

Rapid Deployment of Team Nursing During a Pandemic: Implementation Strategies and Lessons Learned

Kelly L. Jones, MSN, RN
Maren R. Johnson, MSN, RN, NEA-BC
Andrea Y. Lehnertz, MSN, APRN, CNS
Robert R. Kramer, MSN, RN
Kelly E. Drilling, MSN, RN
Lisa D. Bungum, MAN, RN
Sarah J. Bell, MSN, MHA, RN

BACKGROUND The COVID-19 pandemic increased the number of patients requiring intensive care nationwide, leading to nurse staffing shortages in many units.

LOCAL PROBLEM At the beginning of the statewide COVID-19 surge, a tertiary teaching hospital in the upper Midwest experienced a sharp increase in patients needing intensive care. To relieve the resulting staffing shortage, it implemented a pilot program to bring general care nurses into its 21-bed mixed specialty intensive care unit to free intensive care unit nurses to help staff the hospital's COVID-designated units.

METHODS Using a team nursing model, the intensive care unit recruited, oriented, and incorporated 13 general care nurses within 4 days. Education and resources were developed to distinguish team nurses from intensive care unit nurses, introduce them to the intensive care unit environment, outline expectations, communicate between team nursing pairs, and guide charge nurses in making staffing decisions and assignments. Staff feedback identified additional resources, barriers, and successes. An adaptive process was used to improve and update tools and resources on the basis of staff needs.

RESULTS The pilot program ran for 6 weeks. Positive outcomes included a reduced need for float nurses and self-perceived reduction in nursing workload. The principal barrier was charge nurses' challenges involving staffing-to-workload balance based on the existing staffing model. This model identified productivity of a general care nurse and an intensive care unit nurse as equivalent, despite differences in their skill sets.

CONCLUSION Team nursing in the intensive care unit is an agile tactic easily replicated in dire staffing situations. (*Critical Care Nurse*. Published online March 24, 2022)

Historically, inpatient nursing has been dominated by 4 nursing care delivery models: functional, team nursing, total patient care, and primary nursing.¹ At a tertiary teaching hospital in the upper Midwest, primary nursing has traditionally been the model used on inpatient care units. In this model, care is patient centered and relationship based, requiring the nurse to maintain full

accountability for the assessment, planning, implementation, and evaluation of a patient's care 24 hours a day.² Although there is little substantiated research on the efficacy of primary nursing, this care model has generally been viewed as superior to others because of its patient-centered approach and promotion of nurses' professionalism, autonomy, and decision-making skills.³

Effect of the Pandemic on Nursing Care Models

On January 9, 2020, the World Health Organization (WHO) announced a cluster of nearly 60 pneumonia cases in Wuhan, China, stemming from a novel coronavirus (SARS-CoV-2). The first confirmed case of COVID-19 in the United States was reported 12 days after the initial WHO announcement, and the White House declared a US public health emergency due to the outbreak 2 weeks later.⁴ On March 11, 2020, the WHO classified the outbreak as a pandemic.⁵ At the end of 2020, the pandemic had resulted in more than 83 million cases of COVID-19 and 1.8 million deaths around the world.²

For several months into the pandemic, little was known about the characteristics of infection with and transmission of the new virus, or about how to treat COVID-19. The early response to exposure, display of symptoms, and suspected or confirmed cases involved a low threshold

for quarantining individuals for 14 days after exposure to an infected person.⁶ As cases surged in a seemingly arbitrary pattern throughout the country, the cumulative effect of rising inpatient censuses and hospital staff absences due to illness and/or quarantine was significant staff shortages throughout health care institutions, and specifically in intensive care units (ICUs). In response, the Centers for Disease Control and Prevention issued guidance for health care organizations to help them operate effectively during the pandemic, including a comprehensive hospital preparedness checklist and strategies to mitigate staffing shortages.⁷

The upper Midwest did not experience a sharp increase in confirmed cases and hospitalizations until the fall of 2020. Experiencing similar challenges that other health care systems faced, our tertiary teaching hospital implemented several of the tactics recommended by the Centers for Disease Control and Prevention. These strategies included canceling nonurgent surgeries and nonessential meetings and classes, use of telemedicine technology, onboarding travel nurses, and preparing ambulatory nurses, advanced practice provider students, and nurse leaders for potential redeployment to inpatient bedside nursing.

As ICUs continued to experience an escalation in census and acuity, efforts aimed to offset the staffing-to-workload disparity remained insufficient. In response, nursing leadership proposed implementing team nursing as a strategy to support ICU staffing. Early in the pandemic, the Society of Critical Care Medicine published a resource for managing heavily burdened ICUs while optimizing the availability of scarce ICU-trained nurses, including the recommendation to implement a "tiered staffing strategy" that employed non-ICU nurses and non-ICU advanced practice providers under the direction of an ICU nurse.⁸

The tiered staffing strategy, like team nursing, originated in the 1950s as a result of the nursing shortage following World War II and the significant growth of licensed practical nurses and ancillary staff during that period. The philosophy was that the efforts of a diversified staff, directed by a professional nurse, would result in a quality of care far superior to what could be attained individually.⁹ Team nursing is most often described in nursing literature pertaining to general care environments.¹⁰⁻¹³ However, little has been written about the use of this model in critical care settings. Gill et al¹⁴ described

Authors

Kelly L. Jones is a nursing education specialist, medical/surgical/transplant intensive care unit/progressive care unit, Mayo Clinic, Rochester, Minnesota.

