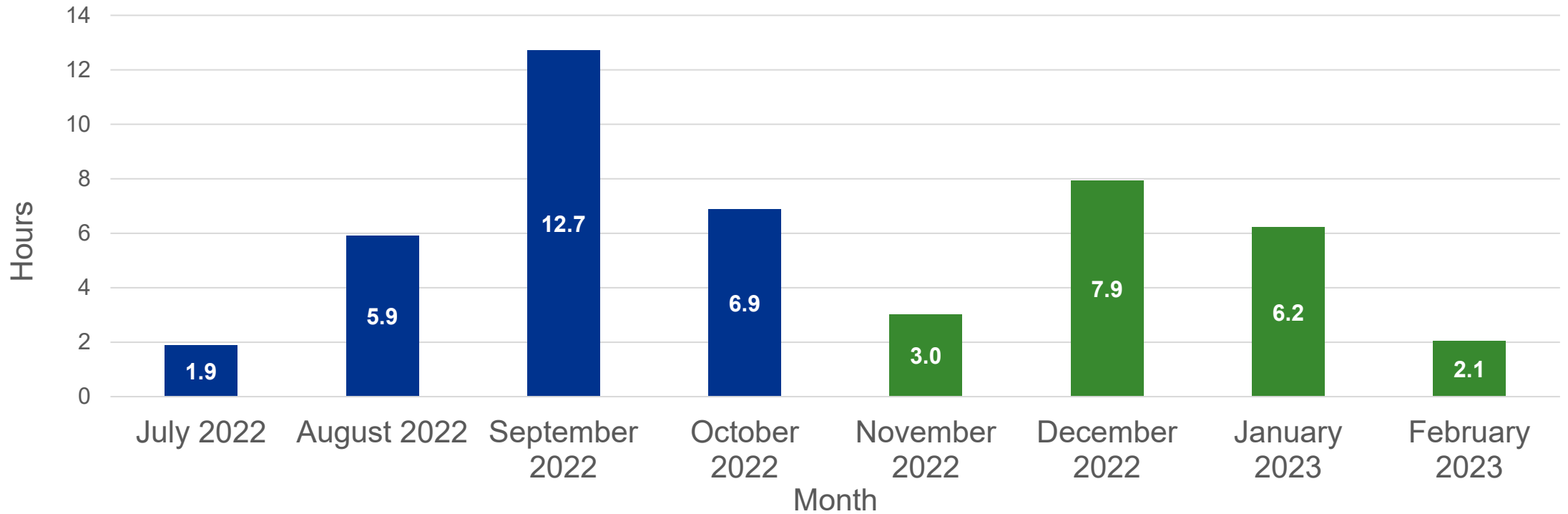
Implement an evidence-based cardiac surgery care map

Date:	<h2>Don't Skip a Beat, Follow the Sheet!</h2> <p>A general care map for open heart patients in ICU</p>	<p>Saint John's Health Center  Providence</p>
RN:		
Hemodynamics:	<p>Cardiac Index: Greater than 2 L/min/m²</p> <p>Cardiac Output: 4-8 L/min</p> <p>MAP: Greater than 65 mmHg</p>	
Ventilator:	<p>Extubate within 6 hours of arrival to ICU, if possible</p> <p>Wean O2 and keep pulse oximetry > 92%</p> <p>PRN Breathing treatments</p>	
Pain Management & Sedation:	<p>Pain medication on arrival - transition to PO when appropriate</p> <p>Manage patient expectations on pain and educate on pain control options</p> <p>Transition to Precedex if on sedative drip</p>	
Mobility:	<p>Ambulation as soon as possible! Out of bed at 0600. Ambulate 3 times a day, and out of bed for all meals</p> <p>Educate patient on mobility and incentive spirometer</p>	
Diet & Bowel Regimen:	<p>Heart healthy diet when appropriate</p> <p>Mobility!</p> <p>Docusate, Senna, MiraLAX PRN</p>	
Electrolytes & Glycemic Control:	<p>Potassium greater than 4 mmol/L</p> <p>Magnesium greater than 2 mg/dL</p> <p>Insulin gtt protocol should be ordered and followed during the first 24 hours post op, then check blood glucose Q6Hr if NPO, and ACHS if diet is ordered</p>	
VTE:	<p>TED hose, SCD's, etc (not on harvest site. Do not remove harvest site dressing for 24 hours)</p> <p>Subcutaneous heparin if ordered and indicated</p> <p>Mobility!</p>	
LDA's & Infection Prevention:	<p>Chest X-ray upon arrival for existing lines</p> <p>Verify Swan-Ganz position with line markings</p> <p>Chest tube: Document output every hour, check chest tube orders, and frequently assess chest tubes to ensure patency</p> <p>Pacemaker: If in use, verify settings. If not in use, label dressing, label and insulate wires</p> <p>Discontinue foley as soon as possible</p> <p>Discontinue invasive lines as soon as possible. Usually post operative day #2</p>	
Medications:	<p>Atorvastatin at night</p> <p>Beta Blockers to help with prevention of atrial fibrillation</p> <p>Aspirin, subcutaneous heparin</p> <p>Patient specific and will vary from patient to patient</p>	

