

Nurse-Led Critical Care Response Teams in Ontario: Experiences of Users and Providers

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BACKGROUND

Critical Care Response Teams (CCRTs) are multidisciplinary teams of critical care clinicians who bring the skills of the intensive care unit (ICU) to the general ward to support ward staff in identifying and managing at-risk patients. The team has the experience to provide speedy review and intervention to deteriorating patients in the ward with the intent of averting further deterioration of patients, cardiac arrest, and death.^{1,3} The most common CCRT configurations are physician-led and nurse-led models. Currently, there are 46 CCRTs operational in the province of Ontario, Canada. This includes 36 Intensivist-led teams, 4 of which are pediatric CCRTs and 10 nurse-led teams.

Informed by the existing body of evidence, positive experiences gained through the implementation of the adult Intensivist-led models, and growing demand to implement the initiative in community hospitals that do not meet the funding criteria for Intensivist-led teams, the Ministry of Health and Long-Term Care (MOHLTC) in FY2014-15 funded 10 nurse-led CCRTs. A nurse-led CCRT is staffed by an experienced critical care nurse, with the support of an Intensivist as needed. In the literature, the results on patient outcomes by type of CCRT model are conflicting, however, more recent studies demonstrate that nurse-led teams can be as effective as Intensivist-led teams.^{2,3} Additionally, evidence shows that ward nurses relate better with nurse-led CCRTs and have fewer barriers in activating nurse-led CCRTs compared to Intensivist-led CCRTs.⁴

AIMS

The aim of the program evaluation was to: (i) establish baseline measures; and (ii) compare the change in perceptions of ward staff i.e. registered nurses (RNs), and nurse-led CCRT members regarding CCRT services, their preparedness and their perceived barriers and challenges to success.

ACTION TAKEN

An online knowledge, attitude and perceptions (KAP) survey was developed and administered both before and one year after the implementation of the initiative.

METHODOLOGY

A pre-post test design was used to compare the perceptions of ward nurses and CCRT members. The pre-implementation survey was conducted between the months of July and August 2015, and post-implementation survey was completed between the months of June and July 2016.

Additionally, pre and post- implementation data on patient outcomes from hospitals are being collected to conduct future evaluation. The post-implementation data on CCRT activities is also being routinely entered in the provincial Critical Care Information System for monitoring and evaluation purposes.

This poster presents the Survey Results (Pre-Post Comparisons)

RESULTS

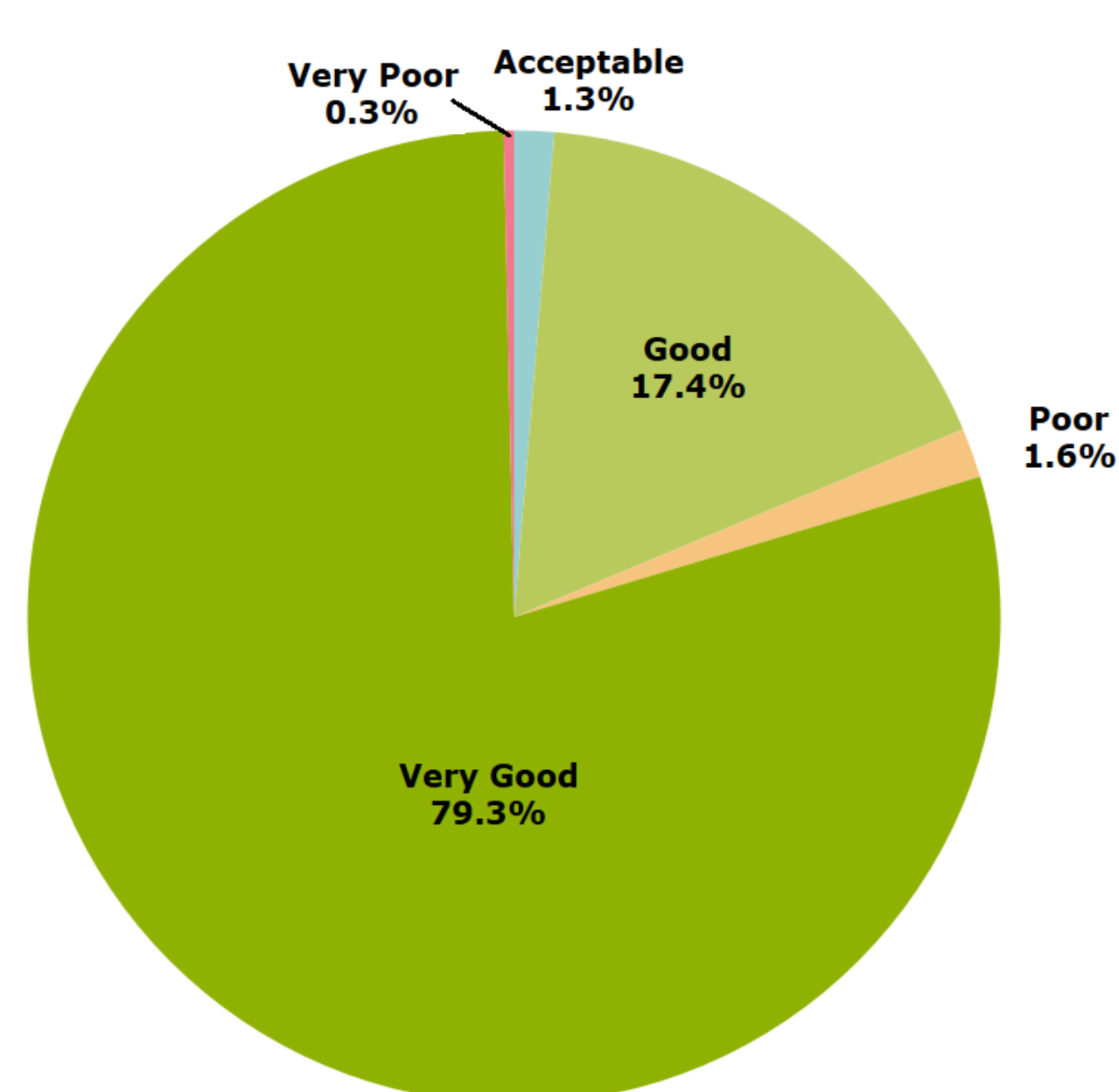
USERS OF CCRTs (Registered nurses working in the wards)