Maren R. Johnson is a nurse manager, medical/surgical/transplant intensive care unit/progressive care unit, Mayo Clinic.

Andrea Y. Lehnertz is a clinical nurse specialist for the medical/surgical/transplant intensive care unit/progressive care unit, the code blue and rapid response teams, and the enhanced critical care unit, Mayo Clinic.

Robert R. Kramer is a nurse manager of an orthopedic general care unit, Mayo Clinic.

Kelly E. Drilling is a nurse manager of an orthopedic general care unit, Mayo Clinic.

Lisa D. Bungum is a nurse administrator for medical/surgical intensive care units, pulmonology, and the sleep clinic, Mayo Clinic.

Sarah J. Bell is a nurse administrator, Center for Digital Health and Orthopedics, Mayo Clinic.

Corresponding author: Kelly L. Jones, MSN, RN, Department of Nursing, Mayo Clinic, 200 First St SW, Rochester, MN 55905 (email: jones.kelly1@mayo.edu).

To purchase electronic or print reprints, contact the American Association of Critical-Care Nurses, 27071 Aliso Creek Rd, Aliso Viejo, CA 92656. Phone, (800) 899-1712 or (949) 362-2050 (ext 532); fax, (949) 362-2049; email, reprints@aacn.org.

piloting team nursing in an ICU using only intensive care-trained nurses in their model. In a review of the literature, we found no articles reporting the use of general care and critical care nurses within a team nursing model in the ICU setting.

Team Nursing Implementation

In response to nursing leadership's call, the 21-bed medical/surgical/transplant ICU (which was not a COVID-designated unit) volunteered to pilot a team nursing approach. The aim of the pilot program was to collaborate with general care nurses to free critical care-trained nurses to help staff the hospital's COVID-designated ICUs. This planning occurred under the direction to "move quickly and learn along the way." The pilot program involved only nurses, to enable rapid implementation of the training and communication needed to achieve the goal of deploying ICU nurses to care for critically ill patients with COVID-19.

The first step was to identify general care nurses to reassign to the ICU. Because of the reduction in elective surgeries during the pandemic, nursing staff from 2 orthopedic specialty units were selected. The nursing leadership team, comprising the nurse manager, clinical nurse specialist, and nursing education specialist from the ICU, collaborated with the nurse managers on these orthopedic units. Together, they worked to recruit individuals who were interested in voluntarily undertaking a short-term assignment for an indeterminate time in the ICU. Thirteen nurses were identified, with experience levels varying from less than 1 year to 19 years, with the majority having only a few years of nursing experience.

Orientation

Nursing administrative leaders initially recommended a 4-hour orientation for general care nurses moving to the ICU, as a possible hospital-wide implementation of team nursing further into the pandemic might not allow for more robust training. However, the leadership team decided to lengthen the orientation, recognizing that in addition to the challenges of implementing a new level of care coordination, the transition would be difficult not only for general care nurses unfamiliar with the ICU environment but also for ICU nurses adapting to a diminished sense of control and awareness of their patients' status.

Orientation to the ICU involved an initial 8-hour observation shift to acclimate general care nurses to the unit's environment, equipment, and patient population, including a brief overview of the significance of various alarms and expectations of the general care nurse regarding an alarm (Figure 1). Owing to the rapid implementation of this model, the general care nurses' scope of practice remained the same during their roles as team nurses in the ICU; they were not trained to be responsible for ICU-level concepts, skills, or medications. Within a week, gaps in the general care nurses' knowledge of the specialty populations within this ICU emerged, as well as a lack of general care skills more frequently used on medical units than on surgical units. In the pilot ICU, most of the patients have hematology and oncology specialty needs. Thus, nurses must have a specific skill set, including managing nasogastric tubes, enteric feeding tubes, and complex wounds and intravenous access. The orthopedic nurses, while highly skilled, lacked experience and confidence caring for this patient population. Therefore, a 4-hour training session was developed and implemented a week into the pilot program. During this "boot camp," an experienced ICU preceptor provided hands-on demonstration of nursing skills frequently used in the pilot ICU that were within the general care nurses' scope of practice (Figure 1).

Integration

The foundation of team nursing is strong leadership and clear communication.⁹ To avoid confusion among providers and ancillary staff, identification badge tags and door cards were created to differentiate general care nurses from ICU nurses. General care nurses were identified as "team nurses" instead of "general care nurses" to maintain confidence among patients and families that appropriately skilled nurses were caring for them. A team nursing Assessment and Agreement form was adapted for the ICU from hospital surge-planning resources (Figure 2). This form was to be used for each patient cared for by a team nursing pair, with the goal of clarifying responsibilities and avoiding the problem of "when it's everybody's job, it's nobody's job." It was to be individualized

