Integrated Knowledge Translation to Develop Priorities for Improving Care of Critically Ill Patients

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Introduction

- Healthcare systems do not adequately integrate scientific evidence into health care practice (**evidence-care gap**).
- This results in suboptimal, low-value patient care:
  - ***Over-use***: practice is performed, contrary to evidence of harm or ineffectiveness (e.g., tight glycemic control)
  - ***Under-use***: practice is not performed, contrary to evidence of benefit (e.g., VTE prophylaxis)
  - ***Mis-use***: practice is performed, contrary to evidence (e.g., albumin infusion for resuscitation, but not post paracentesis)
- A Network (CCSCN) of 14 adult & 2 pediatric medical-surgical ICUs in Alberta Canada launched a program to improve the quality & value of critical care.

Study Objective

- To identify potential evidence-care gaps in the daily care of critically ill patients and inform priorities for quality improvement.

Method

Community-based participatory research approach partnering researchers & stakeholders.

Step 1. Identify Practice Priorities (Consensus process)

Two focus groups of Network core committee members (n=38) generated lists of:

- Common patient care practices perceived to have evidence-care gaps
- Criteria to evaluate potential priorities for improvement

Committee members rated the importance of each priority as an opportunity for quality improvement over 2 rounds.

Step 2. Evaluate Practice Priorities

Frontline ICU providers (n=1,790) were invited to participate in an online survey to evaluate the Network-identified priorities.

Step 3. Engage Community

Results of the provider survey were relayed back to frontline providers and feedback was solicited.

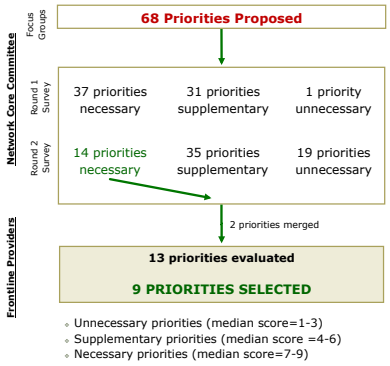
Results

Participant Characteristics

	Characteristic	Committee (n=32)	Provider (n=1,103)
Profession	Physician	47%	7%
	Nurse	44%	61%
	Respiratory Therapist	6%	18%
	Allied Health	3%	13%
Primary Role	Direct Patient Care	56%	93%
	Administration	75%	10%
	Teaching providers	44%	20%
	ICU experience, median	18 yrs.	7 yrs.
Academic Status	Non-teaching	44%	21%
	Teaching	75%	77%
Patient Type	Adult	87%	88%
	Pediatric	12%	12%

84% of committee members and 62% of providers participated.

Identification of Priorities



- Unnecessary priorities (median score=1-3)
- Supplementary priorities (median score =4-6)
- Necessary priorities (median score=7-9)

Evaluation: Stakeholder Ratings of Priorities

Practice Priority	Median Score (9-point scale) Committee (n=32)	Provider (n=1,103)
End-of-life care	7	8
Early mobilization	8	8
Strategies to preserve patient sleep	7	8
Establishing daily goals for patient care	7	7
Transition of patient care from ICU to ward	8	7
Transition of patient care between ICU providers	7	7
Daily sedation interruption	7	7
Delirium screening	7	7
Temperature control after cardiac arrest	7	7
Duration of empiric antimicrobial prescriptions	7	6
Physical and pharmacological restraints	7	6
Patient and family participation in daily rounds	7	6
Routine blood tests	7	6

Evaluation: Characteristics Associated with Priorities

	Characteristic	Adjusted Odds Ratio[1] (95% CI)
Provider Characteristics	**Profession**	
	Physician	1.0
	Nurse	1.07 (0.83-1.36)
	Respiratory Therapist	1.08 (0.82-1.42)
	Allied Health	1.57 (1.17-2.11)
	Years of ICU Experience	
	Less than 10 years	1.0
	10 – 20 years	1.24 (1.08, 1.43)
	More than 20 years	2.02 (1.66, 2.47)
	Academic Status of ICU	
	Teaching	1.0
	Non-teaching	1.20 (1.03, 1.40)
Priority Characteristics	Strength of supporting evidence	2.70 (2.48-2.95)
	Potential to improve patient/family experience	1.51 (1.34-1.71)
	Potential to benefit the patient	1.61 (1.45-1.80)
	Potential to decrease costs	1.25 (1.12-1.39)
	Ability to easily measure the practice	1.06 (0.92-1.22)
	Ability to take action to change practice	0.90 (0.82-0.99)

[1] Odds ratios >1 indicate increased odds of selecting a priority

Engagement of Community

- 627 (35%) providers responded to feedback of the survey results
  - 87% agreed that the priorities were reasonable choices
  - 61% were highly supportive of working on future initiatives in these areas
  - 92 self identified as champions for future initiatives

Discussion

- 9 practice priorities were rated as necessary and will inform quality improvement initiatives
- Provider and patient care practice characteristics need to be considered when identifying priorities for quality improvement

Conclusion

- Community-based participatory research approach is feasible in critical care
- Multidisciplinary stakeholders should be involved in establishing priorities for research and quality improvement

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