

Treating Dyspnea

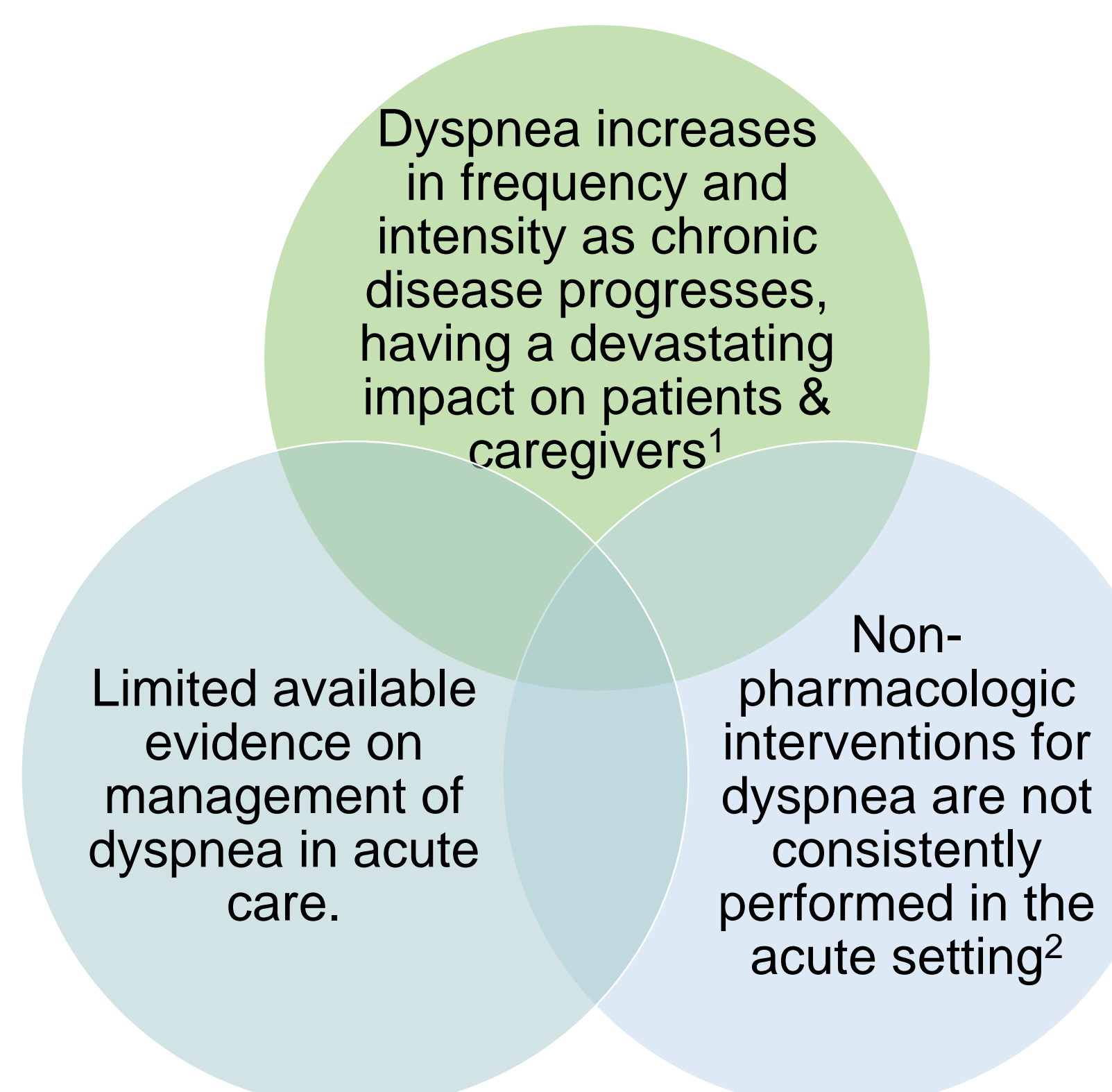
An Educational Intervention for Progressive Care Nurses

