

CODE BLUE SIMULATION IN THE OR: AN INTERPROFESSIONAL COLLABORATION

Sunnybrook Health Sciences Centre

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Background

Sunnybrook Health Sciences Centre is Canada's largest Trauma Centre and it is critical that the staff in the operating room (OR) be prepared to care for patients with a variety of medical conditions. Recently the staffing turnover rate has risen due to the effects of the pandemic. This has resulted in the recruitment of more novice nurses. The novice OR nurses have limited exposures to code blue events and limited orientation regarding the location and contents of the cardiac arrest carts. Attending cardiac arrest intraoperatively requires a high performing team to provide the best resuscitative measures for the surgical patients. Cardiac arrest in the OR is a stressful high-risk event that involves immediate response from the perioperative team. Continuous education and training is required to be able to respond effectively and efficiently to a code blue event.

To educate and prepare the OR team on how to effectively manage critical and emergent events a Code Blue Simulation in the Operating Room was carried out in collaboration with Sunnybrook Canadian Simulation Centre. It was participated by the perioperative team members (OR nurses, anesthesia, anesthesia assistants, residents and fellow).

Objectives:

1. To be able to aid in the continuous education and training of the OR staff in recognizing and resuscitating surgical patients during a cardiac arrest.
2. To be able to orient all OR staff to the location, use and be able to achieve a 100% compliance rate in checking the crash cart equipment and contents.
3. To improve interprofessional collaboration and teamwork among OR staff during code blue situation in the OR.

Methods

PHASE I. ASSESSMENT

- Identifying the gaps and the needs in attending code blue in the operating room based on the:

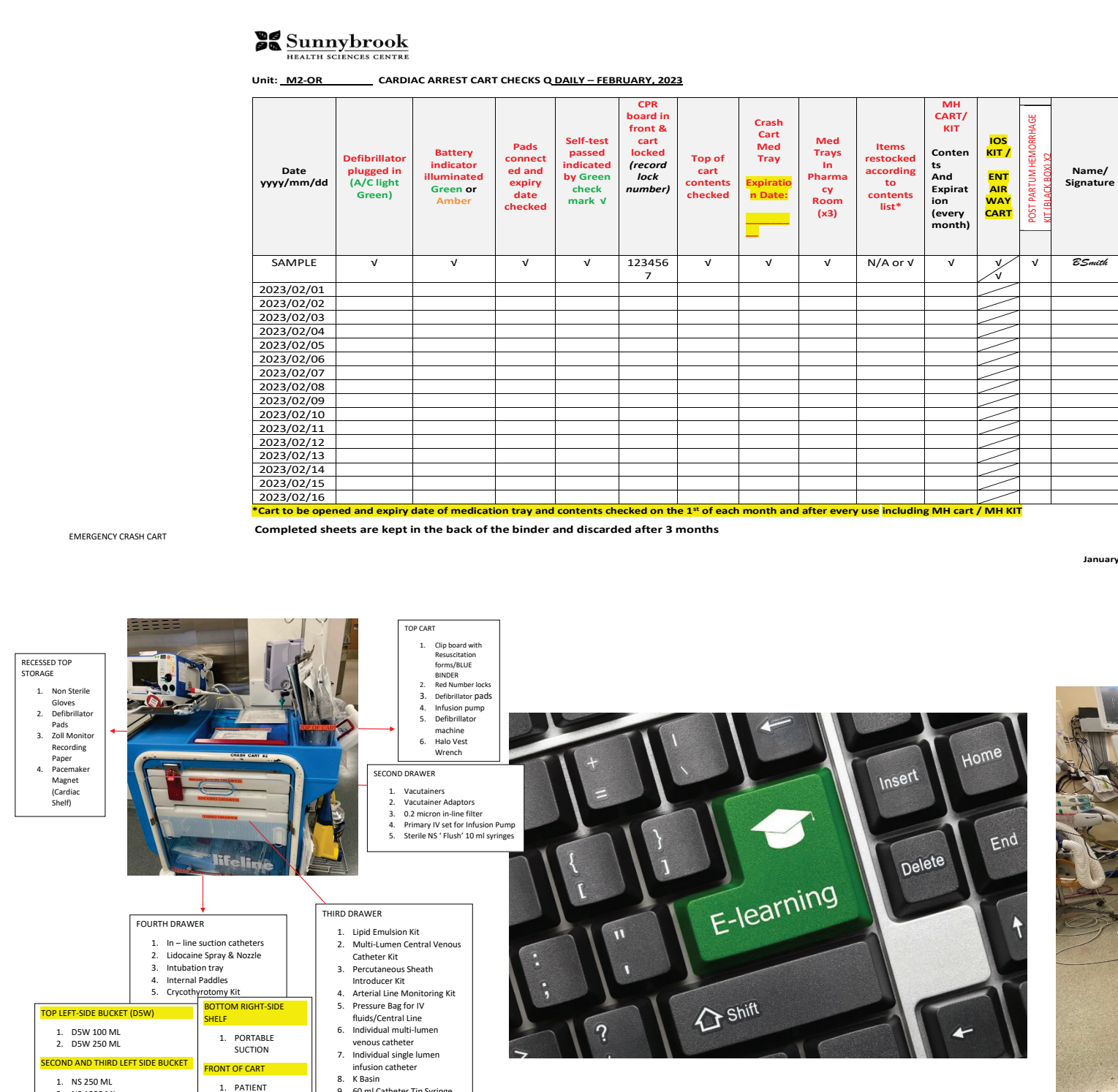
A. SAFETY REPORTS	B. CARDIAC ARREST CARTS AUDITS
<ul style="list-style-type: none"> Need to review OR staff with ACLS algorithm Need to orient OR staff the location and proper utilization of crash cart contents and equipment 	<ul style="list-style-type: none"> Frequency of checking by OR nurses Contents and expiration

