Nursing Workforce Issues and Trends Affecting Emergency Departments

Kathy S. Robinson, BS, RN; Mary M. Jagim, BSN, CEN, RN; Carl E. Ray, BSN, BC, RN

Numerous multifaceted issues confront the nation’s emergency departments, a frontline component of America’s healthcare safety net. This article explores current nursing workforce issues, staffing issues and nurse-to-patient ratios, current emergency department benchmarking data, and operational issues that affect the quality of care and safety in emergency departments. Several strategies are recommended to improve care for patients and increase the recruitment and retention of qualified nurses and personnel in emergency care settings. Key words: emergency department, nurse retention, ratios, staffing, technology

From 1992 through 2002, the number of emergency department (ED) visits increased by 23%, an increase from 89.8 million to 110.2 million visits annually, while the number of hospital EDs in the United States decreased by about 15%.

This rising pressure on EDs has been compounded by the national nursing shortage and shortages in the nation’s healthcare workforce, inadequate access to primary care and specialty services, and the federally mandated “open access to emergency medical care” for all dedicated EDs by the Emergency Medical Treatment and Active Labor Act of 1986 (EMTALA). Along with changes in patient attitudes and perceptions about seeking care, growing consumer activism and pressure to improve overall patient quality and safety, and administrative mandates to cut expenses, EDs have begun to sag in their ability to function as a vital component of America’s healthcare safety net. This article will delineate key issues challenging EDs in today’s healthcare environment and propose strategies to improve care for patients and increase the recruitment and retention of qualified nurses and personnel in emergency care settings.

UNDERSTANDING THE NATIONAL NURSING SHORTAGE

Numerous national workforce reports have emerged in the last half decade to define the cause and effect of the national nursing shortage on healthcare. Most studies agree, RNs constitute the largest healthcare occupation, with 2.3 million jobs. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) reports that 126,000 nursing positions are unfilled in hospitals, accounting for an overall vacancy rate of 13% for nursing positions. The US Department of Health and Human Services (HHS) conducted the
National Sample Survey of Registered Nurses (NSSRN) in 2000. Even though hospitals remain the major employer of nurses, the number of RNs employed in nursing increased (public or community health and ambulatory care roles) while the number of RNs employed in hospitals actually decreased by 7%. Nursing shortages were cited as a major concern by 90% of states in a study on health workforce shortages conducted by the State University of New York at Albany in November 2002. By 2020, the total number of full-time equivalent (FTE) RNs is projected to have fallen 20% below the Health Resources and Services Administration’s (HRSA’s) projections of the number of RNs that will be required to meet the demand.

Critical nursing shortages are concentrated in specialty care units that require the knowledge and skill of highly trained nurses, such as the intensive care unit, operating room, and ED. The Emergency Nurses Association (ENA) reveals that during one 6-month period from September 2000 through February 2001, 42% of vacant RN positions were filled within 4 weeks; however, 55% of EDs required up to 6 months, and 7% required more than 6 months to fill vacant RN positions. An overall vacancy rate of 11.7% is reported for EDs. Currently, the nursing shortage is largely attributable to several factors that will be discussed below.

Supply of nurses

There are fewer nurses entering the profession because of increased employment opportunities for women in traditionally male-dominated fields, limited students admitted into nursing programs because of a well-documented faculty shortage, and an aging workforce moving into retirement or less physically demanding roles. According to the NSSRN the average age of the total RN population (including those who are retired and not employed in nursing) was estimated at 45.2 years in March 2000, the highest since the survey series was initiated. Barely one third of the RN population was younger than 40 years.

On a more positive note, as the only nursing organization that collects and analyzes data from all types of nursing education programs, the National League for Nursing (NLN) recently reported that after a steady decline in enrollments, 2003 saw a significant gain. Overall, enrollments in basic RN programs expanded over 10% from 2002 levels to 244,769. Surprisingly, diploma programs showed the most pronounced growth, with enrollments rising by 14%. Enrollments in baccalaureate and associate degree programs rose by only 11.8% and 9%, respectively.

Demand for nurses

It is estimated that by the year 2020, there will be at least 400,000 fewer nurses available to provide care than is needed. The total demand for services will rise by the year 2025, when 68.3% of the current nursing workforce will be among the first of 78 million baby boomers reaching retirement age and enrolling in the Medicare program. The elderly population (65 years and older) at that time is expected to rise to 17% of the US population. The implications of these statistics are staggering if workforce issues aren’t addressed with an ardent resolve to tackle the multitude of concerns that are causing the current nursing shortage. Current trends show that the nursing workforce is already transitioning to non–patient care and other less physically demanding roles. Dr Peter Buerhaus and colleagues also note that more experienced RNs may have higher expectations of working conditions and require greater autonomy and respect than has been typically accorded.

