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DEPLOYING PERIOPERATIVE NURSES DURING THE COVID-19 PANDEMIC

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ABSTRACT

Educators in the hospital setting collaborated in the development of pandemic training sessions during the global outbreak of COVID-19. The outbreak created unique challenges at all levels of healthcare including nursing. Within the surgical program of a tertiary hospital, elective surgical procedures were halted and the perioperative departments (PACU, Endoscopy, and Day Surgery) were converted into small medical units and a critical care unit. Clinical nurse educators planned education sessions that promoted an all-hands-on-deck approach, to provide effective and efficient learning opportunities for redeployed perioperative nursing staff. Delivery of educational sessions were organized through self-learning modules, in-class learning, and simulation format. The purpose of this paper is to discuss and share the process used, in one acute care hospital, for the deployment of perioperative nurses to medical units and the level of education required for perioperative nurses, with varying skill levels, to be deployed effectively.

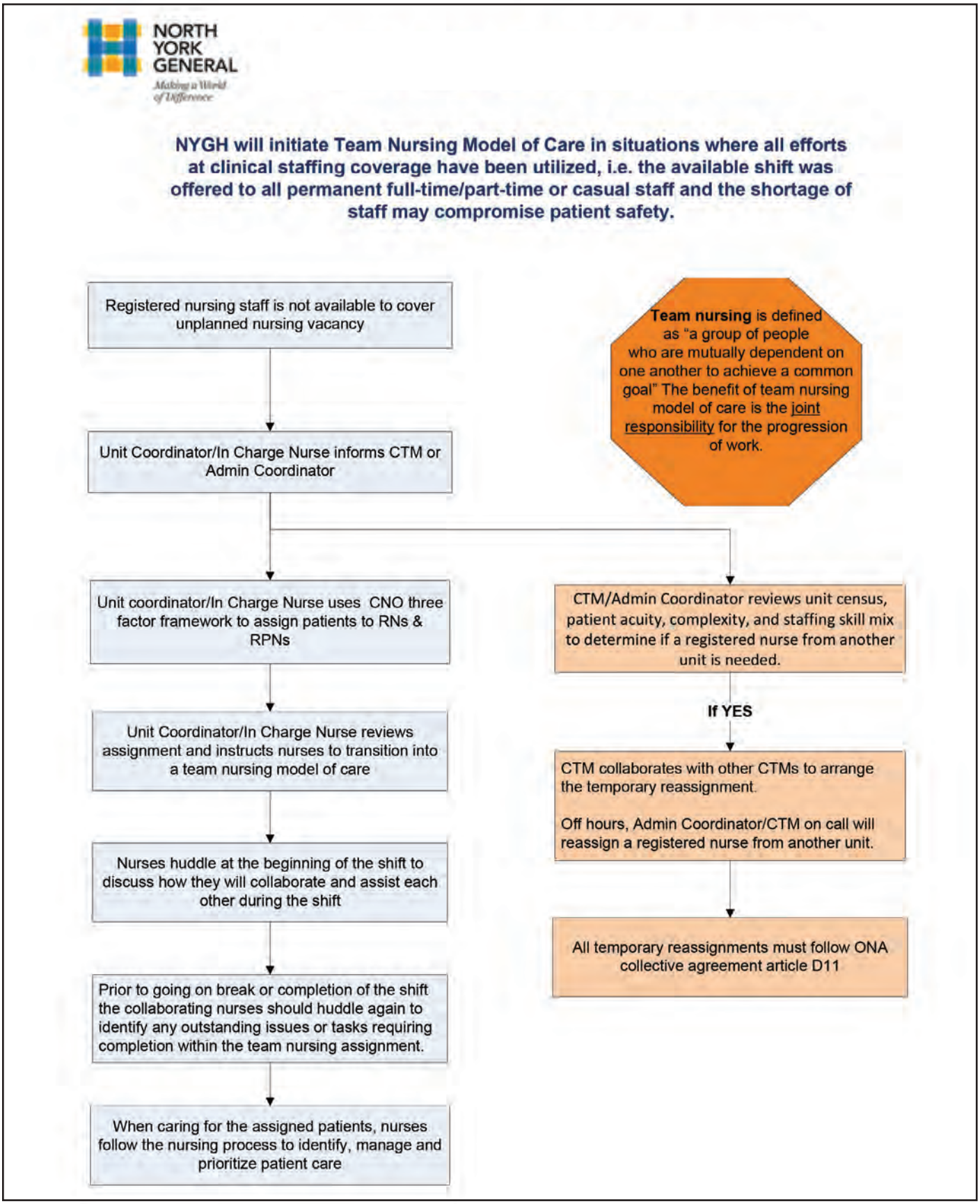
INTRODUCTION

