

## PURPOSE

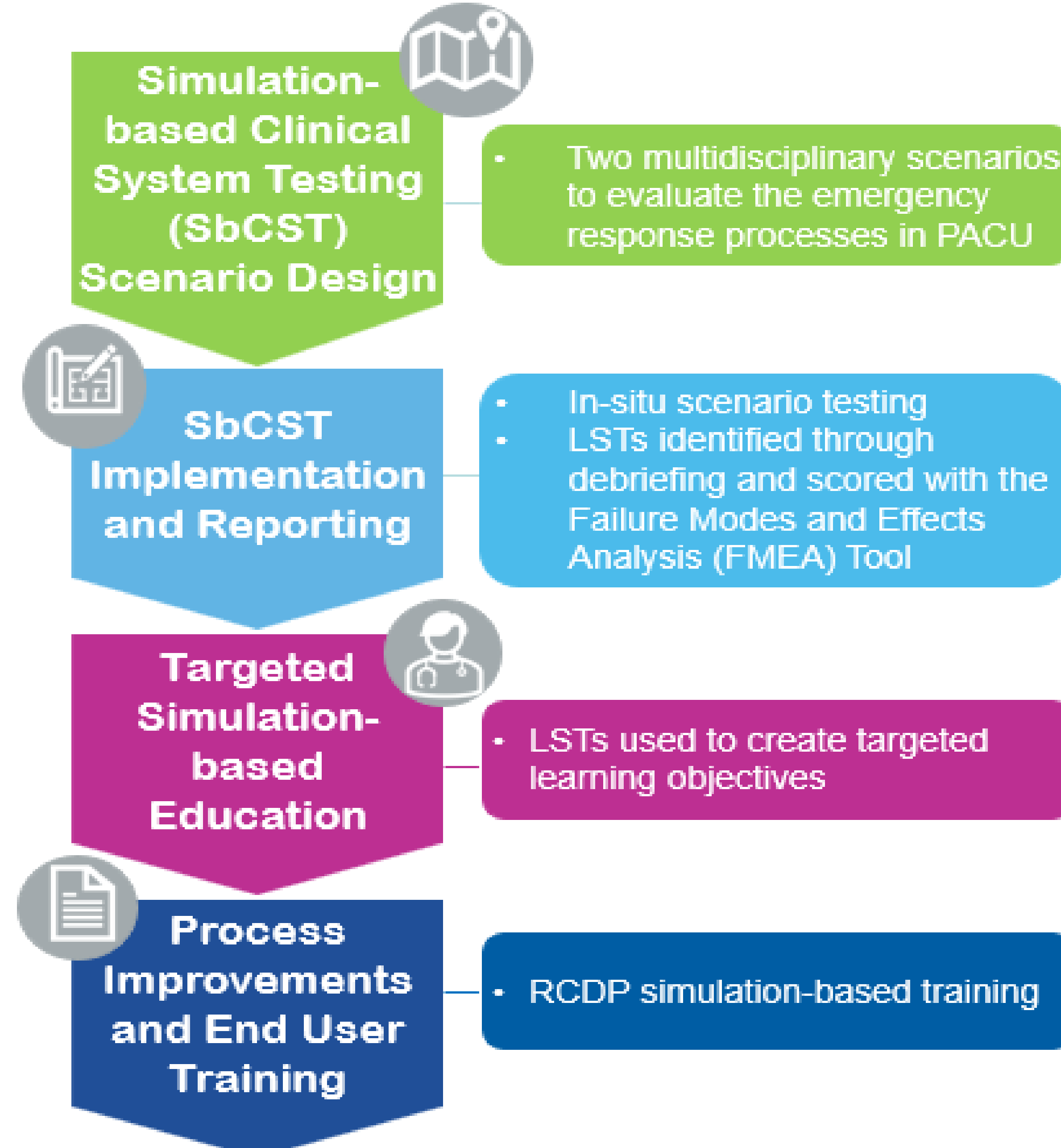
This project applied the Translational Work Integrating Simulation and Systems Testing (TWISST) framework to the Sedation Services Post Anesthesia Care Unit (PACU) to identify and prioritize latent safety threats (LSTs) and develop targeted simulation-based training.

## BACKGROUND

- Individual knowledge deficits are frequently considered the primary cause of adverse events, with mitigation strategies typically focused on closing these knowledge gaps through individual improvement efforts (Dubé et al., 2019).
- Solutions that focus solely on targeting individual knowledge gaps fail to address deeper rooted latent safety threats within the system (Colman & Hebbar, 2023).
- Using simulation to proactively test workflows can aid in identifying process improvement opportunities and drive impactful targeted simulation-based training.

## METHODS

### The TWISST Framework



## RESULTS

47 total latent safety threats (LSTs) were identified during in-situ SbCST. Ten LSTs were present in both the IR and MRI emergency response processes.

Simulation-based Training addressed 38% of LSTs.