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Introduction & Background



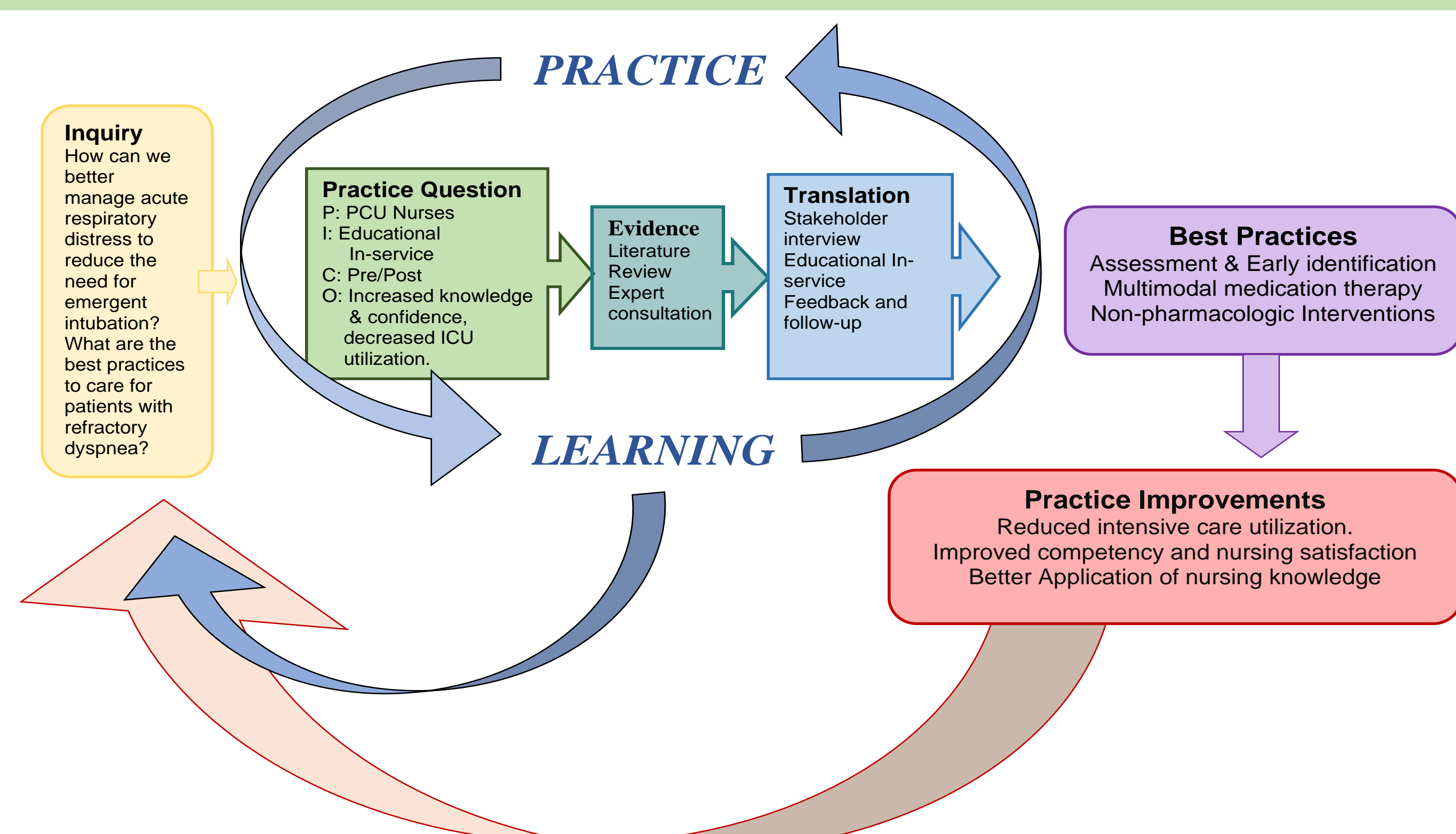
Dyspnea, or the subjective sensation of difficult breathing,³ is one of the most common symptoms in patients with advanced disease, with a prevalence of greater than 50% among terminally ill patients.¹ In Spring of 2020, more than half of the patients upgraded to the Trauma-Surgical ICU were returned to progressive care within 48 hours. The purpose of this project is to implement a targeted, evidence-based educational program on the care of patients with dyspnea for progressive care nurses to stop unnecessary ICU upgrades.