On March 11, 2020, the World Health Organization (WHO) declared the COVID-19 outbreak as a pandemic.[1] Days later, Canada began lockdown procedures and was full throttle into the first wave of the COVID-19 pandemic. There was a deep concern about the alarming speed of transmission of SARS-CoV-2 and the severity of COVID-19 symptoms. From January 2020 to March 2021, data collected showed that there were more than 65,615 hospital stays and 158,860 ED visits in Canada.[2] Lockdown procedures were initiated, elective surgeries were cancelled, and only emergency surgical procedures were performed. Perioperative nurses at North York General Hospital were deployed to medical units and specialty units such as intensive care and telemetry. At this time, the Team Nursing model (see Figure 1 and Figure 2) was introduced at North York General Hospital (NYGH) to promote effective and efficient nursing care while maintaining competent and quality care. This article presents a description of the deployment process during the first and second wave of the COVID-19 pandemic, addressing the learning needs of the deployed nurses and identifying lessons learned to promote quality and safe nursing care practices.

Role of nursing

Many nurses at NYGH, including experienced ones, had stated that they never dealt with a crisis of this magnitude during their careers. As patients began to arrive in the emergency and critical care units in the early days

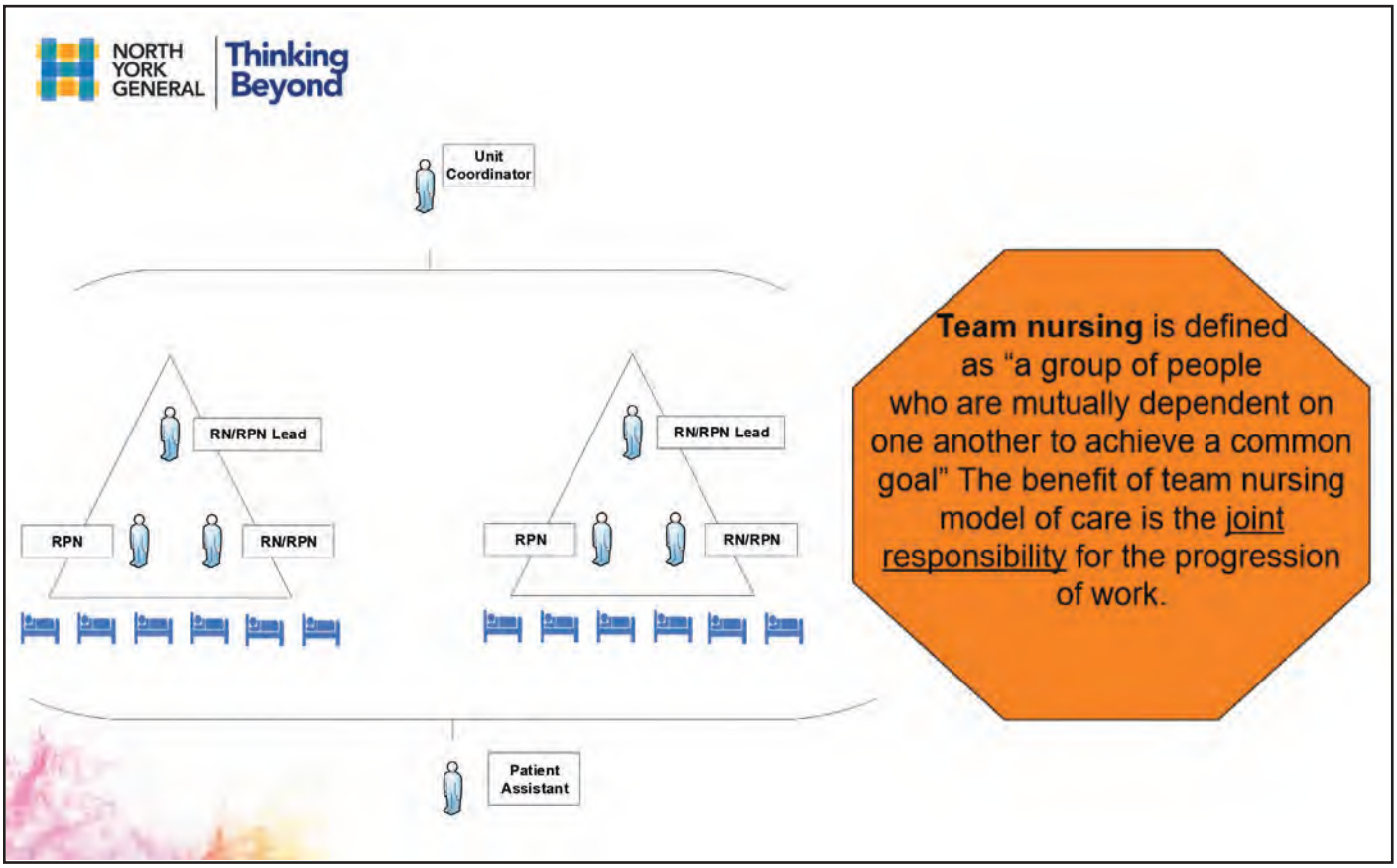
Figure 1.