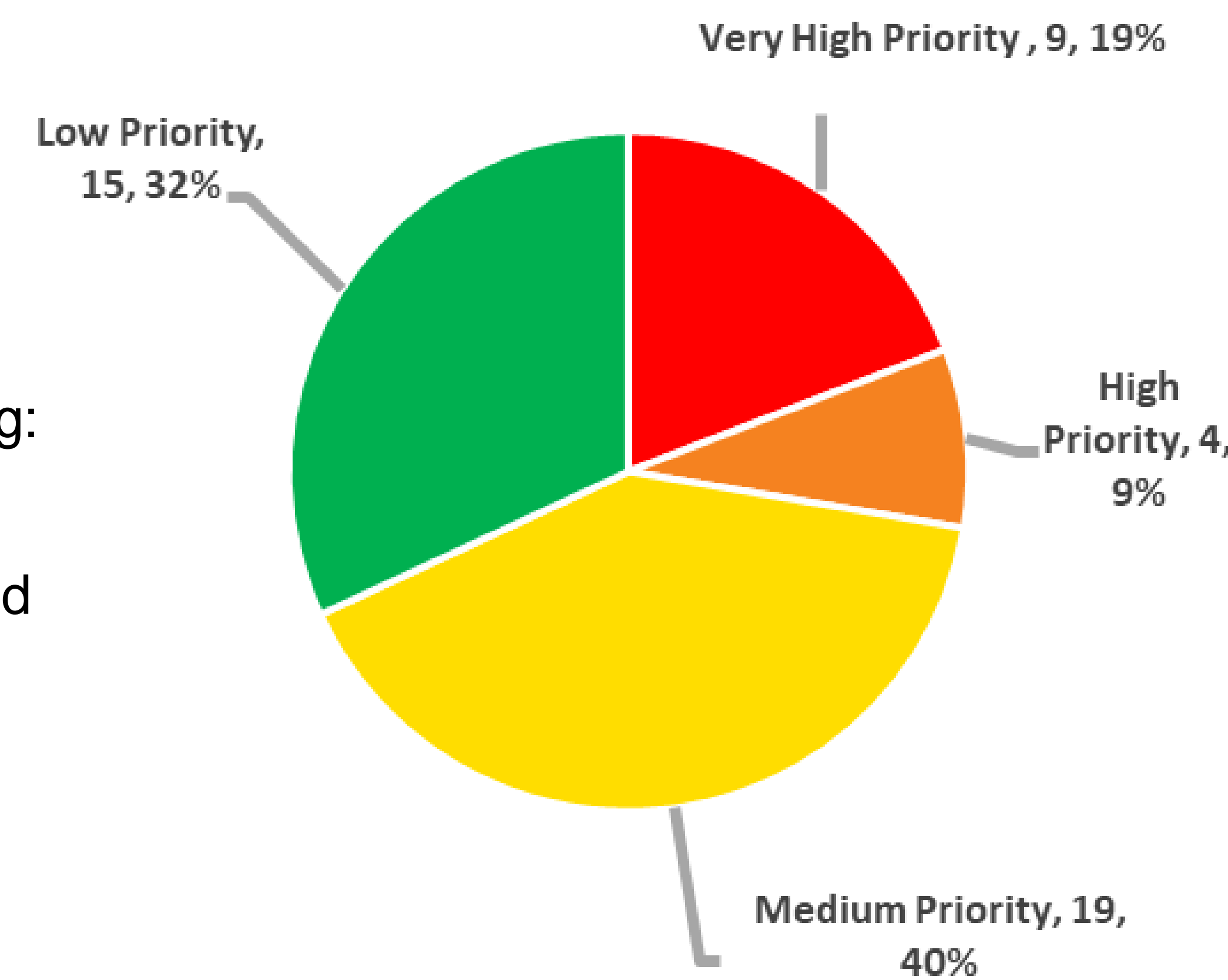
Rapid Cycle Deliberate Practice (RCDP) Simulation education focused on knowledge-based objectives including:

- Recognizing the deteriorating patient and escalating care.
- Utilizing emergency airway equipment.
- Coordinating CPR ergonomics and the early initiation of CPR.
- Demonstrating team dynamics including direct and closed-loop communication, role assignment and role clarity.