Observe Bedside Handoff	
Unit Orientation	
Break & Locker Rooms	Linens; Linen Bag Closet
Fire extinguishers, fire pulls, oxygen shut off	<i>Medication Station</i> ^a (IV bags, ampules, sticks, syringes)
Laundry/Garbage Chutes	Glucometer location
Box Lift Room	Safe Patient Handling Equipment
Dirty Utility	Isolation carts
Dietary process, room, & supplies	Multidisciplinary team (who do I go to?)
Emergency Equipment/Code Cart	NLT Members
Big Parstock; Unit Parstock; Pump Closet, PT/OT Room – Commonly used items	OT/PT Involvement
Patient Room Orientation	
Safety equipment/checks	
Call Light/Staff Assist/Code Blue/Cancel (on tower versus wall)	
Bed function/restraint-tying locations (bed exit, surfaces, scale, CPR pull, plugged in, interpreter)	
VS monitor & alarms (briefly what they mean, expectation is to acknowledge & alert nurse) - Discuss how to determine accuracy of Sp _o ₂ w/pleth. If desaturating, discuss increasing NC/NP oxygen, need to bag, push 100% oxygen, & alert ICU nurse no matter what - <i>ICU RN sets narrow parameters on VS monitor</i>	
Bedside tablets (call eICU – on ID badge phone numbers); bedside tablets for patient/family video calls	
Patient phone versus wall phone	
Skills Training	
Ventilator, 100% oxygen button, & alarms (briefly what they mean, expectation is to alert RT by phone & pager/ICU nurse) • High pressure alarm: biting tube, trying to talk, kink in tube, cough, decrease compliance, mucous plug, pneumothorax • Low pressure alarm: leak in vent tubing, cuff not inflated or leaking, low tidal volume • High/low tidal volume or minute volume • Vent disconnect: from patient or ventilator, low tidal volume • Apnea: RT sets alarm limit based on period of time no breath	IVs: • Access not seen in GC (IJs, dialysis catheters, RIC) • Managing multiple lines • Compatibility • Determine which line to use (e.g. ideal access for antibiotics, fluids, etc.) • TPN/Lipids • Spiking/Priming Albumin • Checking blood return on IVs
Pressure Bags (brief overview; needs burping, needs pressure increased periodically, etc.) – expectation is for ICU RN to manage	Review info on ID Badge Phone Numbers Card Oral Care on Vented Patients
CRRT machine & alarms (brief overview, expectation is to alert ICU nurse)	NG/OG/PEG/PEJ Tubes • Meds • Suction
Ambu/anesthesia bagging; bag/mask; assisting with suctioning by bagging	Tube Feedings
PPE & Aerosol Generating Procedures (High, medium, low risk; viral filters; continuous versus intermittent; PPE during versus after)	
Oxygen Devices • CFM • Non-rebreather • High-Flow Nasal Cannula	Urometers • How to look at previous numbers • Best practice for emptying • How to put the box in/out of the Urometer
Prone video (ICU RN will assist w/skin prep, etc. - expectation is to help prone/supine)	Fecal Management System • ICU nurse should place • GC nurse can empty, get a specimen, manage leakage, how much fluid goes in the balloon
Locate Complex Assessment Flow sheet in EHR ^a & wrench in	• Unit Code Blue Process & Role (no ACLS meds/shocking; could do CPR) • When to call a code
Discuss goal RASS score (what are signs to alert ICU RN that sedation is too much/too little?)	
Charting for Patient Acuity Classification (cares & safety)	
Review MyNursing Documents: ICU Standard Assessment Times & PCU Standard Assessment Times	Arterial Lines (brief overview; expectation is that ICU RN would manage/zero/replace pressure bag, etc.)
Common meds in <i>Medication Station</i> ^a override (that GC RN can pull for an ICU nurse)	Turning patients, what to watch for (vent, etc.) In-Line Suctioning on a stable trach patient

Figure 1 Intensive care unit team nursing: orientation and skills training guide.

Abbreviations: ACLS, advanced cardiac life support; CFM, closed face mask; CPR, cardiopulmonary resuscitation; CRRT, continuous renal replacement therapy; EHR, electronic health record; eICU: enhanced ICU (telemedicine ICU); GC, general care; ICU, intensive care unit; ID, identification; IJ, internal jugular; IV, intravenous; NC, nasal cannula; NG, nasogastric; NLT, nursing leadership team; NP, nasal pendant; OG, orogastric; OT, occupational therapist; PCU, progressive care unit; PEG, percutaneous endoscopic gastrostomy; PEJ, percutaneous endoscopic jejunostomy; PPE, personal protective equipment; PT, physical therapist; RASS, Richmond Agitation-Sedation Scale; RIC, rapid infusion catheter; RN, registered nurse; RT, respiratory therapist; Sp_o₂, pulse oximeter; TPN, total parenteral nutrition; VS, vital sign.

^a Brand name omitted.

Used with permission of Mayo Foundation for Medical Education and Research. All rights reserved.