Courtesy: North York General Hospital.

Team nursing model of care process. *CTM: Clinical Team Manager, CNO: Chief Nursing Officer.*

Figure 2.



Courtesy: North York General Hospital.

Team nursing model of care.

of the pandemic, elective surgeries and procedures were put on hold, hospitals were faced with challenging shortages of beds, and, therefore, many perioperative nurses had to be redeployed to other departments within the hospital in need of staffing. Nurses were now providing care and support in unfamiliar settings around the hospital. The process of redeployment, in a time of uncertainty and fear, was almost like a game of chess and the perioperative educators along with leadership team members and the human resources department had to quickly figure out where nurses needed to be deployed and to ensure they received the training and safety equipment they needed.

Team Nursing model

In looking at the vast differences in the skillsets of perioperative nurses, it was imperative to take into consideration that during the redeployment phase the nurses had adequate support on the units. It was important to ensure that the redeployed nurses were not independently responsible for patient care but were there to offload the pressure and lend a helping hand with task-based care, documenting head-to-toe assessments, while ensuring open communication was maintained between unit nurses and redeployed nurses in order to ensure safe practices. As such, the Team Nursing model of care was initiated and implemented.[3]

Under the structure of this model of care, staffing on the units were divided into pods based on the number of patients and staffing available on the unit Each pod had an assigned RN/RPN team lead and, ideally, two additional nurses, with or without a patient care assistant (dependent on patient acuity level and staffing availability). Within this model of care, communication between the team lead and the pod members is key to maintaining patient safety and ensuring all aspects of care and interventions are completed and addressed in a timely manner.

The team leads were responsible for task allocation and coordination of care dependant on the skills assessment of the pod members and patient acuity. As an example, if a team lead has two experienced floor nurses and one redeployed perioperative nurse, the re-deployed nurses would be assigned to do lower acuity tasks such as take vital signs, conduct glucose checks, or do activities of daily living (ADLs). The experienced nurses may do medication administration or complex dressing

changes. Leads collaborated with team members to review patient assignments and accept verbal transfer of accountability reports from the outgoing team lead. Additionally, team leads were also responsible for addressing and reporting concerns to the unit coordinator (or charge nurse) as required.

The unit coordinator (or charge nurse) was responsible for identifying team leads for each shift and reviewing assignments, to ensure equitable distribution of the workforce among the pods, in addition to coordinating patient care at the unit level.