Note* Orders and medications may vary per patient and patient condition. This is not an order set.

Results

Initial Ventilator Hours

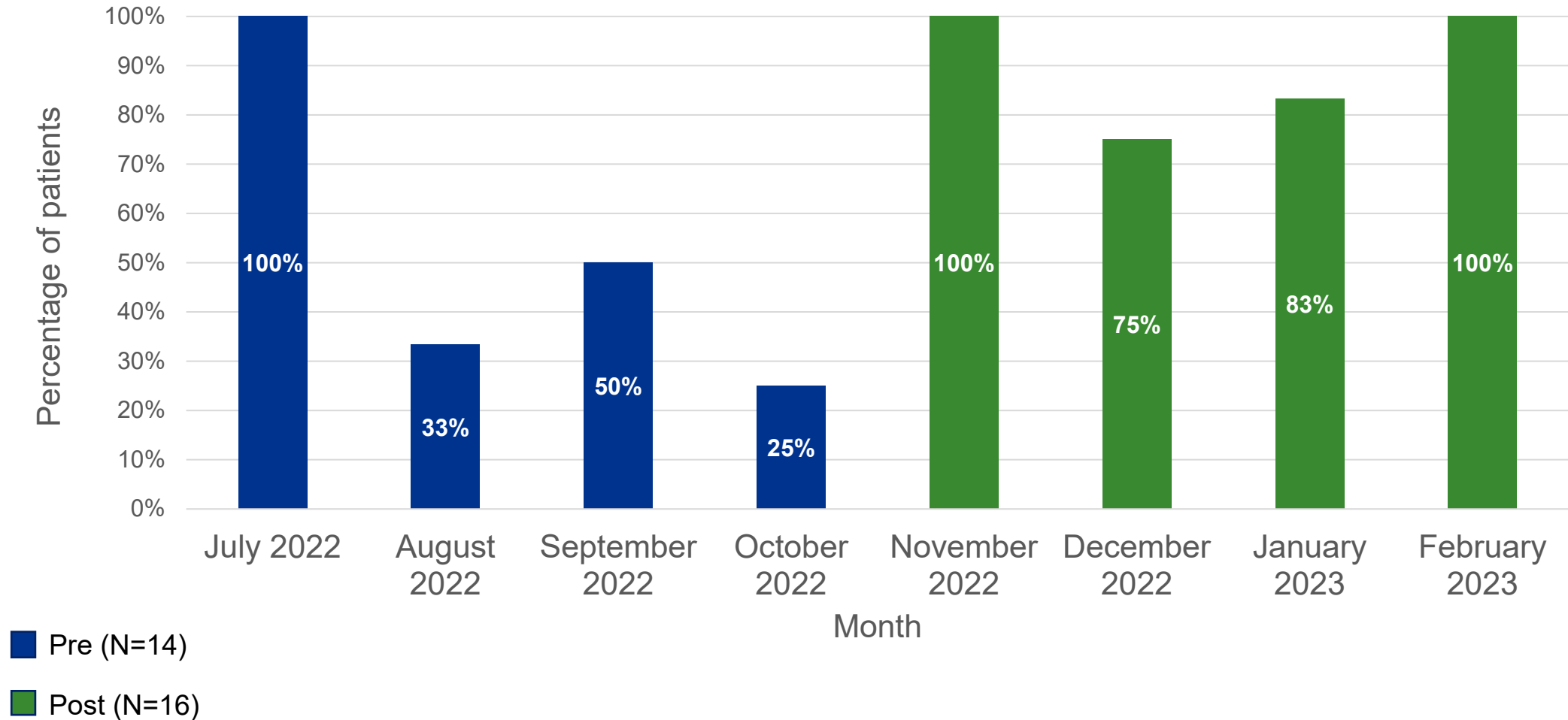


■ Pre (N=14)

