

Industry Trends

Seizure Observation in the Epilepsy Monitoring Unit

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Patients are admitted to epilepsy monitoring units (EMU) across the country for diagnosis and evaluation of seizures. Increasingly, the rationale for admission is accurate seizure localization and consideration for surgical intervention. These patients are frequently tapered off their antiepileptic drugs during admission, leaving them vulnerable to seizures of increased duration and severity. EMUs are the only areas where seizure events are welcomed for diagnosis.

There is an agreement among practitioners and clinical staff members who work in these areas that there should be around-the-clock observation by trained healthcare staff (Phillips, 2008). Some units have 24-hour dedicated staff observing patients, while others supplement care with video monitoring or request the assistance of nonclinical personnel or family members staying with the patient (Gandey, 2008).

The staff at Barrow Neurological Institute (BNI) of Saint Joseph's Hospital and Medical Center (SJHMC) in Phoenix, AZ, recognized the need for continuous observation of patients. The presence of a dedicated electroencephalogram (EEG) technician to observe the monitors at all times was not possible because of staffing constraints and technician availability. Still, patient safety remained the top priority. Awareness was heightened with regard to the importance of timely seizure-event detection, individualized patient assessment, and close monitoring when patients were out of bed (Velis, Plouin, Gotman, da Silva, & ILAE DMC Subcommittee on Neurophysiology, 2007). Staff were driven to develop and formalize a job description for the EMU monitor registered nurse (RN). EEG technicians remain available during the day and are on call at night to assist with monitored patients. Reapplication of electrodes and maintenance of EEG tracings are the responsibilities of the EEG technician. The ongoing collaboration between the EEG technician and EMU monitor RN (EMRN) is essential. Their roles complement each other and enhance safety in the EMU.

The EMRN role was initiated at SJHMC in October 2007. Staff members in this role have received specific education regarding the clinical recognition of seizure presentation and novice training on EEG pattern recognition. The present scope of practice for nursing in the state of Arizona does not support EEG tracing interpretation. There is anecdotal evidence that the EMRN can differentiate between normal and abnormal tracings and identify artifact. The fundamental importance of a professional nurse as EMRN is not without complexity. The nursing assessment provides specific insight into the patient's seizure presentation. Early identification of clinical events on the video monitor provides for a rapid response and fosters the probability of an ictal assessment to be performed while the patient is having the seizure. The goal is for the bedside RN to begin the assessment immediately.

The EMRN works a 12-hour shift, observing EEG/video monitors and educating staff as needed. At the beginning of the shift, a report is exchanged between the incoming and outgoing EMRNs, including a brief seizure history, nature of events for the current admission, pertinent EEG findings, and discharge plans. The EMRN verifies each patient's correct name on the monitor and that the tracings are recording efficiently. The EMRN observes the EEG tracings and notifies the EEG technician of poor tracings, loose wires, or other concerns. When the

EMRN suspects a change in the EEG pattern without clinical findings, the “review button” on the computer is marked for the physician’s further review.

When an event is observed, the EMRN directs the patient’s nurse or another available nurse to go immediately to the patient’s bedside. The EMRN gives direction to the bedside nurse using the call light system to maintain an unobstructed view of the patient, remove linens, and any other directions that may improve the quality of the event recording. These ongoing discussions between the EMRN and the bedside nurse may include articulating the patient’s automatisms or subtle movements that may not otherwise be recognized on the video recording. For example, “The patient is having left-eye twitching.” The nurse at the bedside performs the concise ictal assessment with four major components—responsiveness, awareness, motor function, and language.

The nurse stays with the patient until there is a return to baseline status to provide for ongoing safety assessment. When the seizure appears to be over, the post-ictal assessment begins. Following a seizure, the EMRN is instrumental in the coordination of patient care, perhaps paging a physician for orders for rescue medications or contacting an EEG technician for repair on any wires that may have been dislodged during the event. The EMRN then reviews the EEG/video tracings with the bedside nurse to identify areas for improvement with regard to the recording and assessment of the patient.