The majority of survey respondents were female (90%). 55% of respondents were between the ages of 35 and 54 and most had 6 years of professional experience. The main findings are summarized below:

Comparison of RNs Perceptions: Pre-Post CCRT	Pre (N =300)	Post (N=316)
Reasons for CCRT activation		
▪ When the nurse is worried *	66%	74%
▪ Anytime when the patient is seriously ill *	65%	78%
Impact of CCRT on patient care		
▪ Early clinical intervention for patients at risk of deterioration	94%	95%
▪ Early assessment and diagnosis of at-risk patients	94%	93%
▪ Prevent a minor problem from becoming a major problem	92%	93%
▪ Decreased cardiac arrests	81%	88%
▪ Decreased ICU re-admissions	84%	86%
Uptake of CCRT service can be improved by		
▪ Education and training on units	94%	94%
▪ Marketing and promotional awareness	83%	80%
▪ Management influence	77%	78%
▪ Having supportive organizational culture	58%	68%
Appreciation of CCRT services		
▪ Supporting post-ICU care *	55%	75%
▪ Early intervention to avert ICU admission *	90%	95%
▪ Perception that CCRT has added value on their ward *	88%	96%

*A p-value of ≤ 0.05 was considered statistically significant

Figure 1: Rating of CCRT Services by RNs (Post-Implementation)