Patient care assistants, employed to work on nursing floors, were utilized to assist with basic activities of daily living and simple patient care tasks such as hygiene care, grooming and feeding. All patient care assistants also underwent a standardized hospital-based training to ensure maintenance of high-quality care.

Preparation For Redeployment

The perioperative Clinical Nurse Educators (CNEs) were faced with many challenges including dealing with staff that were fearful and stressed about the uncertainties they faced. The CNEs also had to assess individual's skill sets and learning needs to determine how to safely transition them to units without putting them in a position that was beyond their scope and depth. For instance, scrub nurses do not typically document in a patient's electronic chart and documentation was an expectation of all redeployed nurses. The CNEs not only provided documentation education, but also discussed limiting certain documentation requirements for scrub nurses. This included the use of pandemic charting, which automatically truncates the required documentation for a patient. In addition, a scrub nurse working on the unit might be assigned to check blood glucose levels and was be shown how to document specific to that.

The Professional Practice Leader (PPL) of nursing and the CNE team discussed the requirements on the unit, what roles these nurses would be expected to take on, and what education and skills training could be provided to them within a short two-day educational period. The CNEs and PPL also reviewed the redeployed nurses' past training and experiences. For example, if the nurse had labour and delivery or ICU experience before coming into the perioperative area they were considered for redeployment to those departments.

There was a vast variation in the range of skills among the nurses from the OR, PACU, day surgery, and endoscopy. Additionally the roles of Registered Nurse (RNs) and Registered Practical Nurse (RPNs) in the OR also varied from department to department and as compared to the functioning of bedside RNs and RPNs.

It was important to consider the knowledge, skills, and judgement the perioperative nurse would require to be able to assist at bedside. As such, the development of a self-assessment checklist, outlining different patient care requirements such as IV maintenance and monitoring, oxygen therapy management, neurological assessment and many others, was disseminated to all deployed nurses. This self-assessment checklist, called the Pandemic Planning Nursing Skills Inventory, was given to all redeployed perioperative nurses to complete (see Figure 3). The CNEs were then able to identify what knowledge, skill, and judgment the nurse possessed and provided additional education on the unit for tasks for which they may have little to no experience. After deployment education was completed, the nurses reported to their assigned in-patient units for buddied shifts. If it was too time consuming to train deployed nurses in new skills then tasks were reassigned to a senior nurse in order to maintain quality patient care.

Figure 3. (page 1 of 3)

Pandemic Planning Nursing Skills Inventory

Name: _____ Date: _____

Self-Assessment based on knowledge, skills and judgment. Please check the appropriate box using the indicators below:

1 = Novice (No experience with the skill); 2 = Advance Beginner (Needs assistance performing the skill); 3 = Competent (Able to perform the skill effectively); 4 = Expert (Able to teach and mentor)

	1	2	3	4
IV Initiation				
Saline lock management				
IV maintenance and monitoring				
a. Lab analysis				
b. Blood Product transfusion				
Insertion of Subcutaneous Lock				
Central Line monitoring and maintenance				
a. PICC Line				
b. Hickman Line				
c. Port-a-cath				
Total Parental Nutrition				
Respiratory Care				
a. Chest Assessment				
b. Tracheostomy Care				
c. Suctioning				
d. Care of Endo tracheal tube				
e. ABGs interpretation				
f. Assist with CT insertion				
Chest Tube Monitoring and Maintenance				
Code Blue management				
Oxygen therapy management				
Medication Administration				
a. IM				
b. SC				
c. PO				
Narcotics Administration (minute dosages)				
Neurological Assessment				
a. Glasgow Coma Scale				
b. Mental Status exam				
c. Assist with lumbar puncture				
d. Dysphagia				
e. Stroke Management and Care				
GI/Nutritional Assessment				
a. NG tube insertion				
b. Continuous bladder irrigation				

Sample of self-assessment checklist.

