

Travel times affect neurocritical care unit nurse staffing levels

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For specialist nurses on neurocritical care units, accompanying patients for imaging scans and other procedures has a major impact on nurse staffing ratios, reports a study in the *Journal of Neuroscience Nursing*, official journal of the American Association of Neuroscience Nurses.

"Patients in a neurologic critical care unit require more staffing to account for the frequent neurologic assessments, charting, and traveling," according to the workflow study by Michelle Hill, MS, RN, AGCNS-BC, CNRN, CCRN, SCRN, and Jessica DeWitt, BSN, RN, of Riverside Methodist Hospital, Columbus, Ohio. The study led to the addition of staff members, including a new "circulating nurse" position, with the goals of improving patient care and nurse retention rates.

'Are Neurocritical Care Nurses Performing 14 Hours of Work in a 12-Hour Shift?'

"Neurocritical care units are unique from other critical care areas," according to the authors. These specialist units care for patients with diagnoses like stroke and brain or spinal cord injuries, who require frequent neurological assessments and [diagnostic tests](#).

"These imaging and diagnostic examinations are often time sensitive and may happen at any time," Hill and DeWitt write. During a period of multiple changes, the 32-bed neurocritical care unit at the authors' hospital was experiencing high nurse turnover rates. "This started us

asking the question, 'Are neurocritical care nurses performing 14 hours of work on a 12-hour shift?'"

To answer this question, the authors performed a study to assess relationships between various nursing tasks: neurological assessment, documentation, and traveling with patients for diagnostic tests. The study also looked at the effects of patient acuity (severity of illness) and nurse experience.

Over 30 days, observations showed that neurocritical care nurses spent more than 226 hours traveling with patients. The main tests and procedures involved were computed tomography and magnetic resonance imaging scans and vascular interventional radiology procedures. "Approximately 4.5 hours of a 12-hour shift were spent off the unit traveling for these tests, indicating that at least one nurse was off the unit for 38 percent of the shift," Hill and DeWitt write.

"When a nurse travels there is a patient left behind for another nurse to care for," Michelle Hill explains. "This alters the staffing and requires 'flexing up' - meaning that the nurse-patient ratio increases 33 to 50 percent during those times."

On its own, the nurses' level of experience was not significantly related to the amount of time needed to perform and document the results of neurological assessments. However, less-experienced nurses spent more time documenting the status of higher-acuity patients, compared to veteran nurses.

The study also identified an average of 2.5 high-acuity patients per day who required a dedicated one-to-one nurse assignment for procedures and recovery time. Based on their workflow analysis, the authors recommended a new "circulator" nurse position, who would travel and assist with patients, freeing primary nurses on the unit to stay with their

patient. They also recommended three new "one-to-one" staff positions, allowing high-acuity patients or those with multiple diagnostic tests scheduled to be assigned to a dedicated nurse.

"Implementing additional staffing will counteract this unique characteristic of neurologic critical care [patients](#) and provide a possible tool to enhance retention," Hill and DeWitt conclude. They note previous research showing that higher [nurse](#) staffing levels can have positive effects on patient outcomes—but further studies will be needed to evaluate the impact of their changes in staffing on the neurocritical care unit.

More information: "Staffing Is More Than a Number: Using Workflow to Determine an Appropriate Nurse Staffing Ratio in a Tertiary Care Neurocritical Care Unit" [DOI: 10.1097/JNN.0000000000000387](#)

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