■ Post (N=16)

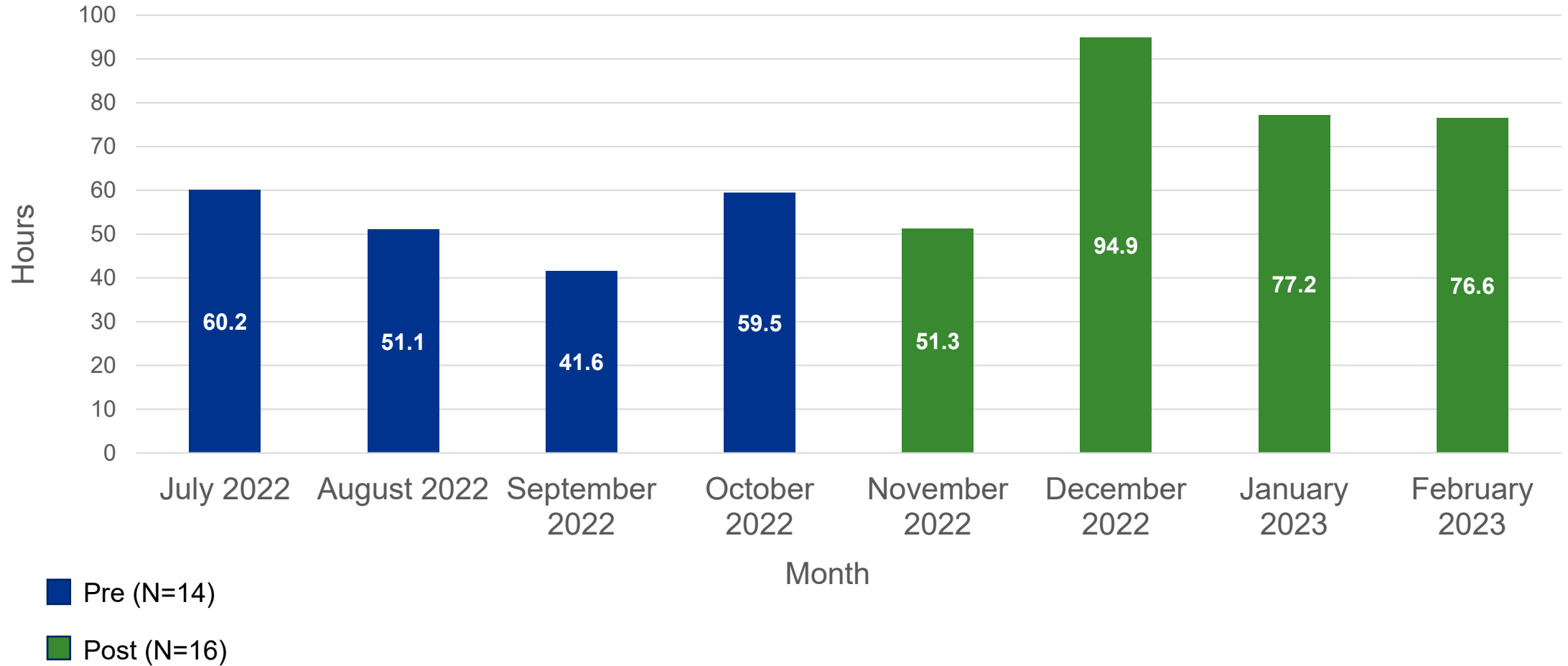
Results

Extubation < 6 Hours



Results

ICU Length of Stay Post-Surgery



Results