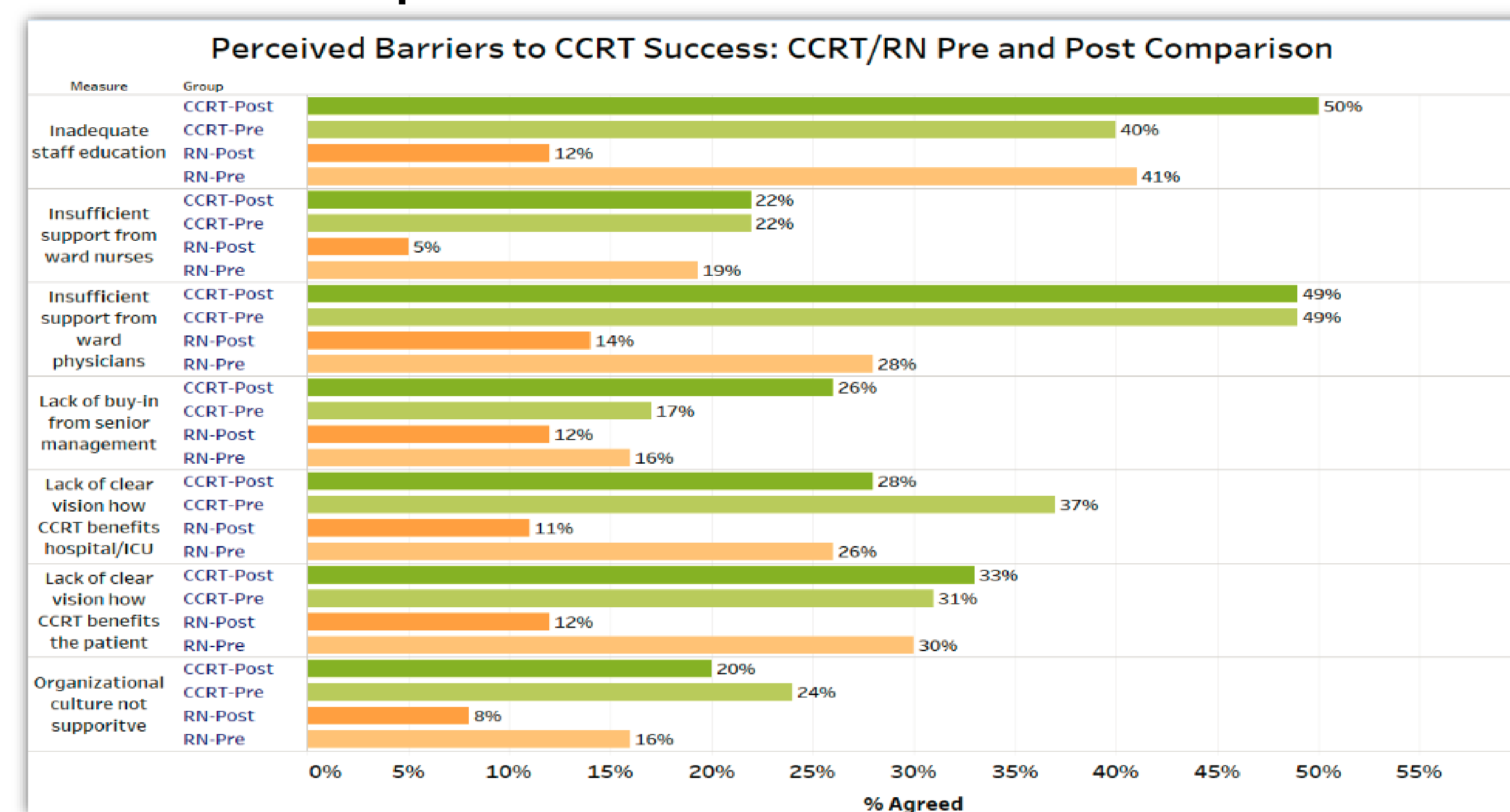
97% of RN respondents rated the CCRT services as "Very Good" or "Good"

SERVICE PROVIDERS (CCRT members)

A wide range of CCRT members including CCRT nurse leads, co-leads, CCRT nurses and respiratory therapists completed the two surveys. The main findings are summarized below:

Comparisons of CCRTs Perceptions: Pre-Post	Pre (N = 90)	Post (N=86)
Reasons for joining CCRT		
▪ Opportunity to improve patient care	97%	93%
▪ Opportunity to expand application of critical care skillset	84%	88%
▪ Opportunity to learn new skills and techniques	83%	79%
Impact of CCRT on patient care and outcomes		
▪ Early assessment of patients at risk of deterioration	96%	98%
▪ Early clinical intervention for patients at risk of deterioration	94%	98%
▪ Prevent minor problems from becoming major ones	92%	95%
▪ Decreased cardiac arrests	80%	80%
▪ Decreased ICU re-admissions	85%	73%
Uptake of CCRT service can be improved by		
▪ Education and training on units	99%	90%
▪ Marketing and promotional awareness	85%	81%
▪ Management influence	75%	72%
Perceived challenges of working on CCRT		
▪ Additional responsibility	82%	81%
▪ Work subject to more monitoring	65%	48%
▪ Lack of support from other CCRT members - in response to CCRT calls	21%	26%

Figure 2: Perceived Barriers to CCRT Success: Pre-Post Comparison of CCRT and RNs Responses



CONCLUSIONS / NEXT STEPS

Conclusions

- The nurse-led CCRT initiative was well received by both ward RNs and CCRT members.
- The RN respondents overwhelmingly rated the CCRT services as either very good or good (Figure 1).
- The post-implementation survey indicated a significant increase in the proportion of RNs who perceived nurse-led CCRTs had added value to their work. They also believed that CCRTs would lead to improved patient care, decreased cardiac arrests and decreased ICU readmissions.

Next Steps

- The MOHLTC is considering the implementation of additional nurse-led teams.
- CCRT Scorecard is being developed for the purpose of performance management.
- An impact evaluation is planned to take place 5 years post-implementation.

REFERENCES

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