

Evidence You Can Use

Authors: Dana Brun, MSN, RN and Meghan Doelger, DNP, RN, CCRN

Purpose: The purpose of this Quality Improvement (QI) project was to measure the impact of a designated Neuro Transport RN on length of time primary RNs were off the unit, nursing staff perception of missed care, and satisfaction with the Neuro Transport RN role.

Target Audience: All nurses, especially administrators, managers, and direct care providers.

Background

At our acute care level-1 trauma university hospital, patients in a Neuro Critical Care Unit (NCCU) and Neuro Intermediate Care Unit (NICR) are frequently transported off the floor for lengthy diagnostic tests. Each stroke patient has a complete workup which includes a magnetic resonance imaging (MRI) test (or two), 24-hour computed tomography (CT) thrombolytic scan, Echocardiogram, Transesophageal Echocardiogram (TEE), Doppler ultrasound study and possible cerebral angiogram, none of which can be performed at the bedside. The patient's primary registered nurse (RN) accompanies the patient to these tests. Frequently, routine testing occurs at 4 am when there are fewer resources. The staff who remain on the unit during this timeframe have the additional responsibility of now caring for three or four ICU patients at a time, instead of the usual one to two patients. Other nurses on the unit must care for the RN's remaining patients. Following the second wave of COVID and the subsequent nursing shortage from the vaccine mandate, there was an increase in floating required of the NCCU nurses. This highlighted the unusual number of "road trips" the patient population requires. When staff floated to other ICUs, they were surprised to find

that there were very few tests ordered. The staff expressed that as much as they loved working in NCCU, and felt that the culture on the unit was supportive and positive, many considered leaving due to the additional burden that resulted from transporting patients off the unit for tests. The Unit Based Council (UBC) identified the need for a solution to this issue.

A rapid review of literature was conducted. In one observational study, approximately 38% of a single Neurocritical Care Unit nurse's shift was spent traveling off the unit with a patient (Hill and DeWitt, 2018). According to Ringdal, Chaboyer & Stomberg (2016), "the critical care nurse left their second patients to be cared for by another nurse, and because the remaining nurse now had three patients, the care for these patients was limited, with some planned care not performed because of a lack of resources. Thus, the in-hospital transport disturbed the anticipated care for the patients remaining in the ICU," (p. 182). A cross-sectional study by Song et al (2022) indicated that 75% of nurse respondents felt that in-hospital transport increased the workload of both nurses transporting the patients and those remaining on the unit. Fifty-three percent of nurses identified this as a source of stress. These literature findings validated the experience of the NCCU nurses and highlighted negative impacts of transport time off the unit on nurse-to-patient ratios, nursing workloads, staff satisfaction, and patient care.

The staff on these units collectively identified a potential solution of utilizing a dedicated transport RN for these units. The nurse manager reviewed the staffing matrix and found that there was an unfilled line that would be able to be converted to a full-time transport RN line. This would eliminate a need to increase the budget to add this transport RN.

Purpose

The purpose of this project was to measure the impact of a designated Neuro Transport RN on length of time primary RNs were off the unit, nursing staff perception of missed care, and satisfaction with the Neuro Transport RN role.

Methods

An RN pre-survey measured diagnostic tests ordered, length of time RNs were off the unit, and resulting RN-perceived missed care. Pre-survey data were analyzed to identify times of day with high testing volume. The vacant RN position was used to create a Neuro Transport RN position. The nurse manager reviewed the pre-survey results and needs of the unit. Most patients were ordered for routine, daily 4:00 am CT scans. This was challenging for staff to manage as there were fewer available staffing resources overnight to facilitate these exams. Another critical time period was the 7:00 am change of shift. At this time, nurses were trying to give handoff report, and interruptions to report for transport prevents nurses from completing their shift in a timely manner. Additionally, first cases for the Operating Room occurred at 7:00 am. Another critical time period was during interdisciplinary rounds at 9:00 am. Every morning, the team, including the primary RN, rounded on their patients. The primary RN was needed to ensure that the entire team was on the same page with the patient's plan for the day. Based on these identified needs, a Monday through Friday, 0400-1230 shift was chosen.