ICU Nurse: _____ Room Numbers: _____ *Designate WHO will be completing the tasks	ICU RN	GC Nurse	Both	N/A
General Care Nurse: _____	✓	✓	✓	✓
Critical Care Skills				
ICU/PCU/ACLS medication administration & titration	✓			
Arterial line management & lab draws	✓			
Site care & dressing changes – art lines & central lines	✓			
ET tube suctioning (GC nurse can assist/ventilate)	✓			
Monitoring oversight & alarm troubleshooting	✓			
CRRT management & I/O	✓			
ECG Lead Selection & Placement	✓			
OB assessments & cares	✓			
Verify transplant labs & medications; discuss with GC nurse	✓			
Road trips - tests & procedures (consider eICU assistance to GC nurse/patients on unit)	✓			
In Room Procedures (consider eICU assistance to GC nurse/patients on unit)	✓			
Physical Assessments - alert ICU nurse of abnormal findings & changes				
(Q1H or Q4H) data validation				
(Q4H or BID) head-to-toe assessment – both do assessment, then determine who charts what				
Focused re-assessments, height, weight, I/Os				
Admission Documentation				
Identify alarm indication & alert ICU nurse (vent, CRRT, VS monitor)				
Medications				
General Care PO, SQ, IV, IM, topical, PEG/PEJ/NG/OG medications, inhalers (RT does nebulizers)				
Labs				
Collect and send urine, stool, sputum specimens using <i>Specimen Collection Software</i> ^a				
Capillary POC Glucose Testing				
Interventions				
Simple oxygen administration (via NC only)				
Complex oxygen administration (SFM, NRB, high-flow)				
Site care & dressing changes (except central lines & art lines)				
Tracheostomy care – site care, suctioning, etc.				
Manage tube feedings via NG or PEG/PEJ (intermittent or continuous)				
Apply support devices (stretch wrap, SCDs), hot/cold therapies, topical creams				
Personal Cares – in collaboration with PCAs				
Bathing, oral care, meals				
Ambulation, transfer, repositioning/turns, Safe Patient Handling equipment use, BRPs				
Intentional rounding; tidying room				
Communication				
Safety checks, drip checks			✓	
Participate in Bedside Handoff (using SBAR tool in <i>EHR</i> ^a)			✓	
Communicate with multidisciplinary team				
Assist with unit transfer; documentation & education in <i>EHR</i> ^a for patient discharge				
Communicating with family				

5 Rights of Delegation

- 1) **Right Task:** Delegable for a specific patient
- 2) **Right Circumstances:** Setting and resources are appropriate and available
- 3) **Right Person:** Right person delegating the right task to the right person (know abilities!)
- 4) **Right Direction & Communication:** Clear, concise description of the task with objective, limits, AND expectations (SMART)
- 5) **Right Supervision & Evaluation:** Appropriate monitoring, evaluation, intervention, and feedback

Figure 2 Team nursing Assessment and Agreement form.

Abbreviations: ACLS, advanced cardiac life support; art, arterial; BID, 2 times daily; BRP, bathroom privilege; CRRT, continuous renal replacement therapy; ECG, electrocardiogram; EHR, electronic health record; eICU, enhanced ICU (telemedicine ICU); ET, endotracheal; GC, general care unit; ICU, intensive care unit; IM, intramuscular; I/O, intake and output; IV, intravenous; lab, laboratory value; N/A, not applicable; NC, nasal cannula; NG, nasogastric; NRB, nonrebreather; OB, obstetrics; OG, orogastric; PCA, patient care assistant; PCU, progressive care unit; PEG, percutaneous endoscopic gastrostomy; PEJ, percutaneous endoscopic jejunostomy; PO, by mouth; POC, point of care; Q1H, every 1 hour; Q4H, every 4 hours; RN, registered nurse; RT, respiratory therapist; SBAR, Situation, Background, Assessment, Recommendation; SCD, sequential compression device; SFM, simple face mask; SQ, subcutaneous; vent, ventilator; VS, vital signs.

^a Brand name omitted.

Used with permission of Mayo Foundation for Medical Education and Research. All rights reserved.