Figure 3. (page 2 of 3)

	1	2	3	4
Cardiac Assessment				
a. Cardiac monitoring				
b. Rhythm interpretation/management				
c. Arterial pressure monitoring				
d. Central Venous pressure monitoring				
e. Perform 12-lead ECG				
f. CPR				
g. Assist with CV line insertion				
Pain				
a. PCA				
b. Pain assessment				
c. Narcotic				
d. Epidural				
Skin and Wound				
a. Braden skin assessment tool				
b. Pressure ulcer staging				
c. Treatment				
d. Therapeutic surface				
Maternal and Newborn care				
a. Fetal heart rate assessment				
b. Internal fetal monitoring				
c. Oxytocin administration				
d. Emergency delivery				
e. Neonatal assessment				
f. Circumcision care				
g. Administration of Rho GAM				
h. Breast feeding teaching				
Oncology				
a. Chemotherapy				
b. Cancer Care				
Care of the Palliative Client				
a. End-of-life care				
b. DNR/Advance directives				
c. Pronouncing death				
Care of the Post operative client				
a. Total hip replacement				
b. Total knee replacement				
c. Hysterectomy				
d. Bowel resection (Ileo/Colostomy)				
e. Abdominal Aortic Aneurysm				
f. Jaw Surgery				
Mental Health Nursing				
a. Depression				

Sample of self-assessment checklist.

Figure 3. (page 3 of 3)

	1	2	3	4
b. Anxiety				
c. Personality disorder				
d. Obsessive compulsive disorder				
e. Schizophrenic disorder				
f. Affective disorder				
g. Addiction				
h. Suicide				
i. PSY Treatment modalities				
j. Assessment				
k. Group therapy				
l. Crisis prevention Intervention				
Documentation				
a. Charting by exception (CBE)				
b. Narcotic sheets				
c. Care plans				
d. Kardex				
e. Transcribing orders				
f. Medication Administration Record				
Infection Control				
a. PPE				
b. Hand washing				
c. Isolation				
Medical Directives				
Paediatric				
a. Assessment				
b. Growth and Development				
c. PALs				
d. Asthma management				
e. Pain management				
f. STABLE program				
g. Medication below the drip chamber				
h. Management of jaundice				
i. Assessment and management of sepsis				
j. Management of Chron's				
k. Assessment and management dehydration				
Elder Care				
a. Bladder scan				
b. Continence program				
c. Fall Prevention				
Least Restraint				
Electronic workload				
Consent to Treatment				

Sample of self-assessment checklist.

It was understood that the process to redeploy nurses who may not have done bedside nursing in their career, or for many years, would be daunting and, therefore, the process for redeployment occurred in stages and over a period of weeks.

Redeployment Schedule

To help keep track of the perioperative nurses that were redeployed a tracking spreadsheet was created that outlined the names of the redeployed staff, their home unit, if the nurse was full-time, part-time, or casual, the unit to which they were being redeployed, and their previous nursing experience or other additional comments (see figure 4). Two weeks worth of shifts, and a checklist of education completed, which included classroom training, computer-based training modules, in-class computer training and buddy shifts, were also included in the spreadsheet.

Skills assessment was also tracked on the spreadsheet to record the perioperative nurse's exposure to certain tasks. They were assessed as being either independent, needing assistance, or no exposure at all. Once a nurse had mostly "independent" or "with assistance" checked, and had their buddy shifts completed, they were deemed ready for redeployment. Redeployed nurses needed to be paired with a unit nurse for a period of time to get acclimated to the unit routines for patient care. To note the "not sure" option on the spreadsheet was not skills related but meant they were off work and return date was unknown. In addition, unit educators increased rounding with redeployed staff in order to identify any remedial education needed and to provide just in-time-training as required.

First Wave Deployment

In March 2020, the increasing rate of hospitalized patients skyrocketed

Figure 4.