Project Aims

- To understand the learning needs of progressive care nurses.
- To improve knowledge of dyspnea as measured by increased average scores on a post-intervention knowledge assessment.
- To increase confidence in the care of dyspnea as measured by improved total scores on a post-intervention self-efficacy scale.
- Decrease the number of ICU transfers from the pilot unit by 10% over 3 months as measured by retrospective chart review.

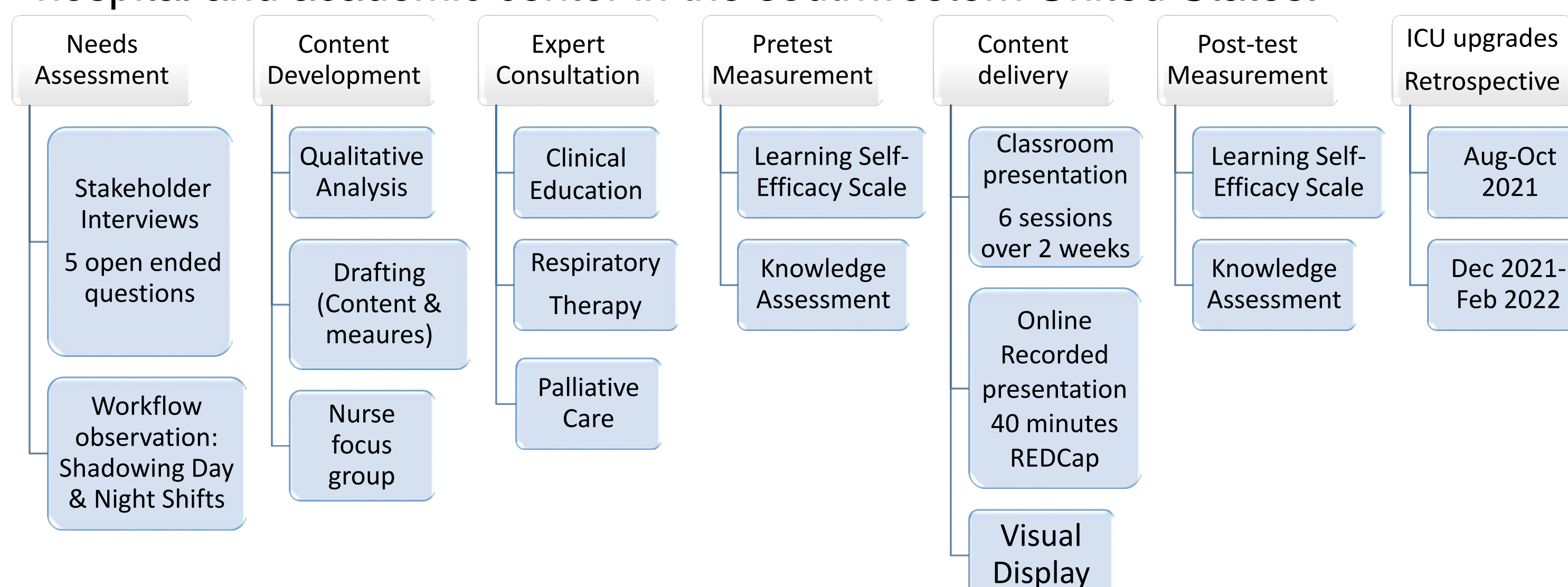