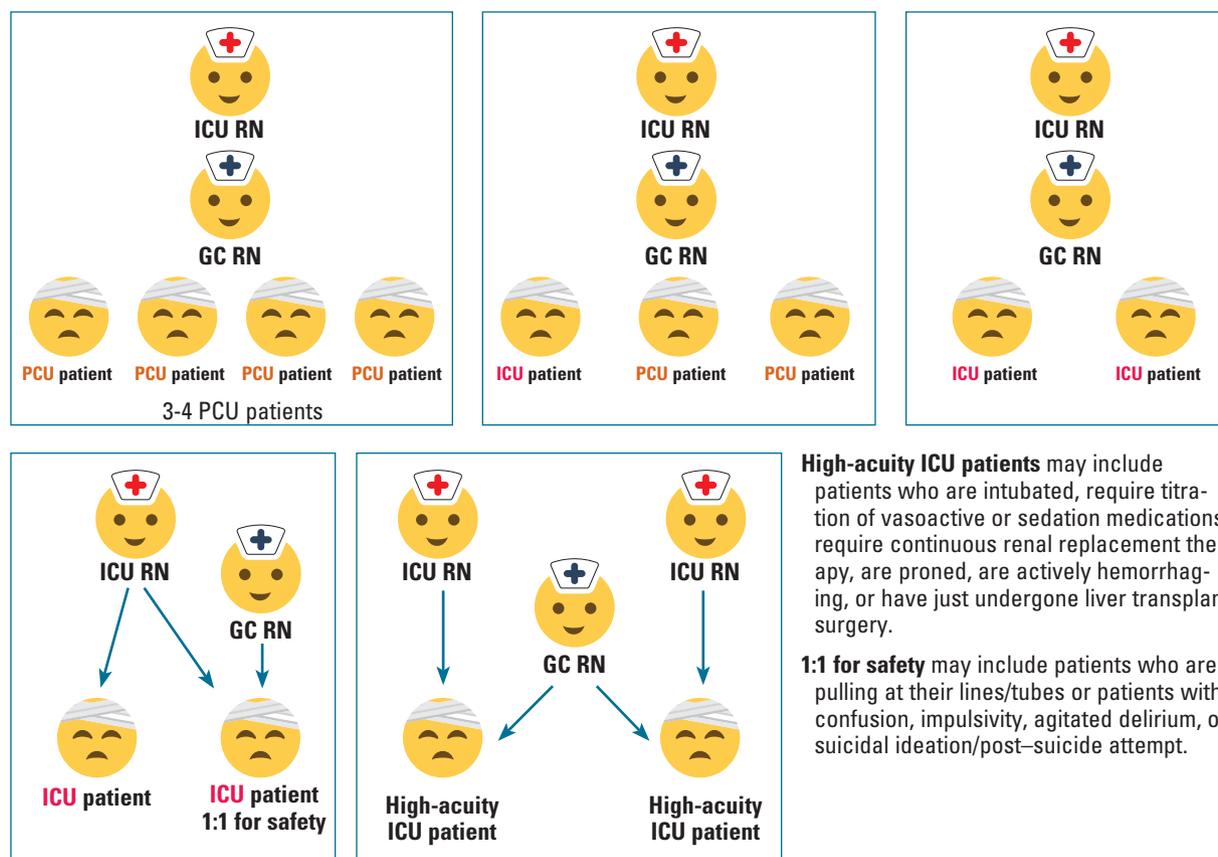


Figure 3 Intensive care unit team nursing pair assignment examples.

Abbreviations: GC, general care; ICU, intensive care unit; PCU, progressive care unit; RN, registered nurse.

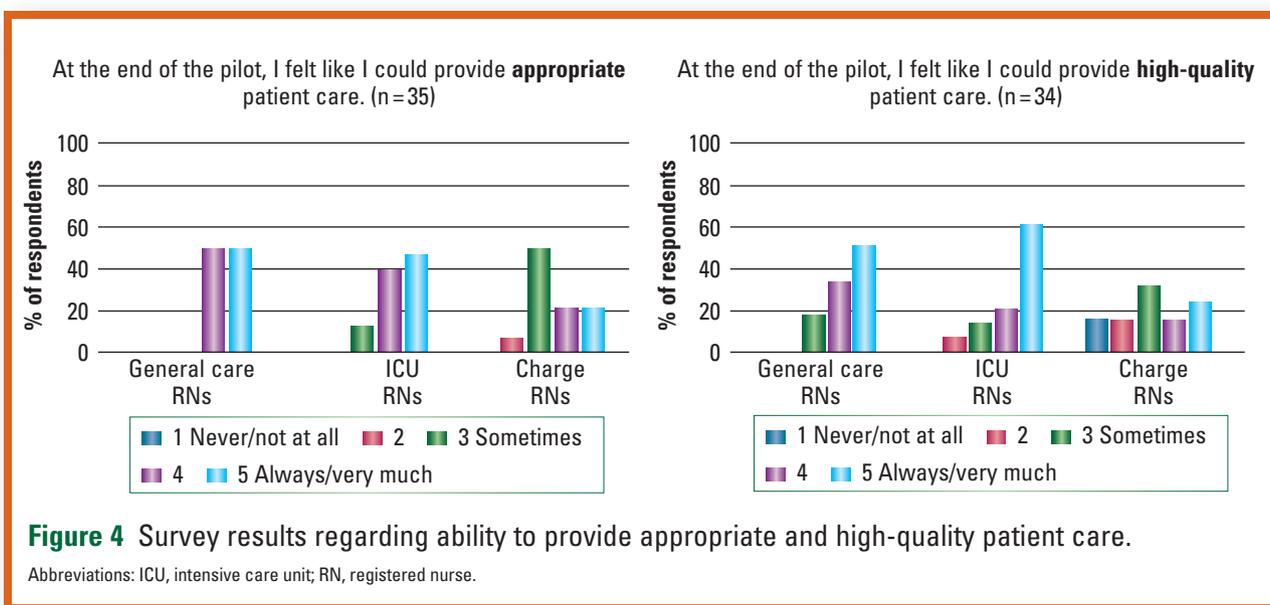
for each patient depending on the complexity of their care, with attention to the comfort and experience level of the general care nurse.

Charge nurses were tasked with determining assignments for team nursing pairs based on patient acuity and availability of tasks appropriate for general care nurses to assist with, including caring for various combinations of ICU and progressive care unit patients (Figure 3). If there were no suitable team nursing assignments, the charge nurse would cancel the role of the team nurse, who would float to another unit.

Not far into the pilot program, we recognized the need to enhance cohesion and trust between the ICU nurses and the general care nurses. The literature supports this phenomenon: Brown et al¹⁵ reported that “more skilled” clinical team members can be reluctant to share responsibility and delegate to team members owing to perceived lack of competence. To enrich these relationships, the ICU nursing leadership team issued a call for “team nursing champions.” These “champions” were

ICU nurses who were consistently open to pairing with general care nurses and willing to navigate the unfamiliarity of the pilot program. In pairing general care nurses with ICU nurses, charge nurses would give priority to champions if they were available when team nursing was needed. Many nurses (30% of the nurses on the ICU) answered the call, and most of them were preceptors or newer nurses.