PHASE II. PLANNING

A. Collaboration with Sunnybrook Canadian Simulation Centre	B. Interprofessional Code Blue Committee in the OR	C. PRACTICE CHANGE
<ul style="list-style-type: none"> Creation of Code blue in the OR E-learning module Simulation Video 	<ul style="list-style-type: none"> Anesthesia lead Anesthesia assistant lead Director of OR and Related Services Patient Care Managers Advanced Practice Nurse Sunnybrook Canadian Simulation Centre Team 	<ul style="list-style-type: none"> Modification of the cardiac arrest carts contents and checklist Daily checking of the cardiac arrest carts by all OR nurses Once a month opening of the arrest carts if not in use to check expiration of contents

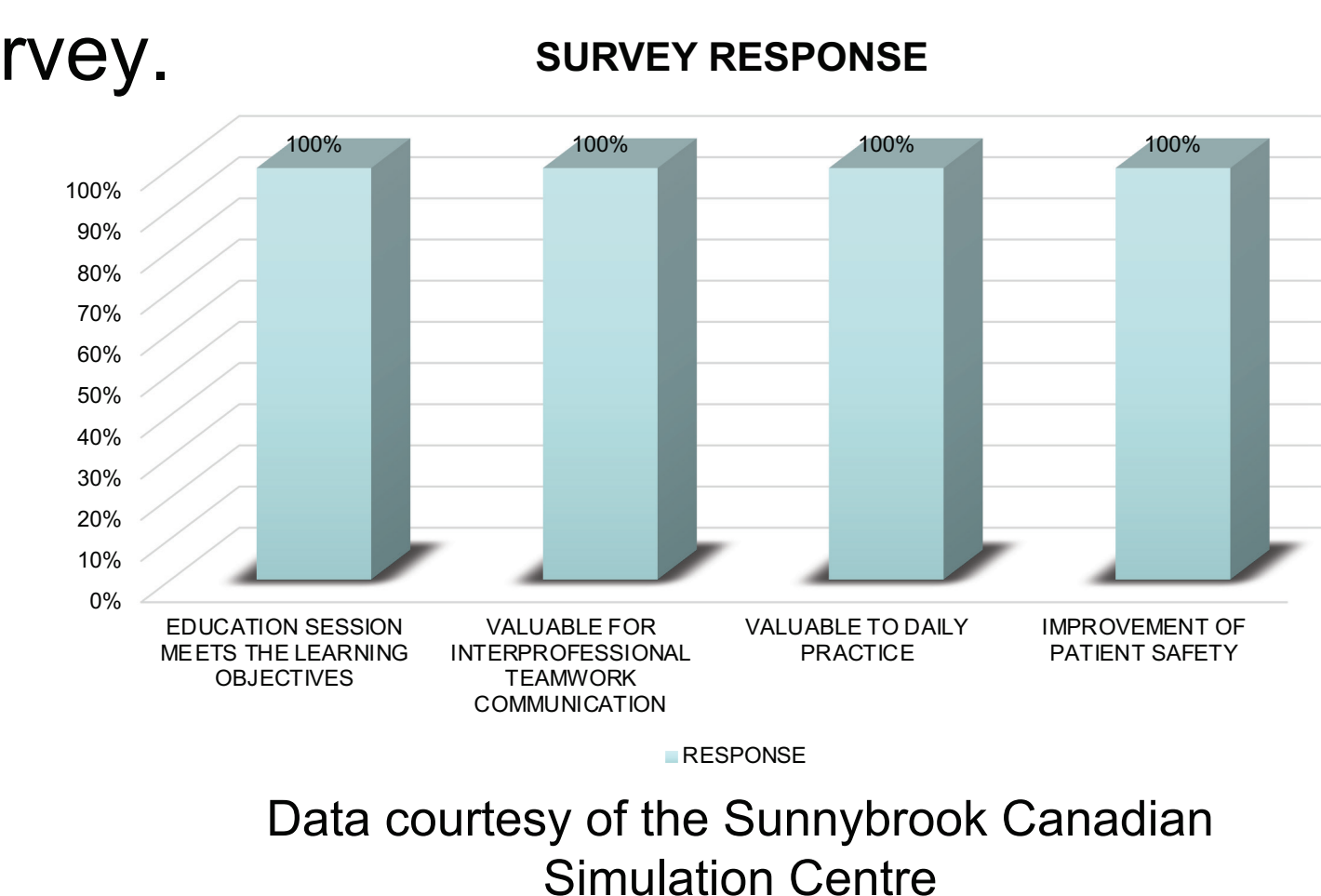
PHASE III. IMPLEMENTATION

A. INSERVICE EDUCATION	B. SIMULATION PROPER	C. SUSTAINABILITY REVIEW
<ul style="list-style-type: none"> Code blue in the OR education session 	<ul style="list-style-type: none"> Every Friday for an hour (3 simulation sessions) Interprofessional OR staff attendance Utilization of 2-3 rooms with maximum of 10 participants in each room 	<ul style="list-style-type: none"> After 6 months another code blue simulation was done in collaboration with Sunnybrook Canadian Simulation Centre to assess the effectiveness of the practice change