Translational Model

Johns Hopkins Nursing Evidence-Based Practice Model⁴



Methods

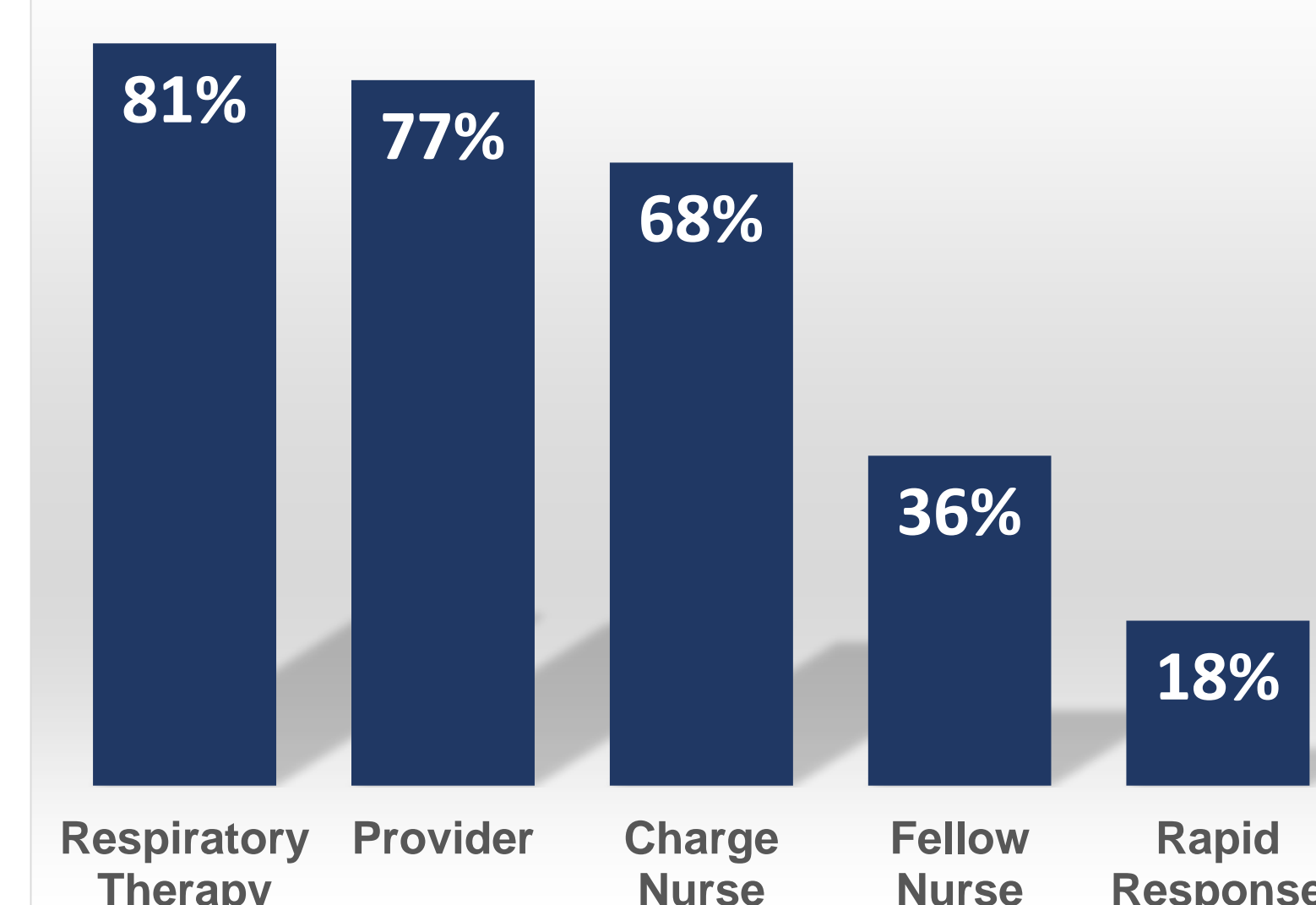
This was a pre-post intervention quality improvement (QI) project to increase knowledge and self-efficacy of progressive care nurses managing dyspnea to reduce ICU utilization. The project was implemented over a 5-month period in a 38-bed inpatient medical-surgical progressive care unit within an acute care hospital and academic center in the southwestern United States.



