



# 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 different 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, also known as productivity (productive hours worked divided by targeted productive hours).<sup>1</sup>

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. The Institute of Medicine, now known as the National Academy of Medicine, has identified several performance characteristics that improve quality of patient care such as care that is safe, effective, patient-centered, timely, efficient, and equitable.<sup>2</sup> Quality care has been linked to adequate nurse staffing ratios and the educational preparation level of the nursing staff (i.e., associate, bachelor, masters, or doctorate).<sup>3,4</sup> Tactical drivers include patient volume, acuity, and length of stay; boarding/holding; and staff skill mix (provider, licensed, unlicensed, educational preparation, and experience).<sup>1</sup>

Studies show that appropriate nurse staffing is associated with improved clinical and economic outcomes that meet or exceed the long term (strategic) and short term (tactical) drivers and objectives.<sup>5,6</sup> Proper nurse staffing helps improve outcomes in a number of areas including patient satisfaction, procedural and medication errors, patient mortality, hospital readmissions, and length of stay.<sup>3,7</sup> Low nurse-to-patient staffing ratios and/or high nurse workloads have been shown to decrease the survival rates in critical patients<sup>8</sup> and increase the incidence of medication administration errors, patient falls with injury, and pressure injuries.<sup>9</sup> Low nurse-to-patient ratios also have been found to increase time to diagnostic evaluations in trauma centers.<sup>10</sup> Higher levels of staffing in the ED were found to be associated with increased patient satisfaction.<sup>11</sup> Nursing-sensitive outcome quality indicators, including patient falls, pressure injuries, central line infections, and hospital acquired infections, have been shown to decrease with appropriate nurse staffing.<sup>12</sup> Nurse fatigue is reduced with correct nurse staffing, and this promotes nursing safety, nurse retention, and job satisfaction.<sup>3,7</sup>

Inpatient hospital departments rely on nurse-patient ratios to achieve safe staffing. This method is not sufficient in an ED where volume and acuity are unpredictable.<sup>13</sup> Patient acuity and volume (including those waiting to be seen) and nursing experience and skill mix should guide staffing decisions. There is no evidence to suggest that nurse-patient ratios based solely on number of beds in the ED is sufficient.<sup>13</sup>



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The operational budget, staffing, and productivity are interdependent. To evaluate and optimize safe staffing for the ED, information is required related to the targeted metrics 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.<sup>1</sup>

## 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. Patient care delivered by nurses educationally prepared with a Bachelor of Science in Nursing (BSN) or higher degree in nursing can lead to improved patient outcomes and nurse satisfaction.
3. Obtaining and maintaining specialty certification is a contributor to improved patient outcomes.
4. Regardless of the ED size, maximum capacity, census, or acuity, a minimum of 2 RN's responsible for providing care in the ED at all times facilitates safe emergency care.
5. Emergency nurses support the use of evidence-based methods to determine staffing and productivity.
6. Ongoing systematic evaluation of staffing and productivity is essential to the delivery of quality emergency care.
7. Evaluation of staffing and productivity is based on patient census and acuity, direct and indirect time for care delivery, and the experience and skill mix of the ED staff. Such evaluation also includes the impact on patient and emergency nurse safety and satisfaction and the recruitment and retention of qualified emergency nurses.
8. 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 the costs and more than 50% of that will be for labor expenditures.<sup>14</sup> Best practice when developing nurse staffing plans will include a multi-faceted approach, taking into consideration many variables. The plan should “decrease cost without compromising patient safety, patient satisfaction, or staff



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satisfaction.”<sup>14</sup> As good stewards of resources, nurse leaders will manage all elements of operations, which includes staffing and productivity.<sup>1</sup>