Length of Stay - Surgery to Discharge

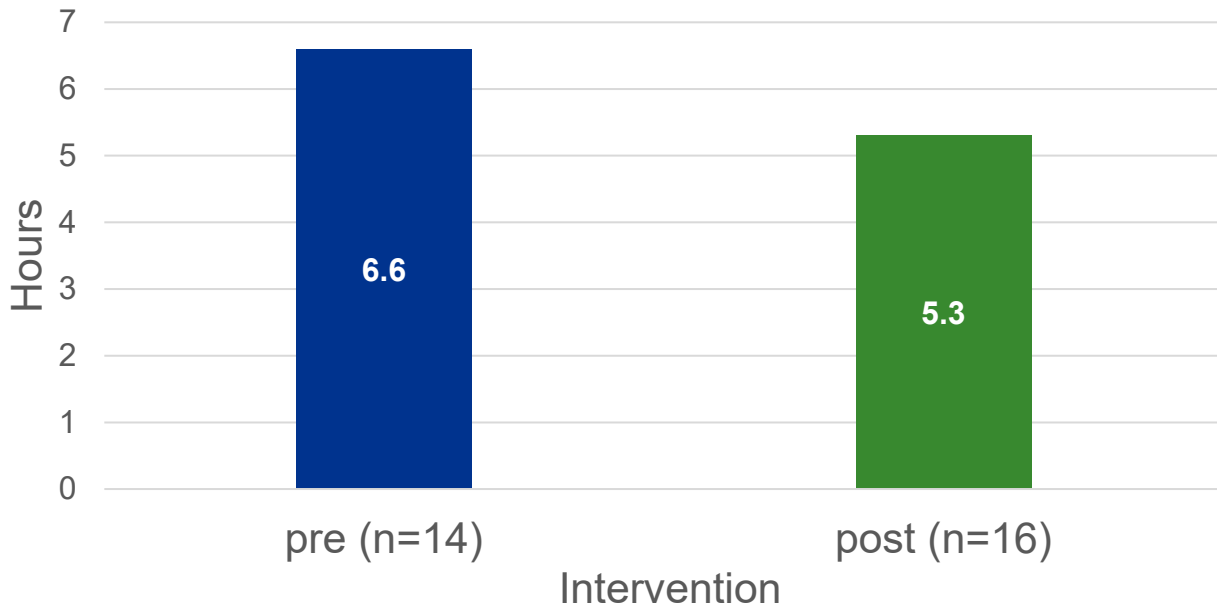


■ Pre (N=14)

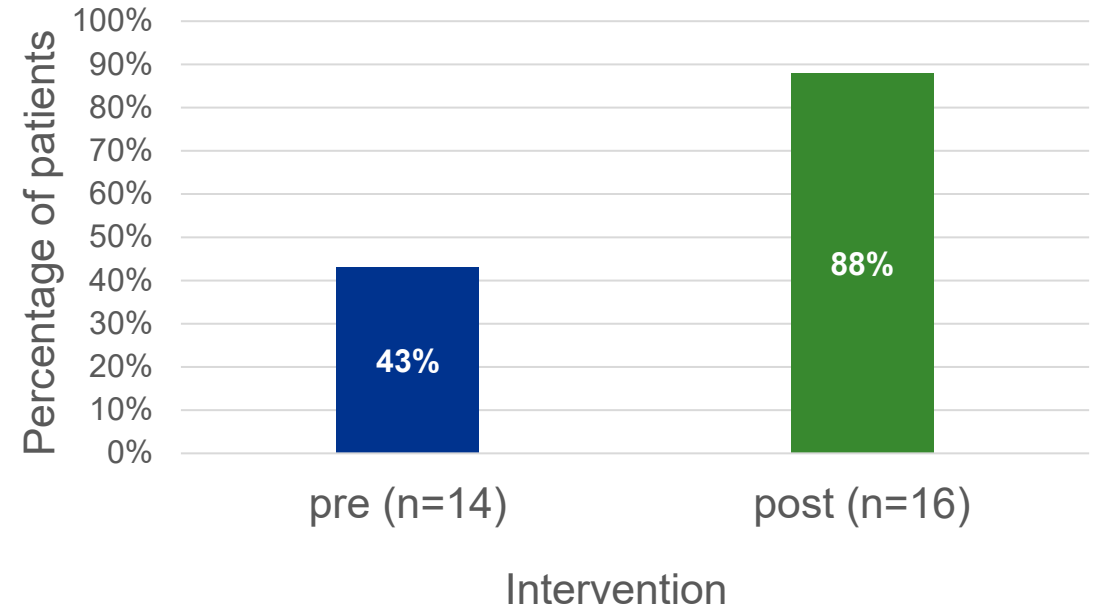
■ Post (N=16)