Findings

Demographics	Results, (%)
Age in years, N(%)	
18-25	5 (12.8%)
26-35	11 (28.2%)
36-45	17 (43.6%)
46-55	1 (2.6%)
>55	3 (7.7%)
Gender, N (%)	
Female	31 (79.5%)
Male	6 (15.4%)
Non-binary	1 (2.6%)
Race, N (%)	
Black/African American	1 (2.6%)
Non-Hispanic/Caucasian	7 (17.9%)
Hispanic/Latinx	18 (46.2%)
Native American	3 (7.7%)
Asian/Pacific Islander	5 (12.8%)
Other/Multiple	3 (7.7%)
Total Nursing	
0-2 years	15 (38.5%)
2-5 years	9 (23.1%)
5-10 years	7 (17.9%)
>10 years	7 (17.9%)
Years on Pilot Unit	
0-2 years	13 (33.3%)
2-5 years	9 (23.1%)
5-10 years	10 (25.6%)
>10 years	6 (15.3%)

Emergency resource Identification



Thematic Analysis of Stakeholder Learning Needs

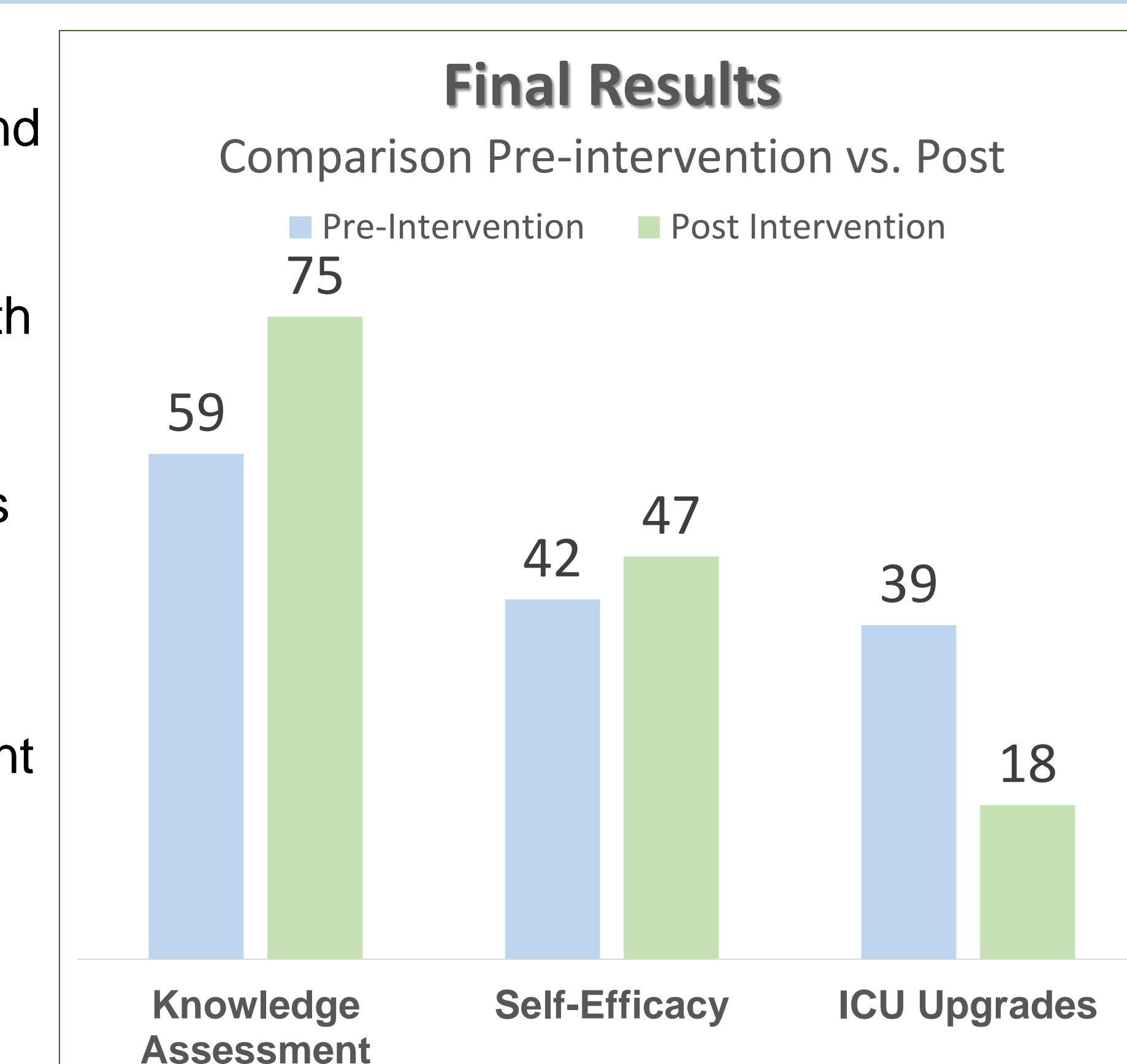
Early signs & symptoms	Early warning signs & symptoms Sepsis Bundle Review
Assessment & Follow up	Reinforce the importance of titrating oxygen down as well as up Focused assessment Equipment validation- treating the monitor vs. the patient
Equipment	Respiratory equipment review Tracheostomy care & maintenance
Emergency Management	When to call rapid response teams Mock codes How to respond to ARD
Mentoring	RT tips & tricks Collaboration with ICU Resource nurse coverage