In the postpilot survey, champions cited “wanting to try a new challenge,” “having more opportunities to teach,” and “wanting to be a part of the solution” as reasons for stepping up to the champion role. Those who did not become team nursing champions identified “lacking trust,” “a sense of increased workload on team nursing pairs,” or “wanting to be able to continue getting high-acuity patients” as reasons for declining the role. Cohesion between the general care nurses and ICU nurses was also promoted by including the general care nurses in email communications from the unit and posting “get to know me” forms with their pictures in the break room.



Results

The pilot program lasted 6 weeks. Although the objective of the program was to free up ICU nurses to help staff the hospital's COVID-designated ICUs, the actual result was not so robust. A review of staffing numbers indicated that the pilot unit was able to provide sufficient care with the combination of scheduled ICU nurses and general care nurses, resulting in fewer requests for additional ICU nurses from the pool of ICU nurses. In a few cases, ICU nurses were reassigned from the pilot unit to the COVID-designated ICU as general care nurses helped meet staffing needs. However, this occurred less frequently than anticipated, reflecting the pilot unit's ongoing need for nurses with critical care specialty skills and the ability to care for high-acuity patients. Another consequence was a reduced need for ICU float nurses, who were then reallocated to the hospital's COVID-designated ICUs.

Discussion

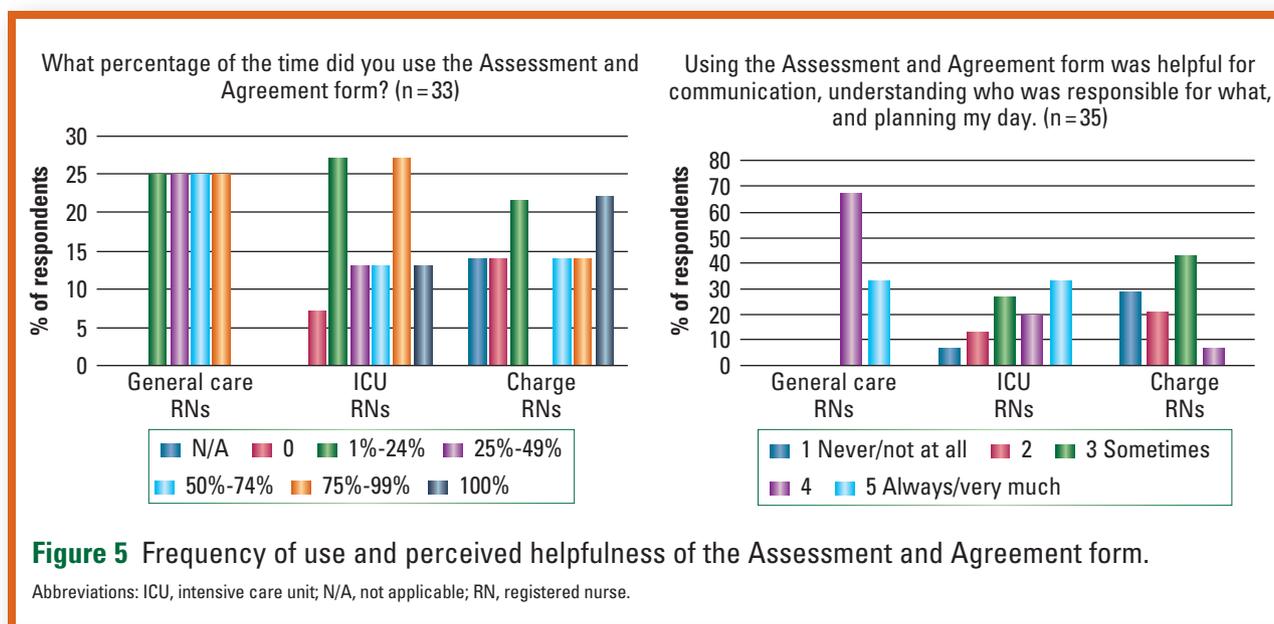
A postpilot survey was distributed to all ICU nurses and general care nurses involved in the pilot program. It solicited nurses' perceptions of their ability to provide appropriate and high-quality patient care both at the beginning and at the end of the program (Figure 4). Survey questions aimed to determine staff members' perceptions of the feasibility of team nursing in the ICU and its impact on workload and patient outcomes. By the end of the program, responses were mostly positive regarding nurses' perceptions of their ability to provide appropriate

and high-quality care; however, ICU nurses felt less able to provide appropriate and high-quality care compared with the general care nurses. We attribute this finding to the ICU nurses' hesitation regarding oversight of and delegation to a nurse not familiar with critical care practices. In addition, the need to implement the pilot program rapidly limited the ability to solicit nurses' input before initiating a team nursing model, as well as recognition of the extra effort and oversight provided by ICU nurses.