The nurse manager also identified the educational needs of the transport RN. The transport RN needed to be competent in caring for patients at both the ICU and the step-down level. The RN also needed to have specialized neurological nursing knowledge and training. This RN

needed to have strong assessment skills and be able to care for neuro-specific devices such as extraventricular drains. The RN needed to be very comfortable with completing a focused neurological exam. Therefore, it was determined that an experienced neuro critical care nurse was needed for the role.

Next, the nurse manager determined the transport RN's role and responsibilities. The transport RN would serve both the ICU and step-down unit. There would be interdisciplinary collaboration with the medical team to prioritize the order of transport. The transport RN would call radiology and coordinate all of the scans for the day so that there would hopefully be improved communication, fewer phone calls to Radiology, and less time that the RN needed to be tied up on the phone. The RN would be responsible for coordinating the 0400 CT scans on arrival to her shift. The RN would continue transporting throughout the day.

Based upon the above criteria, the position was posted internally in order to recruit an experienced NCCU nurse for the role. One internal NCCU RN applied for and accepted the role.

The transport RN assumed the Neuro Transport RN position for one year. Staff were then re-surveyed to measure the impact of the Transport RN position and to understand satisfaction with this role.

Results

On the pre-survey ($n = 74$), patients averaged 1.3 tests per shift. The primary RNs accompanied patients to a mean of 1.1 tests per shift, with a mean of 47 minutes off the unit (min = 5 min, max = 180). This indicated that prior to the transport RN role, the RNs were accompanying patients to almost all of their tests. The post-survey results ($n = 31$) showed that while patients averaged about the same number of tests per shift (1.0), primary RNs now accompanied patients to approximately half those tests (mean = 0.5 tests/shift) and the length of time the primary RN was off the unit decreased by 58% (mean

= 22 min, min = 15, max ≥ 90 min). On the pre-survey, RNs stated that they felt that their patients remaining on the unit had missed care. The most commonly missed care was activities of daily living (76% of cases) followed by turning and positioning (68% of cases). On the post-survey, 54% of nurses felt that turning and positioning (50%) was most recently missed when the primary RN was off the floor during transport, followed by emotional support (33%). Ninety percent of nurses expressed that they were very satisfied with the addition of the RN transport role.

Implications

While the number of tests ordered per day remained relatively the same, post survey results validated that nurses accompanied their patients to these tests only half of the time. This was a significant decrease in the length of time the primary RN was off the unit. The dedicated transport RN role was very effective in decreasing the length of time the RN was off the unit. The success in decreasing the length of time that the RN was off the unit can be attributed to the fact that the nurse manager collected pre-data with the presurvey to quantify specifically when the tests were happening, which helped with selecting a shift that would meet the unit needs

Nurses still had to transport their patients to about half of the ordered tests. When they were off the unit, they still felt that patients had missed care, most commonly, turning and positioning and emotional support.

Anecdotally, additional benefits which were not measured by the survey include fewer interruptions to rounds, RN-to-RN report during change of shift, and medication administrations. The medical staff report satisfaction with the RN transport role, as they feel that it has improved prioritization of testing and communication during rounds. Nursing staff felt that their suggestions and feedback were valued, and could see that the unit leadership wanted to work with them to improve their workflow.

Fiscally, the role was successful in that it did not require a need for significant additional resources. This role did not incur any additional unit budget costs, because an already-existing line was utilized. Hiring a trained NCCU nurse also prevented a need for lengthy orientation training, allowing the transport RN to begin work almost immediately.

The implementation of a neuro-specific transport RN has been successful in decreasing the length of time RNs are off the unit, and all staff report satisfaction with this role. ■

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