Qualitative analysis included 22 responses collected during the stakeholder interviews. The thematic analysis of stakeholder input was distilled into an outline for presentation content.

Results

A total of 39 nurses participated in the intervention, 51% through in-person presentations and 49% through secure online survey. All respondents included in the study were registered nurses actively employed on the pilot unit during the study period with no other exclusion criteria. The study protocol underwent ethical review by the doctoral project college Project Ethical Review Committee, as well as the project site hospital and its affiliated college via their independent Internal Review Boards and was acknowledged as QI.

Post-testing demonstrated a 16.1% improvement in knowledge, and a 9.3% increase in self-efficacy scores as evaluated by a dependent t-test. ICU upgrades from the pilot unit dropped by 46.1%, with no change in average unit census.



Measure	Pre	σ	Post	σ	p-Value	Confidence Interval	% Δ
Knowledge Assessment	59.3%	14.6	75.3%	12.8	0.001	-22.629 to -12.799	16.1%
L-SES	42.66	6.037	47	6.239	<0.001	-5.991 to -2.698	9.3%
ICU Upgrades	39		18				46.1%

Discussion & Conclusions

All measurements demonstrated statistically significant improvements in knowledge, and self-efficacy. The clinical significance is demonstrated by the large drop in ICU upgrades. Reduced ICU utilization and more effective application of palliative treatments in the acute care setting decreases patient suffering and improves stewardship of critical care resources. This reduction in unnecessary ICU admissions, improves patient experience, overall outcomes and reduces financial burden.

Early incorporation of stakeholder perspectives contributed to the success of the intervention. Careful examination of contributing factors, stakeholder needs, workflow and site-specific factors led to development of more relevant and directly applicable content for the learners. Going forward, more focus in early nursing education on emergency management and prioritization is needed to prevent treatment delays for acute symptoms or failure to rescue, and additional research is needed to understand the impacts of this type of intervention on nursing satisfaction and retention.

References & Acknowledgements

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