There are several models and algorithms available for establishing ED staffing requirements.<sup>15-19</sup> Outside the “theoretical” ED, predictive staffing models can be problematic due to variations in census, patient acuity, nursing competencies, education time for initial and ongoing training of staff, and nursing skill mix.<sup>20,21</sup> Also challenging to staffing requirements is the presence of patients boarded in the ED and their requisite level of care. Any staffing model or algorithm may need to account for nursing skill and experience of nursing personnel as well as the proportion of personnel supporting the work of nurses.<sup>21</sup> 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.<sup>22</sup>

In Australian settings, staffing ratios vary by type of hospital/ED and shift worked.<sup>23</sup> 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.<sup>21</sup>

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.<sup>24</sup> 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.<sup>15,24</sup> The Staffing Guidelines use department-specific data for the calculation of full time equivalents (FTE’s).<sup>24</sup> Hours per patient visit (HPPV) is a common method for calculating staffing and benchmarking used to compare staffing across facilities. HPPV is calculated for the current year based on the previous year’s metrics by dividing the number of staffing hours by the number of patient visits. This makes it difficult to adjust for the daily variations that occur with volume, acuity, and length of stay. ENA’s tool uses patient visits and length of stay as a proxy for patient acuity to determine the number of FTE’s required per year in an ED.<sup>24</sup>

Increasingly, ED managers can access department metrics to align nurse staffing with patient volume and acuity variations. One case study discussed how they developed formulas for average hourly volume and average hourly nurse demand to objectively adjust staffing to meet demands without sacrificing quality and safety of patient care.<sup>14</sup>

A primary component outlined in the 2012 American Nurses Association’s (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.<sup>22</sup> 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.<sup>7,15,22</sup> Nurse-sensitive indicators reflective of patient outcomes can include time required for direct and indirect



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care delivery, employee injury and illness rates, turnover, overtime, compliance with healthcare regulations, and patient and nurse satisfaction.<sup>12,22</sup>

Adequate ED staffing is best calculated using the number of beds in a department, the number of patients waiting for treatment, patient acuity, and nurse skill level or experience.<sup>13</sup> When nurse staffing is inadequate for any reason, emergency nurses may be unable to provide the care the patient requires. The nurse may be unable to sufficiently provide emotional comfort and education to their patients, reassess vital signs or provide pain medications.<sup>4</sup> There is also evidence of a higher rate of work-related injuries and that patient deaths occur more often when patient-to-nurse ratios are increased.<sup>3,25</sup>

Patient care, nurse satisfaction, and nurse intention to leave are impacted by nurse staffing.<sup>4,7,26</sup> Duffield et al. reported that patient care was negatively affected when “nurses perceived an unsafe environment, where resources in the form of leadership and ancillary staff were perceived to be lacking, [and] where the proportion of Bachelor of Science in Nursing (BSN)-prepared nurses was lower.”<sup>4</sup> 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.”<sup>13</sup> These findings suggest that staffing and productivity are complex issues.<sup>27</sup> Extrapolating from evidence gathered from studies of inpatient care settings, increasing the number of BSN nurses working at the stretcher side in emergency settings would positively affect patient outcomes. Shindul-Rothschild et.al found that “lowering the number of ED patients cared for by emergency nurses is the single best solution to improve patient flow and minimize ED crowding.”<sup>10,28</sup>

California was the first state to enact legislation regulating nurse-to-patient ratios.<sup>29</sup> Despite improved nurse-patient ratios in California, the failure to rescue rate (deaths in patients who developed serious complications) has not improved.<sup>30</sup> Improved staffing did decrease time to antibiotic administration and decrease the number of patients left without being seen, but length of stay worsened.<sup>22</sup> However, Chan et.al did find that compliance with California mandated nurse staffing ratio guidelines yielded reduced ED wait times and length of stay compared to time periods when nurse staffing ratio guidelines were not met.<sup>31</sup> 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.<sup>32</sup>

Research findings, as well as ANA's *Principles for Nurse Staffing and Optimal Nurse Staffing to Improve Quality of Care and Patient Outcomes*<sup>12</sup> reflect the complexity of appropriate nurse staffing and the need for additional research to fully understand and develop best practice guidelines in the ED setting.



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## Resources

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