EMERGENCY NURSES ASSOCIATION

Position Statement

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Staffing and Productivity in the Emergency Department

Description

Emergency nurses are essential to the delivery of quality emergency care. There are several factors to consider when evaluating the appropriate staffing of an emergency department (ED): 1) determination of the number of full-time equivalents (FTE) required to meet the needs of the department overall, 2) staffing for the day-to-day operations to ensure adequate care of the patients on each shift, and 3) efficient utilization of staff to meet productivity goals (productive hours worked divided by targeted productive hours) (Connelly, Damian, Hughes, Mayes, Neis, & Powell, 2017).

There are strategic (long-term) and tactical (short-term) drivers or objectives to consider when making ED staffing and productivity decisions. Strategic drivers include quality, safety, service, and cost (Shin et al., 2018). The Institute of Medicine, now known as the National Academy of Medicine, identified six performance characteristics to improve quality healthcare that remain relevant today: safe, effective, patient-centered, timely, efficient, and equitable (IOM, 2001). Evidence correlates quality of care to adequate nurse staffing and the educational preparation level of the nursing staff (i.e., associate, bachelor, masters, or doctorate) (Aiken, Cimiotti, Sloane, Smith, Flynn, & Neff, 2011; Cho, Chin, Kim, & Hong, 2016; Ramsey, Palter, Hardwick, Moskoff, Christian, & Bailitz, 2018). Tactical drivers include patient volume, acuity, and length of stay; boarding/holding; and staff skill mix (provider, licensed, unlicensed, educational preparation, and experience) (Connelly et al., 2017).

Studies show that specific levels of nurse staffing is associated with improved clinical and economic outcomes that meet or exceed the strategic and tactical drivers or objectives (Costa & Yakusheva, 2016; Wolf, Perhats, Delao, Clark, & Moon, 2017). Adequate nurse staffing improves patient and nurse satisfaction as well as reduces procedural and medication errors, patient mortality, hospital readmissions, and length of stay (Aiken et al., 2011; Wolf et al., 2017; Nelson, Hearld, & Wein, 2018). Increased staffing reduces nurse-sensitive outcome quality indicators such as patient falls, pressure injuries, central line infections, and hospital acquired infections (American Nurses Association, 2015). Additionally, nursing fatigue is reduced with correct nurse staffing, promoting safety, retention, and satisfaction (Aiken et al., 2011; Wolf et al., 2017).

Traditionally, and in other nursing departments, nursing unit staffing is based on nurse-to-patient ratios, where acuity and patient type are consistent. However, this method is not sufficient in EDs because of volume and acuity variations (Wundavalli, Kumar, & Dutta, 2019). For example, within the ED, at the onset of their care, high acuity cardiac, stroke, or trauma patients may require care from multiple RNs at once, yet multiple low acuity patients may be cared for by one RN while maintaining safety and satisfaction. In this way, nurse-to-patient ratios are ineffective when addressing ED staffing needs and a method reflective of

ED dynamics should be used. Community needs assessment including situational, seasonal, or permanent changes in the community or population served should also be incorporated into staffing decisions. Lastly, there is no evidence to support that nurse staffing ratios can be based solely on number of beds in the ED (Lordache, Elseviers, De Cock, & Van Rompaey, 2020).

The operational budget, staffing, and productivity are interdependent. To evaluate and optimize safe staffing for the ED, information is required related to the targeted matrices the institution has already adopted. Data gathered from the emergency department information systems (EDIS) on patient acuity, arrivals and discharges per hour, and volume per hour by day of week, as well as nurse satisfaction and patient experience surveys, are important factors for consideration in the determination of appropriate staffing (Connelly et al., 2017).

ENA Position

It is the position of the Emergency Nurses Association (ENA) that:

1. Emergency nurses are essential to the delivery of safe, quality, cost-effective emergency care.

2. To facilitate safe emergency care, a minimum of two RNs be present whose primary responsibility is patient care in the ED at all times, regardless of the ED size, capacity, census, or acuity.