Intensive care unit charge nurses, responsible for making team nursing assignments, reported the lowest perceived ability to provide appropriate and high-quality care to patients. This finding was supported by various factors, including the pilot unit being a small ICU compared with other ICUs, with a layout (2 pods) that made it difficult to make pairing assignments. The high-acuity patient population also made it burdensome to assign team nursing pairs, as the workload often requires one-to-one ICU care—a challenge that is amplified during periods of low census. In addition, the formula used to determine staffing needs posed challenges for charge nurses, as it considered

Communication between ICU and general care nurses improved as the program progressed.

general care nurses to have a productivity of 100%, equivalent to that of ICU nurses, without taking into account that the general care nursing skill set did not match that required in the ICU. Charge nurses were also faced with



challenges regarding coverage for meal breaks, which generally required ICU nurses to cover for each other and general care nurses to cover for each other. When appropriate, the enhanced ICU assisted by virtually monitoring patients during breaks.

Although well intentioned, rapid implementation of the pilot program magnified the stress of many ICU nurses, who were already dealing with unpredictability caused by the pandemic. Communication was a challenge, both among nursing staff and between the nursing leadership team and nurses. Nurses often commented that it was difficult to stay current with practices when they changed so frequently. With variable schedules and several days off between shifts, even small frequent changes contributed to the sense of unpredictability and heightened stress. Despite the provision of electronic resources, a quick reference binder, and numerous emails to communicate expectations and updates, it was difficult for nurses to feel informed amid the frequently changing guidelines in hospital practice. Communication between ICU and general care nurses improved as the program progressed. Nurses who used the Assessment and Agreement form regularly were more likely to perceive the pilot program as successful (Figure 5). This finding was probably due to the improved communication resulting from use of the form to help clarify roles and expectations.

An important component of practice change is evaluating patient and/or family response. Although patient and family perceptions were not formally evaluated

during the pilot program given the rapid implementation of the program in the context of the COVID-19 surge, future iterations of the program should explore this element.

Lessons Learned

For ICUs considering implementation of team nursing as a short-term staffing solution, we recommend that a learning needs assessment first be conducted to identify nurses' strengths and areas that may require additional training (Figure 6). Needs assessment and application of the team nursing model should involve early and frequent open dialogue involving key stakeholders. Staff nurses' involvement in decision-making will reduce barriers more easily identified by frontline staff, improve their sense of control in a difficult situation, and enhance implementation and application. Nursing leaders should identify clear objectives and routinely evaluate and swiftly address patient safety issues, scope of practice concerns, and communication barriers. If objectives are not being met, leaders should advocate for discontinuing this approach and pursuing other interventions to mitigate staffing shortages.

Following the pilot program, the pilot unit's staffing model returned to primary nursing. Through feedback and sharing among administrative and clinical education leaders, components of this model have been used to build new initiatives to address ongoing staffing challenges; the processes and tools from the pilot program

Name: _____	Proficient	Limited Experience	No Experience
Patient Care Experience: _____			
Critical Care Skills – Those with Past Experience in Critical Care Only			
ICU/PCU/ACLS medication administration & titration			
Administration & titration of sedatives & paralytics			
Art line management & lab draws			
Site care & dressing changes – <i>arterial lines & central lines</i>			
ET tube suctioning & management			
Patients on Ventilators			
ECG/VS Monitoring oversight & alarm troubleshooting			
ECG Lead Selection, Placement			
CRRT management & I/O			
OB assessments & cares			
Verify transplant labs & medications			
Road trips - tests & procedures			
In-Room Procedures			
Set-Up & Manage a Pressure Bag			
Manage a Chest Tube			
Physical Assessments			
(Q1H or Q4H) data validation			
(Q4H or BID) head-to-toe assessment			
Focused re-assessments, height, weight, I/Os			
Medications & Labs			
General Care PO, SQ, IV, IM, & topical medications, inhalers			
PEG/PEJ/NG/OG medications			
Collect and send urine, stool, sputum specimens			
Capillary POC Glucose Testing			
Interventions			
Simple oxygen administration (via NC only)			
Complex oxygen administration (SFM, NRB, HHFNC)			
Site care & dressing changes (except central lines & arterial lines)			
Manage drains			
Tracheostomy care – site care, suctioning, etc.			
Manage tube feedings via NG or PEG/PEJ (intermittent or continuous)			
Apply support devices (stretch wrap, SCDs), hot/cold therapies, topical creams			
Bathing, oral care, meals			
Ambulation, transfer, repositioning/turns, SPH equipment use, BRPs			
Intentional rounding; tidying room			
Communication			
Safety checks, drip checks			
Participate in Bedside Handoff (using SBAR tool in EHR ^a)			
Communicate with multidisciplinary team			
Communicating with family			
Assist with unit transfer			
EHR			
Using <i>the EHR</i> ^a for Documentation of Assessments			
Using <i>the EHR</i> ^a for Documentation of Admissions			
Using <i>the EHR</i> ^a for Documentation of Sedation Administration			
Using <i>the EHR</i> ^a for Documentation of Dismissals			
Using <i>the EHR</i> ^a for Medication Administration			
Using <i>the Specimen Collection Software</i> ^a for Specimen Collection & Labeling			

Figure 6 Learning needs assessment for a team nursing model.