Medicine Training Schedule

Unit	Time	Training session	Name of Staff Member	Home Unit	Commitment	Comments	Preceptors	Scheduled shifts 0730-1530 for the next two weeks Classroom Training Day (in red)	Education Completion	Skills Assessment I = Independent W= With Assistance N = No exposure at all	Buddy On A Shift With the New Schedule? Y = Yes N = Not Necessary	Ready for Deployment Pool? YES NO Not Sure
Medical Unit	7:30 – 3:30 pm	Bedside training	1	OR	1	Exp: Mental health		March: 23, 24, 26, 27, 30, 31 April: 1, 2, 3, 6, 7, 8, 9	☑Classroom Training ☑CBT Modules ☑In-Class Computer Training ☑Buddy Shifts	I ADL's I Head to Toe Assessment I Care Mobile Use I Medication Administration I Computer Documentation I Omnicell Use	N	
			2	OR	1			March: 23, 24, 25, 26, 27, 30, 31 April: Vacation 1st -13th	☑ Classroom Training ☑ CBT Modules ☑In-Class Computer Training ☑Buddy Shifts	W ADL's W Head to Toe Assessment W Care Mobile Use W Medication Administration W Computer Documentation W Omnicell Use	Y	
			3	OR	1			March: 26, 31 April: 1, 2, 3, 4, 5, 6, 7, 8, 9	☑Classroom Training ☑CBT Modules ☑In-Class Computer Training ☑Buddy Shifts	I ADL's I Head to Toe Assessment I Care Mobile Use I Medication Administration I Computer Documentation I Omnicell Use	N	
			4	OR	1			March: 26, 31 April: 1, 2, 3, 4, 5, 6, 7, 8, 9	☑Classroom Training ☐CBT Modules ☑In-Class Computer Training ☐Buddy Shifts	I ADL's I Head to Toe Assessment W Care Mobile Use W Medication Administration W Computer Documentation I Omnicell Use	Y	
			5	OR	1			March: 30, 31 April: 1, 2, 3, 4, 5, 6, 7, 8, 9	☑Classroom Training ☑CBT Modules ☑In-Class Computer Training ☑Buddy Shifts	I ADL's I Head to Toe Assessment W Care Mobile Use W Medication Administration W Computer Documentation I Omnicell Use	N	
			6	OR	1			March: 23, 24, 25, 26, 27, 31 April: 1, 2, 3, 6, 7, 8, 9	☑Classroom Training ☑CBT Modules ☑In-Class Computer Training ☑Buddy Shifts	I ADL's W Head to Toe Assessment W Care Mobile Use W Medication Administration W Computer Documentation I Omnicell Use	N	

Courtesy: North York General Hospital.

Sample of self-assessment checklist.

Once the redeployment centre was in place, the senior leadership team met with the perioperative staff to announce the plan for deployment and what they could expect.

resulting in hospital bed shortages. Emergency Departments (ED) were overwhelmed with patient admissions with respiratory concerns, such as shortness of breath, difficulty breathing, and sore throat coupled with unmanageable high fevers. A provincial wide mandate dictated Operating Room (OR) closures to accommodate high volume of admissions in ED, Intensive Care Unit (ICU) and inpatient units.

To combat hospital bed shortages, the surgical leadership team, consisting of the chief of surgery, chief of anesthesia, surgical director, clinical team managers and clinical nurse educators, met to develop a plan to respond to the increasing need of hospital beds within the organization. Meeting discussions focused on OR closures and deployment of staff.

Similar to opening a command centre during emergencies, the next step the leadership team took was to open a redeployment centre and assign different roles. An Administrative Coordinator of redeployment was assigned in order to manage the day-to-day operations of deployed staff, management of shift exchanges, requests and sick calls, as well as to support daily nursing unit needs. A Nursing Resource Team Manager was assigned to manage clerical staff and the call centre. A redeployment manager was assigned to assist with the management of deployed staff and liaise with the managers of the base unit and redeployed unit to create a master nursing schedule. A Redeployment Clinical Nurse Educator was assigned to facilitate the learning needs for the deployed staff in collaboration with Clinical Nurse Educators of that unit.