Job dissatisfaction

Aggregate levels of job satisfaction vary by the setting where nurses work. Nurses working in hospitals report the lowest levels of overall job satisfaction, at 67% (Fig 1). Even at 83%, the job satisfaction level among those in nursing education only approaches the level of job satisfaction in the general population. Inadequate staffing, heavy workloads, increased use of overtime, and inadequate
wages are cited as leading contributors to the nursing shortage.9

Staffing ratios in EDs

For many years, one of the key problems challenging EDs has been how to determine appropriate staffing. Various benchmarks have been used to measure and compare staffing levels, including the prominent standard known as hours per patient per visit or HPPV. Using this system, the total number of paid nursing staff hours is divided by the total number of ED visits to yield a number in HPPV. The pitfalls with using this single productivity measure to determine nurse staffing are obvious. A patient with a minor laceration receives the same consideration for utilization of nursing resources as a patient with an acute myocardial infarction or major trauma even though the resources needed to care for each would be much different. In the past few years, nursing organizations, labor unions, and legislators have been advocating for mandated nurse patient ratios. For ED patients, these ratios typically range from 1:4 ratio for general ED patients to 1:1 for trauma patients, and do not consider patients whose resuscitation requires as many as 4 RNs. California was the first state in the nation to implement numeric staffing ratios for acute care hospitals in October 1999 when Governor Gray Davis signed AB394 into law. AB394 sets only the minimum number of nurse-to-patient ratios. As a result, hospitals may staff only the minimum number of nurses as required by law despite the actual need for more nurses. One prominent study of 168 hospitals, 10,184 nurses, and 232,342 surgical patients conducted by researchers at the University of Pennsylvania reported that in hospitals with higher patient-to-nurse ratios, there were higher risk-adjusted 30-day mortalities and higher 30-day mortalities for patients with complications.10

As the lead specialty organization for emergency nurses in the United States, the ENA has rejected legislated ratios for the ED. In its position statement on staffing and productivity in the ED, ENA notes, “Staffing based solely on nurse to patient ratios or paid hours per visit is limited in scope without consideration of the variables that affect the consumption of nursing resources.”11

Neither nurse to patient ratios or HPPV productivity benchmarks have been based on research or best practices regarding patient care.
and safety nor do either of them give consideration to some key variables regarding ED patients, such as acuity, length of stay (LOS), and nursing workload. With the increasing number of patients being boarded in EDs and the documented rise in acuity of patients, these variables must be considered.

In 2001, ENA began researching new methodologies to assist EDs in determining best practice staffing. Best practice staffing is defined by ENA as that which provides timely and efficient patient care and a safe environment for both patients and staff, while promoting an atmosphere of professional nursing satisfaction. With this consideration, the ENA Guidelines for Emergency Department Nurse Staffing have been developed, factoring these primary components: patient census, patient acuity, patient LOS, nursing time for interventions and activities by patient acuity, skill mix for providing patient care based on nursing interventions that can be delegated to a non-RN, and an adjustment factor for the non–patient care time included in each FTE.12

Patient census is important to determine the overall volume of patients who are being triaged versus those who are being treated (as those numbers may not always be the same). Most EDs see volume fluctuations by day of week, time of day, and month of the year. Numerous variables, from an increase in tourists, snow accumulations, and/or viral epidemics, can affect these fluctuations and require the use of nontraditional staffing patterns.

Patient acuity is reflective of the differences in resources needed for a minor care patient with a sprained ankle versus a critical care or trauma patient. Current Procedural Terminology (CPT) coding is the current standard by which acuity is retrospectively determined. CPT levels can be correlated to Ambulatory Payment Classifications (APC) and facility levels, making it the most current universal determinant —being used in the United States— of ED patient acuity throughout an ED patient encounter.

Patient LOS encompasses the continuing nursing assessments and interventions required from the time the patient enters the ED and requests treatment to the time he or she leaves the ED either to be discharged home or admitted to the hospital. As per ENA Staffing Guidelines, for each CPT level, the volume of patients and their average LOS will need to be determined to account for the variables in census, acuity, and LOS.

The ENA Staffing Guidelines are supplemented with an automated Excel workbook (referred to herein as the “tool”) into which these data points and other variables are entered. The tool calculates the number of FTEs required for patient care in the ED.

In the underlying formula developed for the ENA Staffing Guidelines, nursing time for interventions and activities by patient acuity was determined by identifying typical patients that fell into each acuity level and the types of nursing interventions that were generally needed for those types of patients. Then, utilizing the Nursing Interventions Classification (NIC) system, the amount of time to perform those interventions was calculated, resulting in a “minutes of nursing time” calculation at each acuity level.13 These minutes are converted by the tool into FTEs of ED nursing staff. These FTEs are then split by the tool into a 86% RN to 14% non-RN staffing skill mix consistent with research projections by the Center for Nursing Classification, which determined that 86% of the nursing interventions based on NIC need to be performed by an RN.14 Once the total number of FTEs needed for a unique ED population is determined, these can be appropriately distributed throughout the day on the basis of patient volume trends.