The staff at SJHMC recognized the importance of patient safety in the EMU and has implemented the EMRN role in response. The EMU community will continue their attempts to create a culture of evidence-based practice. The design of this role creates possibilities of refinements and additional strategies for improvement of safety practices (Emerson & Records, 2008).

Cynthia Bordson, RN CNRN, is a staff nurse at Barrow Neurological Institute. She is a member of the American Epilepsy Society (AES). She functions as the EMRN in several of her shifts and has been instrumental in forming a job description for this role.

Madona Plueger, MSN RN CNRN, is a nurse education specialist at Barrow Neurological Institute, where education and mentor support are provided in the neuro-acute, neuro-telemetry, and epilepsy-monitoring units. She is a member of AANN and AES, serving as a volunteer member of the consensus group from AES that covers specific issues regarding seizure observation. In 2006, the Barrow Neurological Institute’s epilepsy-monitoring unit increased from 5 to 15 beds, creating a significant need for education.

References

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California HealthCare Foundation Study Stirs Sizzling Mandated Ratio Pot

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When California became the first state to establish minimum nurse-patient staffing requirements in acute-care hospitals, a national debate was sparked regarding the feasibility and effectiveness of mandated nursing ratios.

The California law went into effect in January 2004. Five years and numerous studies later, the California HealthCare Foundation (CHCF) has released its issue brief: “Assessing the Impact of California’s Nurse Staffing Ratios on Hospitals and Patient Care.” In its brief, CHCF reports the results of its study of how minimum staffing regulations affect different types of hospitals. According to the brief, “many of the healthcare leaders interviewed for the study expressed an expectation that the minimum staffing ratios would increase the quality of care due to increased interaction with patients; however, there was no evident change in patient length-of-stay or adverse patient safety events. None of these findings were affected by hospital ownership, financial position, or patient mix.” When *Synapse E-News* talked to California bedside nurses and nurses representing the California Nurses Association (CNA), however, the results of mandated ratios were described in varying tones.

CHCF Study Details

This study combined quantitative analysis of several data sets with qualitative analysis of interviews conducted at 12 hospitals. Interviews were conducted with 23 chief nursing officers, chief nurse executives, vice presidents of nursing, chief executive officers, emergency department directors, and other managers and directors. Seven of the 12 participating hospitals were nonprofits, four were public hospitals, and one was for-profit. The main sources of data were three datasets collected by the California Office of Statewide Health Planning. A set of nursing-sensitive metrics devised by the Agency for Healthcare Research and Quality was calculated for hospitals reporting 30 or more patients at risk for an incident during one time period using patient-discharge data. Changes in employment also were studied using the base wage file of the California Employment Development Department between 1998 and 2007.

Most interviewees reported they needed to hire more RNs to meet staffing requirements, particularly to cover meals and breaks. The majority of people interviewed for the study (both at high-performing and underperforming hospitals) cited problems associated with meeting the “at-all-times” requirement of the ratios law in conjunction with meal breaks for staff. Overwhelmingly, according to the brief, “interviewees said they want some flexibility in applying the ratios, particularly the removal of the “at-all-times” language. Another recommendation focused on using acuity-based ratios to avoid situations in which minimum staffing regulations dictate a lower ratio than was generally thought necessary, or vice versa.

The study’s quality-of-care-related data are especially noteworthy. According to the CHCF issue brief, “The desired outcome of minimum nurse staffing legislation was the improvement of patient outcomes; however, most of the quality measures analyzed for this study do not appear to have been directly affected by the increase in RN staffing.” In addition, the brief states that the

overall average length of stay in California has been constant since the ratios went into effect. When it came to the all-important patient satisfaction variable, most of the leaders interviewed for the CHCF study said they did not believe there had been a significant change in patient satisfaction as a result of the nurse staffing regulations.