Once the redeployment centre was in place, the senior leadership team met with the perioperative staff to announce the plan for deployment and what they could expect. This meeting was paramount for the perioperative team therefore were attended by key stakeholders that included the Surgical Program Director, Chief of Surgery, Chief of Anesthesia, Clinical Team Manager, Bargaining Unit Personnel, Human Resources, Unit Coordinator, and Surgical Clinical Nurse Educators, in order to help answer questions that may arise. By having key stakeholders present, this showed the staff of the perioperative department the support from their leaders as they experienced the challenges of COVID-19 pandemic. The deployment nursing education topics were discussed in this meeting which included in-class learning, electronic documentation, and nursing skill-based training (See Figure 5).

Once the perioperative nurses completed the in-class and hands-on nursing skills training, and electronic documentation training, they were paired up or "buddied" with unit nurses on their designated unit. Nursing deployment training sessions were completed in a span of 14 days in which the deployment of staff lasted for 4 months of the first wave and 3 months of the second wave. Nurses were deployed to various units in the organization such as Intensive care unit, medical units, specialty clinics, COVID-19 testing centres and screening kiosks.

Weekly virtual huddles were held with the unit educators and the PPL to discuss the concerns and educational needs of redeployed staff. The Team Nursing model was an important focus as this was a new paradigm to many nursing staff. These meetings helped to identify risks, practice concerns, and mitigation strategies to ensure the provision of quality care to patients. Virtual weekly huddles and unit-based huddles were conducted with staff to discuss the Team Nursing Model and the roles and assigned tasks given to the deployed staff.

Deployment of perioperative staff lasted for 4 months during the first wave.

Second Wave Deployment

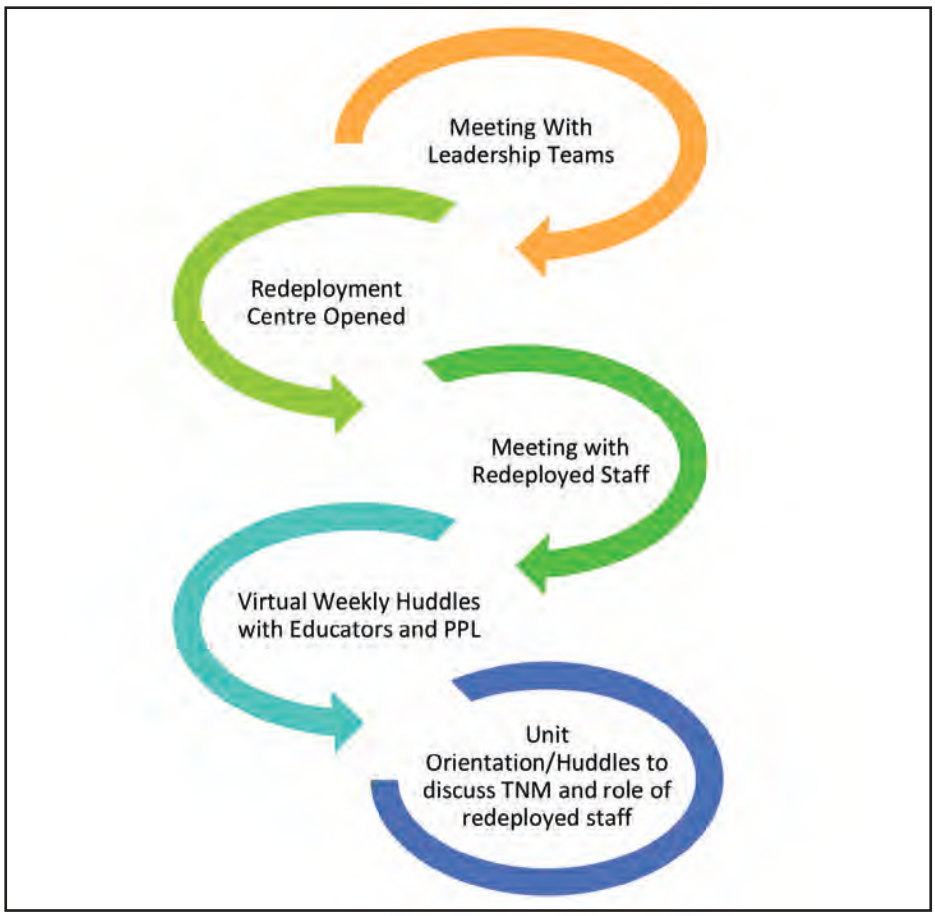
During wave one of COVID-19, all elective cases were stopped and eventually, only emergency and urgent cases were conducted. As outlined in the first wave, the stages of redeployment