Also factored into the staffing tool is the amount of non–patient care time needed, yet generally overlooked, in determining appropriate staffing levels. An adjustment factor must be taken into account to compensate for the non–patient care time that will occur for each FTE required to provide total patient care. This compensated non–patient care time includes vacation, sick and holiday time, as well as meal and personal break time, plus education, training, and meeting times. To provide for this compensated non–patient
care time, additional FTEs of patient care time must be added to provide for the total time required based on patient volume, acuity, nursing interventions and activities, LOS, and skill mix.

The ENA Staffing Guidelines are available through ENA.15 Based on sales reports, it is estimated that the guidelines have been obtained by approximately 25% of all EDs in the United States. As research has demonstrated, appropriate staffing is essential to safe patient care as well as nursing role satisfaction. An increase in 1 hour of RN staffing per patient day produced a significant 8.9% decrease in the odds of pneumonia. Adverse events were associated with longer patient stays and for some events, a greater probability of death during hospitalization. In addition, nurses are more likely to experience burnout and job dissatisfaction when the level of resources needed to provide safe care to patients is insufficient to meet the patients’ basic needs.10

COMMON ISSUES IMPACTING CARE IN EDs

Several emerging trends have a potential key impact on patient care and workforce issues. In 2001, ENA surveyed 1380 EDs across the United States with the goal to compile valuable data regarding staffing indicators, delivery of services, patient utilization, as well as vital characteristics of EDs.16 This acclaimed benchmarking survey, as well as several other national reports, demonstrates the pitfalls of several issues impacting patient care in EDs in numeric values. ENA anticipates an update of its landmark survey for EDs in 2005.

Capacity and overcrowding

It has been documented that increases in patient volume correlate to increases in patient acuity measured using the 2001 ENA National Benchmark Guide: Emergency Departments. The largest increases occurred for elderly (60%) and nursing home (47%) patient visits, supporting the concern with regard to an aging population and the need for increased resources to care for them. In addition, more than half of EDs reported increased after office hours visits. Factors include “primary provider too busy,” “convenience of patient,” “patients with no primary provider,” and “sent by primary provider.”16 Additionally, in the 2002 survey of states, 62% of all US hospitals reported being “at” or “over” operating capacity, with this proportion rising to 79% for urban hospitals and 87% for level I trauma centers.17 Difficulties in recruiting and retaining qualified professional staff, shortages of willing on-call medical specialists, and the overall shrinkage of inpatient hospital capacity are making it difficult for institutions to move patients from the ED to other parts of the hospital environment. The root causes leading to ED crowding are larger system problems, and the solutions to fixing them require a collaborative commitment and investment from all components of the healthcare system.

According to the ENA Benchmark Guide, overcrowding is a significant problem at least one third of the time. Hospitals in areas with larger populations, areas with high population growth in recent years, and areas with higher-than-average percentages of people without health insurance reported higher levels of crowding. Data suggest that ambulance diversion is not as prominent as some studies seem to indicate. According to the ENA survey, 46% of EDs did not use diversion and only 15% of EDs spent 1 to 25 hours on diversion in a 6-month period.16 In addition, an analysis of 2000 data from the National Center of Health Statistics shows that approximately one third of all US hospital EDs serve a disproportionately high number of Medicaid and uninsured patients. These hospitals serve as a safety net in communities whose residents are more likely to be low income, uninsured, or Medicaid recipients, and where there are fewer primary care services available.18

Length of stay and boarding inpatients

The most frequent reason for delay at ED discharge was “waiting for an inpatient bed.”
Other delays were caused by “waiting for radiology or lab report,” “waiting for a referral,” “waiting for a consultation,” and “waiting for transport to another facility.” Boarding patients for 2 hours or more in the ED while waiting for an inpatient bed or transfer occurred to some extent in 9 of every 10 hospitals. In a recent study, the US General Accounting Office (GAO) reports that 1 of 5 hospital EDs reported an average boarding time of 8 hours or more.

Reduced number of staffed beds

The GAO reports that no single factor stands out as the reason why ED overcrowding occurs, but the most common factor was the inability to transfer patients to inpatient beds once the decision to admit them has been made. Hospital officials surveyed by the GAO describe economic incentives to staff only the number of inpatient beds that will nearly always be full, which does not seem to allow for fluctuations in hospital census to accommodate unscheduled admissions. These findings are consistent with the most frequent causes of hospital diversion listed in the ENA Benchmark Guide: lack of inpatient critical and acute care beds, unavailable specialty services, and lack of ED beds. Regardless of the reason, these patients still require care and take up treatment space, equipment, and staff time, shrinking departmental resources to take care of other emergency patients. Urgent Matters is a $4.6 million initiative of the Robert Wood Johnson Foundation that shows promise in helping hospitals eliminate ED crowding and helping communities understand the challenges facing the healthcare safety net.