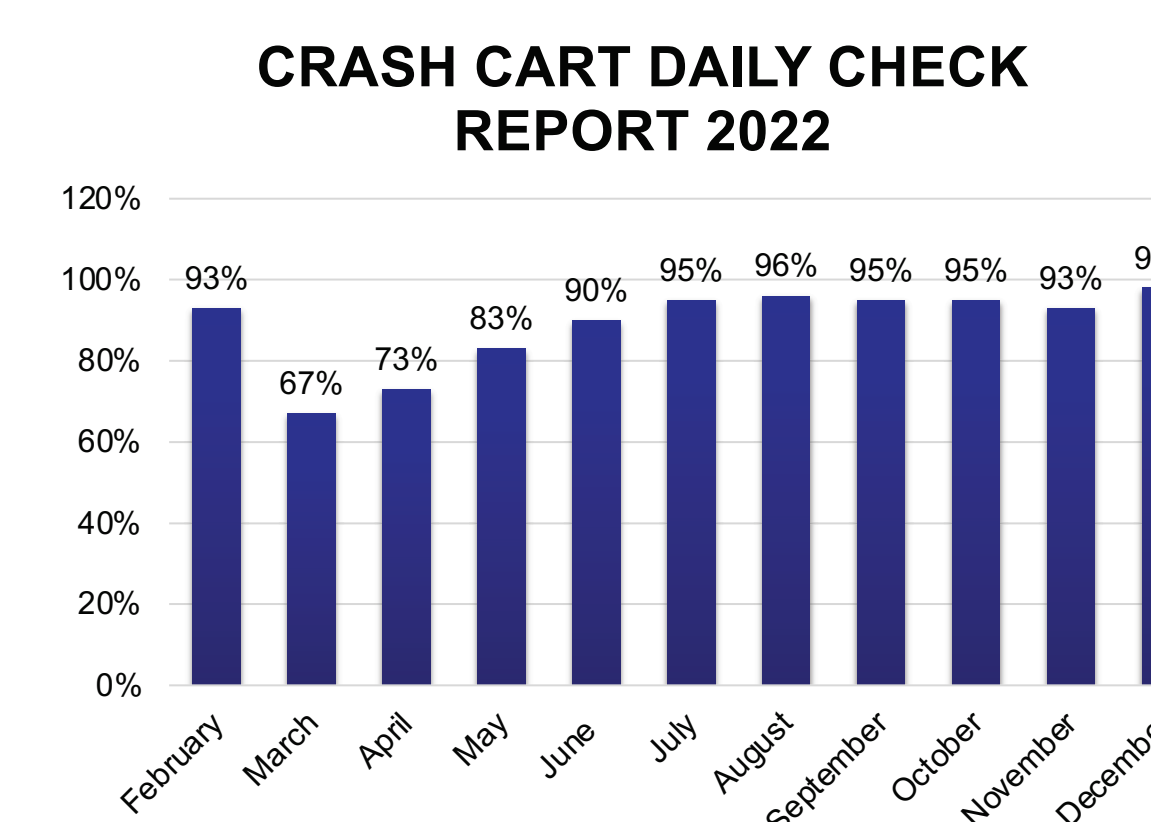


Results

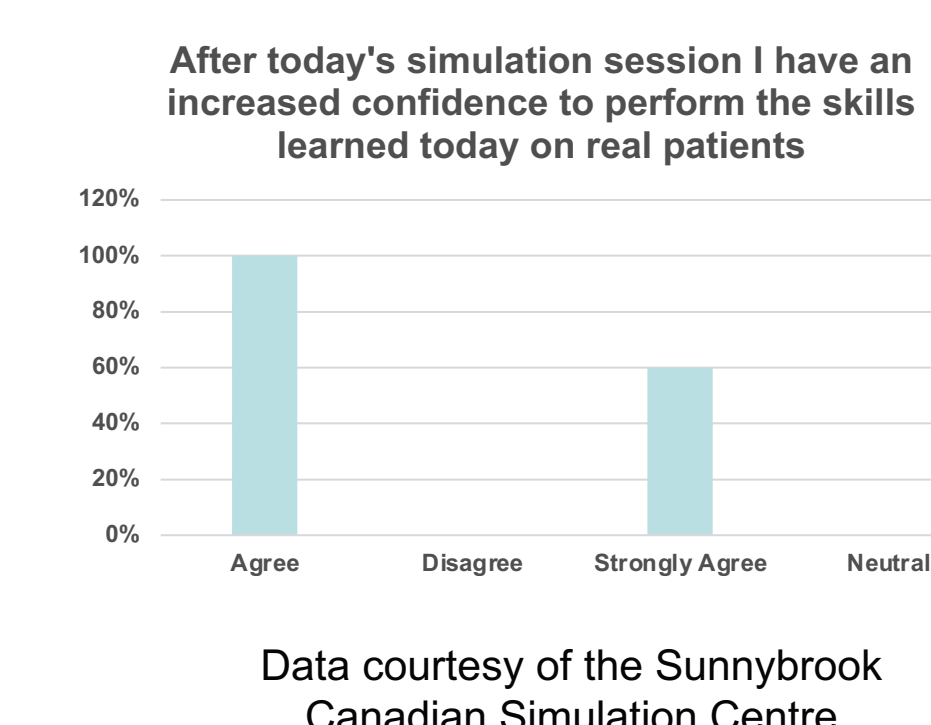
- A. To evaluate the effectiveness of the Code blue simulation in the OR, a survey was done with the perioperative team members who attended the simulation.
- Participants were asked to provide feedback by answering the survey questions. A QR code was provided by the Sunnybrook Canadian Simulation Centre to facilitate distribution of questions. There is a 100% response rate for about 80 participants who responded in the survey.



- B. To evaluate the practice change of daily crash cart checking, the advanced practice nurse audited the checklist form every month.
- There was a significant improvement in the compliance rate of the staff in checking the crash cart daily from 67% to 98%.



- C. The sustainability review after 6 months showed improvement in team communication and performance in attending the case scenario.



Conclusion

Continuous education and training is needed to be able to respond effectively and efficiently during the code blue event. A code blue simulation has been done in the operating room from February 11 to March 25, 2022, every Friday for an hour session. There are about 115 perioperative team members (OR nurses, anesthesia, anesthesia assistants, residents and fellow) that participated in the simulation. The interprofessional collaboration facilitated by the Sunnybrook Canadian Simulation Centre showed positive results and significant improvement. The modification of cardiac arrest cart and the daily checking of the cart by the OR nurses contributed to the quality improvement of patient care. It also helps in the onboarding of novice nurses to be knowledgeable and comfortable in attending cardiac arrest situation in the operating room. There are no safety reports filed about inability to locate and operate cardiac arrest cart in 6 months after the implementation of practice change. The Code blue simulation in the OR is a now a great addition to the mandatory learning modules for all OR nurses.

Perioperative Nursing Implications

- The interprofessional code blue simulation clearly defined the roles and responsibilities of each team members during the emergency situations in the OR. It improves team communication and teamwork.
- The practice change on daily crash cart check helps in the familiarity of contents and ease of use of the equipment especially the AED and internal defibrillator.
- The "Code Blue in the Operating Room" mandatory learning module for new and existing OR nurses every year empowers the staff with the knowledge and skills needed to be in a high performing team.

Acknowledgement:

We thank the Sunnybrook Canadian Simulation Center in helping the Operating Room Department facilitate the Code Blue Simulation.