The Bedside Point of View

Adelina A. Linares, RN CCRN CNRN, staff nurse leader, neuroscience care unit, University of California Irvine (UCI) Medical Center, Orange, CA, disagrees with the CHCF study's patient satisfaction findings. Linares says, "During my meetings with our manager and charge nurse, we go over our unit's patient satisfaction scores. The scores have gone up since we started following the ratio guidelines. Also, patients comment that they see their nurses more."

Linares acknowledges it can be a challenge to meet the ratio requirements during staff breaks, but she also contends that such challenges are addressed with relative ease. "The nurse staff leader covers a nurse during her break or lunch," she says. "It took some time for the nurses to get used to having an assigned time for a break and not going to lunch with friends. But, in general, the nurses seem satisfied. They like the ratio because they get to spend more time with their patient and have more time to get all their work done. Here at UCI, even before the law passed, we had a high retention rate and good patient ratios. And from a neuroscience point of view, because nurses can spend more time with patients, they can notice any changes in their level of consciousness. In the case of confused or mentally altered patients, nurses can better look after them and keep them safe, therefore preventing falls or injury."

Heidi M. Dahlke, RN, assistant manager T5 NSICU, UC Davis Health System, Sacramento, CA, does not share Linares' positive experience when it comes to mandated nursing ratios. Dahlke says, "I have worked on my unit for 13 years, and, in my opinion, the ratio laws have definitely not improved patient or nurse satisfaction. If anything, our staffing has been cut because of budget constraints. Lunch breaks never seemed to be an issue until we had ratio laws. Now there are daily complaints about lunch breaks or a lack thereof."

Dahlke says her hospital, which once was "staffed by acuity," now must staff by mandated numbers. "I work in a 10-bed ICU in an all-RN hospital," she says. "It was unheard of to have five nurses for 10 ICU patients. Although every attempt is made to have at least six nurses for 10 patients, being 'legal' with five nurses suddenly makes it an option."

Methodology Unsound, Politically Motivated, Says CNA

Charles Idelson, CNA communications director, points to the fact that all subjects interviewed for the CHCF study were hospital executives or managers—the same people, who, in his words, "opposed the bill in the legislature, tried to get the Department of Health Service to adopt ludicrous ratios after the law was enacted, lobbied Gov. Schwarzenegger to repeal or suspend the law, and continue to use every weapon at their disposal to undermine the law in spirit and letter. Where is any indication that the authors of the study talked to bedside nurses, who report the law is an overwhelming success, or patients who have benefited from the law?"

"In short, the study is not an academic study. It is a political study, intended for only one purpose: to undermine public support of the law," Idelson continued in a statement. "Any hospital official who pretends that the ratios prevent them from staffing according to patient needs is either being ignorant or disingenuous. Any researcher who lets them get away with such nonsense is, at best, sloppy."

Vicki Bermudez, RN, CNA Regulatory Policy Specialist, tells *Synapse E-News*, “The CNA and the National Nurses Organizing Committee were the vehicles for change, but the hospital industry’s failure to provide safe care was the impetus for nurses and patients to join together for legislative protections for healthcare consumers. California has enjoyed an unparalleled explosion in the number of active RN licensees since 1999 when the legislation was first signed into law. The answer to a nursing shortage is safe staffing standards and improved working conditions, including adequate meals and breaks coverage.”

Who Pays to Maintain California Ratios?

Those who reside outside of California may wonder how the state manages to pay the price that comes with mandated nursing ratios. The state provided money to hospitals through Medi-Cal to help offset the additional labor costs associated with nurse-to-patient ratios, explains Bermudez. In addition, Bermudez says, “There is ample evidence to demonstrate that the labor costs of increased staffing are offset by the reduction in patient complications seen when RN staffing is better [safer]. There are proposals to eliminate additional reimbursement for complications that arise from iatrogenesis. This will make safe staffing RN standards even more important to the financial well-being of health facilities.”