Abbreviations: ACLS, advanced cardiac life support; art, arterial; BID, 2 times daily; BRP, bathroom privilege; CRRT, continuous renal replacement therapy; ECG, electrocardiogram; ET, endotracheal; HHFNC, heated-humidified high-flow nasal cannula; ICU, intensive care unit; IM, intramuscular; I/O, intake and output; IV, intravenous; lab, laboratory value; NC, nasal cannula; NG, nasogastric; NRB, nonrebreather; OB, obstetrics; OG, orogastric; PCU, progressive care unit; PEG, percutaneous endoscopic gastrostomy; PEJ, percutaneous endoscopic jejunostomy; PO, by mouth; POC, point of care; Q1H, every 1 hour; Q4H, every 4 hours; SBAR, Situation, Background, Assessment, Recommendation; SCD, sequential compression device; SFM, simple face mask; SPH, safe patient handling; SQ, subcutaneous; VS, vital signs.

^a Brand name omitted.

Used with permission of Mayo Foundation for Medical Education and Research. All rights reserved.

have been successful in supporting both ICU nurses and nurses without ICU experience assisting in the ICU environment.

The ICU and general care nurses involved in the team nursing pilot program demonstrated exceptional teamwork, flexibility, and commitment to providing high-quality care for their patients as they navigated an unprecedented time in nursing history. The nurses' direct involvement in the identification of obstacles, discovery of solutions, and the program outcomes has paved the way for other ICUs as they assess interventions for staffing shortages. Their willingness to participate, provide feedback, and adapt quickly highlights the integrity of the nursing profession. **CCN**

Acknowledgments

The authors thank all the orthopedic and intensive care unit nurses at Mayo Clinic in Rochester, Minnesota, for their extraordinary efforts to always put the needs of the patients first, no matter the barriers.

Financial Disclosures

None reported.

See also

To learn more about nursing during the COVID-19 pandemic, read "Beyond Burnout and Resilience: The Disillusionment Phase of COVID-19" by Gee et al in *AACN Advanced Critical Care*, <https://doi.org/10.4037/aacnacc2022248>.

References

1. Jennings BM. Care models. In: Hughes R, ed. *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. Agency for Healthcare Research and Quality; 2008. Accessed June 14, 2021. <https://www.ncbi.nlm.nih.gov/books/NBK2635/>
2. Moura ECC, Lima MB, Peres AM, Lopez V, Batista MEM, Braga FDSCAG. Relationship between the implementation of primary nursing model and the reduction of missed nursing care. *J Nurs Manage*. 2020;28(8): 2103-2112. doi:10.1111/jonm.12846
3. Mattila E, Pitkänen A, Alanen S, et al. The effects of the primary nursing care model: a systematic review. *J Nurs Care*. 2014;3(6). doi: 10.4172/2167-1168.1000205
4. AJMC Staff. A timeline of COVID-19 developments in 2020. American Journal of Managed Care website. January 1, 2021. Accessed June 14, 2021. <https://www.ajmc.com/view/a-timeline-of-covid19-developments-in-2020>
5. World Health Organization. Coronavirus disease 2019 (COVID-19): Situation Report—51. World Health Organization website. March 11, 2020. Accessed June 30, 2021. https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200311-sitrep-51-covid-19.pdf?sfvrsn=1ba62e57_10
6. World Health Organization. Considerations for quarantine of contacts of COVID-19 cases: interim guidance. World Health Organization website. August 19, 2020. Accessed June 14, 2021. https://apps.who.int/iris/bitstream/handle/10665/333901/WHO-2019-nCoV-IHR_Quarantine-2020.3-eng.pdf?sequence=1&isAllowed=y
7. Centers for Disease Control and Prevention. Ten ways healthcare systems can operate effectively during the COVID-19 pandemic. Centers for Disease Control and Prevention website. May 1, 2020. Accessed June 14, 2021. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ways-operate-effectively.html>
8. Halpern NA, Tan KS. United States resource availability for COVID-19. Society of Critical Care Medicine Critical Connections blog. March 13, 2020. Accessed June 14, 2021. <https://sccm.org/Blog/March-2020/United-States-Resource-Availability-for-COVID-19>
9. Sherman RO. Team nursing revisited. *J Nurs Adm*. 1990;20(11):43-46.
10. Fernandez R, Johnson M, Tran DT, et al. Models of care in nursing: a systematic review. *Int J Evid Based Healthc*. 2012;10(4):324-337.
11. Beckett CD, Zadvinskis IM, Dean J, Iseler J, Powell JM, Buck-Maxwell BB. An integrative review of team nursing and delegation: implications for nurse staffing during COVID-19. *Worldviews Evid Based Nurs*. 2021; 18(4):251-260.
12. Fairbrother G, Jones A, Rivas K. Changing model of nursing care from individual patient allocation to team nursing in the acute inpatient environment. *Contemp Nurse*. 2010;35(2):202-220.
13. Cioffi J, Ferguson L. Team nursing in acute care settings: nurses' experiences. *Contemp Nurse*. 2009;33(1):2-12.
14. Gill P, Ryan J, Morgan O, Williams A. Team nursing and ITU—a good combination? *Intensive Crit Care Nurs*. 2000;16(4):243-255.
15. Brown J, Lewis L, Ellis K, Stewart M, Freeman TR, Kasperski MJ. Conflict on interprofessional primary health care teams—can it be resolved? *J Interprof Care*. 2011;25(1):4-10.