were set into motion and a spreadsheet was created that included previously redeployed staff and the unit they were on as well as refresher tasks that needed to be completed, such as documentation refresher. The redeployed staff stayed and were scheduled on units that they had their buddy shifts, as the familiarity helped with acclimation to the new tasks they had to conduct. The second wave of COVID-19 had a phased approach to OR closures. Elective cases were ramped down to urgent electives and cancer cases, in addition to doing emergency cases.

By the second wave we had learned more and our OR closures were more systematic than they had been in the first wave. In January of 2021, we were informed of the need to ramp down elective surgical cases. This time OR closures happened in a phased approach. Elective cases were ramped down to urgent electives and cancer cases, in addition to doing emergency cases. Closures of operating rooms were phased based on bed availability and unit staffing. This meant that if surgical beds were filled up with medical patients, then the urgent elective and cancer cases were triaged and more cases were cancelled based on level of priority. The process outlined in the first wave still remained but a redeployment centre was not opened during the second wave. Instead, the focus shifted to meetings with human resources representatives, the director and manager of the surgical program, and the receiving unit director, managers, clinical coordinators, PPL, and CNEs.

The resource documentation that was created in the redeployment centre,

Figure 5.



Courtesy: North York General Hospital.

Process to initiate redeployment.

PPL: Professional Practice Leader; TNM: Team Nursing Model.

There was also an assessment of learning needs for redeployed staff during the second wave.

during the first wave, such as the skills assessment checklist, were disseminated to the units receiving redeployed nurses and each unit created their own schedules for the redeployed staff and assigned tasks based on the nurse's knowledge and skills.

During the second wave, only four operating rooms were closed (out of a total of twelve) and two endoscopy rooms were closed (out of a total of four). Emergency, urgent, and urgent elective cancer cases were of higher focus compared to other elective cases. For example, a patient with cancer in the uterus, would be scheduled for surgery over a patient needing a total hip replacement. As a comparison, during the first wave, ten operating rooms (out of a total of twelve were closed and no endoscopy rooms were opened.

There was also an assessment of learning needs for redeployed staff during the second wave. Since some nurses had been redeployed during the first wave, their learning needs often consisted of refresher education rather than a full didactic and hands-on learning. Those who needed initial education were scheduled for it. Initially, it was decided to redeploy nurses to surgical units because urgent elective cases were still being done. As time passed, however, other medicine units had a higher need for nurses due to Covid-19 outbreak closures and inability to move the resource nursing pool around. Nurses who worked on outbreak units could not work on other units that did not have a Covid-19 outbreak. As a result, the deployment was shifted based on unit needs and the experience and skill of the redeployed nursing staff.

Scheduling of the redeployed nurses was not centralized, instead, each unit that received redeployed nurses completed a schedule based on their needs and nurse commitments and this schedule was managed by the unit manager and clinical nurse coordinator.

Redeployment of perioperative staff lasted for 3 months during the second wave.

CONCLUSION

The COVID-19 pandemic presented challenges for nurses and their leaders. Some feedback that was given to the leadership team from deployed nursing staff, as well as from educators, was that future teams should consider deploying nurses on a volunteer basis, launching pandemic nursing documentation sooner, and deploying nurses back to the same unit of familiarity for subsequent waves (if they have been deployed before).

What helped with the deployment of the perioperative nurses was providing education, leadership, and on-going support of staff. To respond to the need of the healthcare system during a global pandemic, North York General Hospital had to develop new systems, train and utilize frontline staff members to deploy to various units of the hospital, and ensure the provision of staff support. In order to achieve the educational goals during the first and second wave of the COVID-19 pandemic, the perioperative nurses required leadership to adapt readily in order to respond to challenges of the pandemic.

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