Results

Initial Ventilator Hours

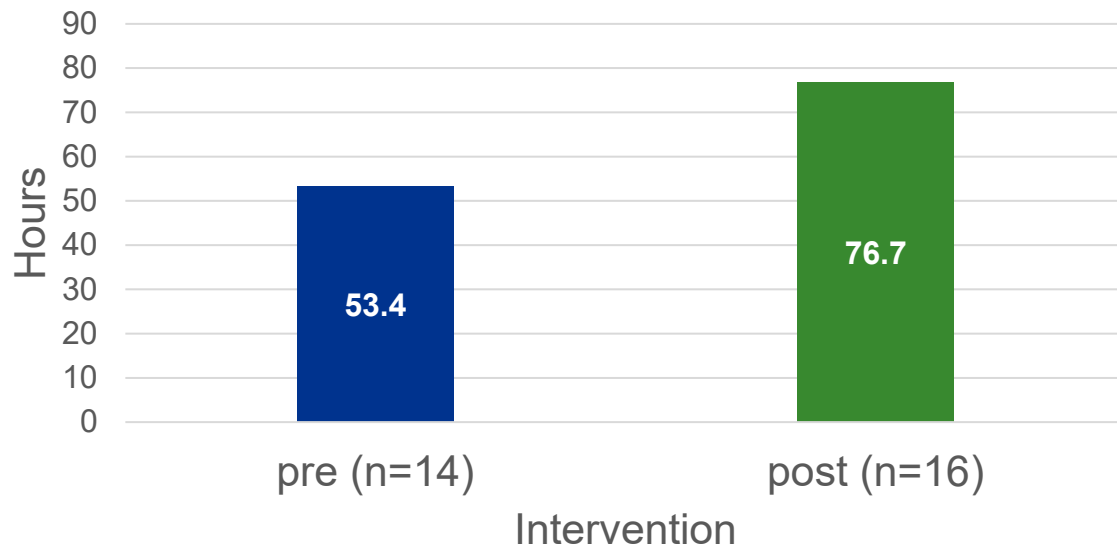


Extubation < 6 Hours

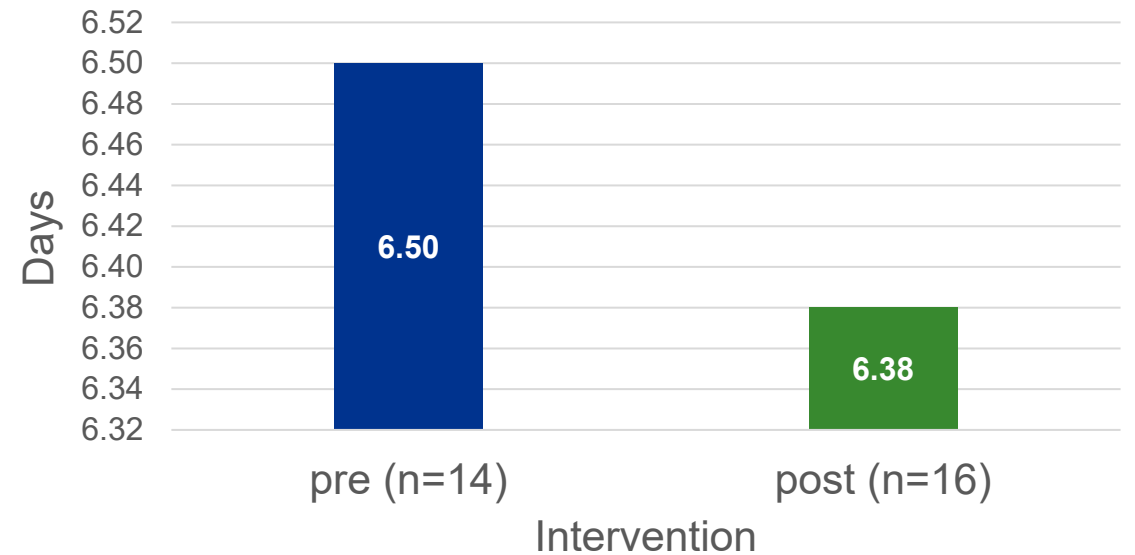


Results

ICU LOS Post-surgery

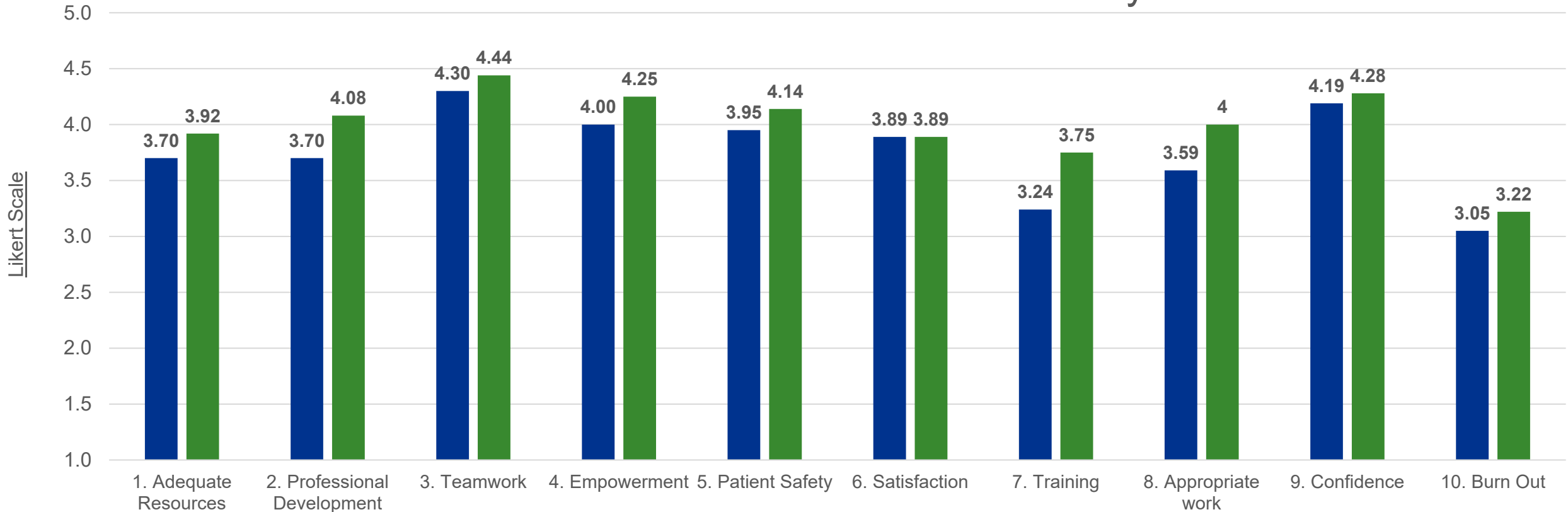


LOS - Surgery to Discharge



Results

Nurse Satisfaction/Confidence Survey



■ Pre-intervention (n=37)
 November 2022
■ Post-intervention (n=36)
 March/April 2023

Likert Scale
 5 Strongly Agree
 4 Agree
 3 Neither Agree nor Disagree
 2 Disagree
 1 Strongly Disagree

Conclusion

- Time to extubation decreased **20%**
- Compliance of <6hr extubation benchmark increased from 43% to **88%**
- Decrease in ICU LOS by 5% - not achieved
- Decreased LOS surgery to discharge by **2%**
- Nurse satisfaction increased **6%**

Throughput

Lack of bedspace outside of the ICU was primarily responsible for the increase in ICU LOS.

Why should we care?

While not replicated here, previous research shows earlier extubation can result in decreased ICU LOS,² and we hope that with continued use of the care map we will be able to achieve this.

Implication for practice

- Incorporate the cardiac care map into training for TIPS residents/fellows, and new hires.
- Explore implementing care maps as a practice change in other inpatient areas such as step down and women's health.
- Care maps set the expectations for minimum safe care