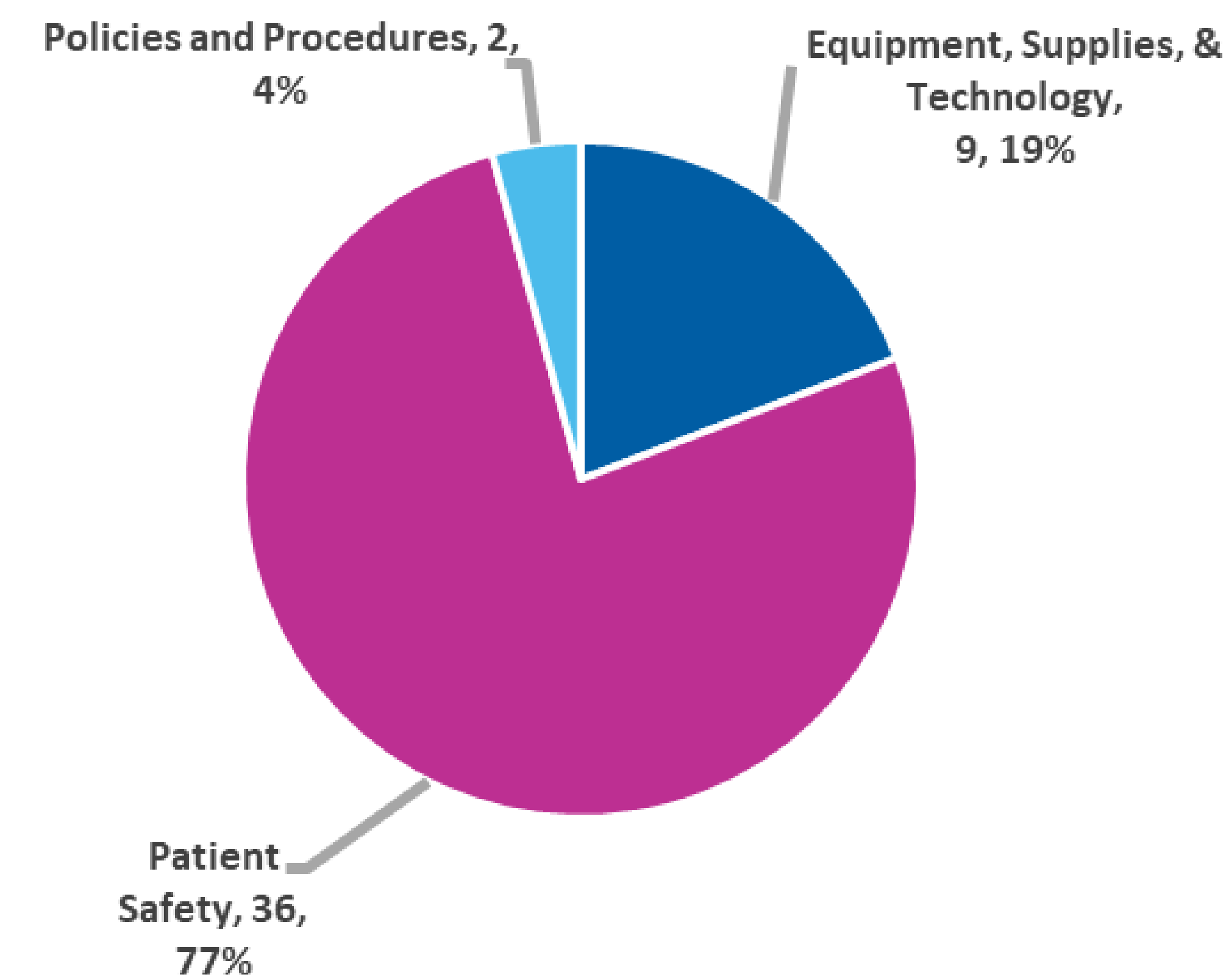


PACU RN and anesthesiologist participating in SbCST.

### Latent Safety Threats by Priority



### Latent Safety Threats by Category



## IMPLICATIONS FOR PRACTICE

- SbCST serves as a proactive approach to identify and mitigate risks within high-risk, high-stakes processes and procedures.
- Prioritization of LSTs ensures that critical risks are addressed first to enhance patient safety and system reliability.
- Training gaps identified during SbCST are used to create targeted simulation-based training to increase staff confidence and competence in clinical-related skills and knowledge deficits.

PACU team demonstrating team dynamics during SbCST process evaluation.



## CONCLUSION

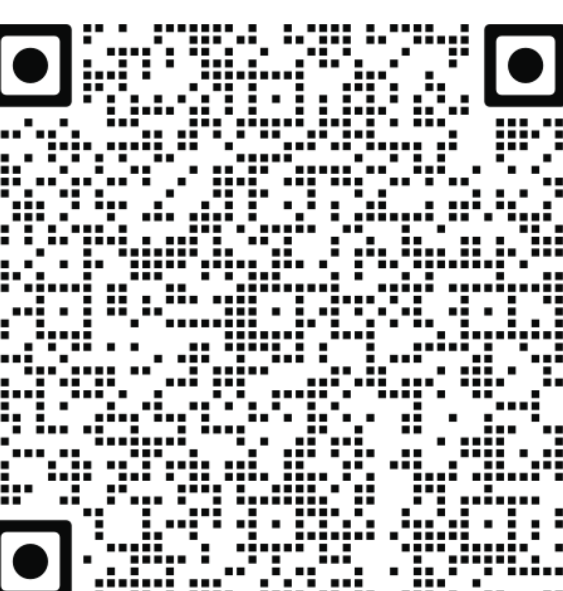
Using the TWISST Framework to pair Simulation-based Clinical Systems Testing with targeted simulation-based training **enhances training initiatives** and simultaneously **optimizes workflows, improves patient safety, and strengthens clinical outcomes.**



Simulation Coordinator providing a pre-brief for the SbCST scenario.

## Acknowledgements

Special thanks to the multidisciplinary teams who partnered with the Children's Simulation Center and participated in this process improvement initiative.



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