3. Emergency nurses support the use of evidence-based methods to determine staffing and productivity.

4. Emergency nurses play an active role in the determination and evaluation of nurse staffing guidelines.

5. When considering staffing needs in the ED and accounting for the fluid nature of the department, patient acuity, and volume, the use of nurse-to-patient ratios is not recommended.

6. ED staffing is based on staff mix of experience and education; patient volumes and acuity; ED input, throughput, and/or output delay; and staff and patient safety.

7. Caregiver hours devoted to boarded patients are not included when calculating ED staffing.

8. The worked hours per patient visit (wHPPV) calculation methodologies allow for the separation of caregiver hours for both ED and boarded patients.

9. Ongoing systematic evaluation of staffing models and patient outcomes is essential to the delivery of quality emergency care.

10. Emergency nurses support further research regarding ED staffing models and their impact on patients, nurses, and healthcare systems.

Background

Healthcare costs continue to soar. Care in the hospital accounts for 30% of healthcare costs with labor expenditures accounting for over 50% of those costs (Cook, Gaynor, Stephens, & Taylor, 2012; Wundavalli et al., 2019; Lordache et al., 2020; Ray et al., 2003). As good stewards of resources, nurse leaders manage all elements of operations, which includes staffing and productivity. Best practice when developing nurse staffing plans includes a multi-faceted approach, and consideration of many variables. Staffing plans should balance labor cost without compromising patient safety, patient satisfaction, or staff satisfaction (Wundavalli et al., 2019; Lordache et al., 2020; Ray, Jagim, Agnew, McKay, & Sheehy, 2003).

There are several models and algorithms available for establishing ED staffing requirements including worked hours per patient visit (wHPPV) (ENA, 2020; Wundavalli et al., 2019; Lordache et al., 2020; Ray et al., 2003; Graff, Goldschmidt, Glien, Klockner, Erdfelder, Schiefer, & Grigutsch, 2016). However outside of the "theoretical" ED, predictive staffing models can be problematic due to variations in census, patient acuity, nursing competencies, education time for initial and ongoing staff training, and nursing skill mix (Graf et al., 2016; ANA, 2012). Also challenging to staffing requirements is the presence of patients boarded in the ED and their extended time frames for care. Aside from consuming ED staff, boarded patients in the ED both represent and are a delay to patient flow, increasing patient mortality and morbidity; medical errors; delayed or missed physician orders; time to surgery; and poorer outcomes for cardiac, stroke, and sepsis patients; as well as decreased patient satisfaction (ENA, 2020). Any staffing model or algorithm should consider nursing skill and experience as well as the proportion of unlicensed supportive personnel (ANA, 2012). Other factors influencing nurse staffing requirements include time needed for patient documentation; patient/family education; care coordination, supervision, and delegation activities based on effectiveness and efficiency of support personnel; and ethical decision-making (Wise et al., 2015).

In some settings, staffing ratios vary by type of hospital/ED and shift worked (Wise, Fry, Duffield, Roche, & Buchanan, 2015). For example, trauma center EDs tend to have more nurses per number of ED beds given their status as tertiary care centers and expanded catchment area for trauma patient referrals (ENA, 2015). Ultimately, the minimum acceptable requirement suggested by the Emergency Nurses Association's (ENA) Staffing Guidelines for safe, quality care in any ED is two registered nurses around-the-clock (ENA, 2015). A continuous core staff of two registered nurses at all times, regardless of how low the patient volume or

acuity might be, is needed to function safely (ENA, 2019). The Staffing Guidelines use department-specific data for the calculation of full-time equivalents (FTEs) (ENA, 2019).