- Reduce variability in care
- Promotes equity in care



References

1. Shahian D, Jacobs J, Badhwar V, et al. The Society of Thoracic Surgeons 2018 Adult Cardiac Surgery Risk Models: Part 1-Background, Design Considerations, and Model Development. *Ann Thorac Surg*. 2018;105(5):1411-1418. doi:10.1016/j.athoracsur.2018.03.002
2. Taylor M, Apparau D, Mosca R, Nwaejike N. Does early extubation after cardiac surgery lead to a reduction in intensive care unit length of stay?. *Interact Cardiovasc Thorac Surg*. 2022;34(5):731-734. doi:10.1093/icvts/ivac008
3. Daghash H, Abdullah K, Ismail M. The Effect of Care Pathways on Coronary Care Nurses: A Preliminary Study. *Q Manage Health Care*. 2022;31(3):114–121. doi:10.1097/QMH.0000000000000336
4. Kebapci A, Kanan N. Effects of nurse-led clinical pathway in coronary artery bypass graft surgery: A quasi-experimental study. *J Clin Nurs*. 2018;27:980–988. doi:10.1111/jocn.14069

Acknowledgements

- AACN CSI Coaches: Marian Altman and Debbie Brinker
- Marlon Garzo Saria, PhD, RN, AOCNS, NEA-BC, NPD-BC, FAAN
- Trisha Saul, PhD, RN, PMGT-BC
- All of our ICU colleagues



Questions?



Danielle Fogel

- PSJHC
- Acute care RN

• danielle.fogel@providence.org



Nico Vargas

- PSJHC
- ICU Clinical Supervisor

• nicolas.vargas@providence.org