Worked hours per patient visit is a common method for calculating staffing and productivity. WHPPV is calculated by dividing the number of employee hours by the number of patient visits that occur within the same time period (ENA, 2020). Although wHPPV may be a good starting point for determining staffing need on an annualized basis, this calculation makes it difficult to adjust for the daily and seasonal variations in volume, acuity, and length of stay as well as boarded patients. In the use of a wHPPV productivity calculation, it is recommended that it allow for separation of caregiver hours for ED patients and boarded patients, to account for their varying workload and demand of resources (ENA, 2020). Other considerations of non-productive employee hours such as medical leave, vacation, etc. also need to be accounted for in staffing considerations. ENA's tool uses patient visits and length of stay as a proxy for patient acuity to determine the number of FTEs required per year in an ED (ENA, 2019).

Increasingly, ED managers can access department metrics to align nurse staffing with patient volume and acuity variations. Formulas for average hourly volume and average hourly nurse demand too are becoming available to objectively adjust staffing to meet demands without sacrificing the quality and safety of patient care (Ramsey, et al., 2018).

A primary component outlined in the 2012 ANA's *Principles for Nurse Staffing* stated "direct care nurses must have a substantive and active role" in the determination and evaluation of nurse staffing guidelines (Wise et al., 2015). It is fundamental when conducting any evaluation of staffing and productivity to include the impact on emergency nurse safety, patient, and staff satisfaction, and the recruitment and retention of qualified nurses (Wolf, et al., 2017; Ray et al., 2003; Wise et al., 2015; Aiken, et al., 2012). Nurse-sensitive indicators reflective of patient outcomes can include time required for direct and indirect care delivery, employee injury and illness rates, turnover, overtime, compliance with healthcare regulations, and patient and nurse satisfaction (ANA, 2015; Wise et al., 2015). Adequate ED staffing may be calculated by blocks of days or hours by using the number of beds in a department, the number of patients waiting for treatment, patient acuity, and nurse skill level or experience (Lee, Cheung, Joynt, Leung, Wong, & Gomersall, 2017; Wundavalli et al., 2019; Lordache et al., 2020).

When nurse staffing is inadequate for any reason, emergency nurses may be unable to provide the care their patients require. The nurse may be unable to sufficiently provide emotional comfort and education to their patients, reassess vital signs, or provide pain medications (Ramsey, et al., 2018). There is also evidence of higher rates of work-related injuries and that patient deaths occur more often when ED staffing is inadequate (Aiken, et al., 2011; Ramsey et al., 2018).

Patient care, nurse satisfaction, and nurse intention to leave are impacted by nurse staffing (Ramsey et al., 2018; Wolf et al., 2017). Wolf et.al reported the "moral distress" experienced by ED nurses regarding "the quality and safety of the nursing they feel is being compromised and sometimes unsafe …especially regarding inadequate staffing." (Wolf et al., 2017). These findings suggest that staffing and productivity are complex issues.

California was the first state to enact legislation regulating nurse-to-patient ratios (Health facilities, 1999-2000; Johansen, 2014). Despite improved nurse-to-patient ratios in California however, the failure to rescue rate (deaths in patients who developed serious complications) did not improve (Shin, Park, & Bae, 2018). Improved staffing did decrease time to antibiotic administration and decrease the number of ED patients who left without being seen, but length of stay worsened (Aiken et al, 2012). It is possible that to remain budget neutral as the number of nurses were increased in California hospitals, the number of unlicensed assistive personnel (UAP) may have decreased, resulting in nurses being required to perform additional tasks previously performed by UAP's. It has also been suggested that California simply may not have been able to hire enough nurses to meet the mandate (Shin et al., 2018).

As demonstrated by the effects of the COVID-19 pandemic, which resulted in sporadic, unpredictable, and increased ED demand, ED staffing guidelines are more difficult than ever to define in special circumstances. Under these conditions, it is important that EDs optimize staffing to account for high patient acuity, increased volume, and potential for boarding as well as nursing time to provide care that includes the donning and doffing of personal protective equipment (PPE), PPE cleaning and servicing, and personal hygiene (Wells, Zhang, Spano-Szekely, Siller, Brannon, Schulz… & Kohli-Seth, 2021). Further investigation regarding staffing for prolonged emergency conditions such as a pandemic or other disaster is clearly required.

Resources

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