Interpersonal violence

Violence in the ED has shown an increase in recent years. A study by Erickson and Williams-Evans revealed that 82% of nurses surveyed had been assaulted during their careers, and that many assaults go unreported. Only 3.6% of nurses surveyed felt safe from the possibility of patient assault at work. A survey based on incidents of crime that had taken place in hospitals from 1986 to 1991 indicated that the majority of reported physical assaults occurred in work or patient care areas. Nurses were the most frequent targets of assault and the greatest number of assaults occurred in EDs; of the 51 homicides that occurred in clinical settings, 23% took place in EDs.

The need for technology

Notwithstanding the fact that little scientific evidence is available to support the notion that the use of technology actually reduces workload, the reality is that slowly but surely, automated clinical information systems are becoming more commonplace in hospitals. It would be difficult to argue anecdotal evidence that the minimization or elimination of manual data entry and implementation of documentation and computerized order entry systems increases efficiency, work output, and patient safety. Clinical resources such as textbooks, medication references, and calculators are now at the clinician’s fingertips with pocket PCs and personal digital assistants (PDAs) to eliminate guesswork and time away from the bedside to look up information needed to plan acute patient interventions. Bar-coding systems automatically provide patient identification records and support laboratory and radiology requests, tasks that previously required extensive manual effort. Overall, hospitals seem fragmented in their approach to the implementation of computerized order entry and documentation systems. The reality is that few EDs possess technology that assists nurses in meeting patient needs. The findings reported for EDs in the 2001 ENA Benchmark Guide were as follows:

- 61.4% have computerized order entry.
  This is typically met through the preexistence of hospital legacy information systems with laboratory and radiology order entry.
- 28.4% have computerized discharge instructions.
27% have computerized patient tracking.
17.2% have computerized medical records.
This is commonly achieved by optically scanning the paper medical record and then being able to view that image online as opposed to having a true electronic medical record (EMR).
8.5% have computerized triage documentation.
7.8% have computerized physician assessments.
5.8% have computerized physician interventions.
3.6% have computerized nursing assessments.
2.2% have computerized nursing interventions.16

These are examples of clinical information systems that are utilized for direct patient care. However, there is also a need for computerized information systems that assist in the management of the ED. This type of technology deals more with transactional data elements such as billing and coding, as well as data analysis and reporting, and personnel management systems. Findings in the ENA Benchmark Guide revealed that 37.4% of the EDs have computerized management reports, 30.8% have computerized charge capture, and 18.6% have computerized staff scheduling.16

Ergonomics and facility design
With the understanding that the current nursing workforce is aging, it is important to acknowledge the need for a work environment that is ergonomically friendly. According to the American Nurses Association, studies of back-related workers compensation claims reveal that nursing personnel have the highest claim rates of any occupation or industry. In addition, other estimates report that 12% of nurses leave the profession annually as a result of back injuries, and more than 52% complain of chronic back pain.23 Fortunately, innovative pilot projects, such as Transforming Care at the Bedside (sponsored through a partnership between the Institute of Healthcare Improvement and the Robert Wood Johnson Foundation), are showing promise in workplace design to improve caregiver efficiency, effectiveness, and ergonomic safety.24

Accreditation influences
Almost 50% of the JCAHO standards are directly related to safety, addressing such issues as medication use, infection control, surgery and anesthesia, transfusions, restraint and seclusion, staffing and staff competence, fire safety, medical equipment, emergency management, and security.25 They serve a secondary benefit as a vehicle for nurses to facilitate change in the workplace.

For example, the national need to address staffing issues at healthcare organizations is the impetus behind new Staffing Effectiveness Standards developed and implemented by the JCAHO in 2002. The new standards help healthcare organizations assess their staffing effectiveness by providing them with an objective and evidence-based approach to assessing the number, competency, and skill mix of their staff by linking staffing effectiveness to clinical outcomes. These Staffing Effectiveness Standards will be updated by JCAHO in 2005. Currently, there are no ED-specific indicators outlined by JCAHO. However, patient LOS as well as all of the benchmark events during a patient visit are important to consider in the indicators of staffing effectiveness. EDs should be continuously tracking not only the overall LOS for patients, but also intervals such as door to triage, door to ED bed, door to physician, and door to disposition times.

STRATEGIES
Because of the numerous multifaceted issues that confront hospital EDs, recommendations for strategies to be implemented at multiple levels are proposed. These strategies are recommended to improve care for patients and increase the recruitment and retention of
qualified nurses and personnel to emergency care settings.

**Increase administrative commitment to address the issues that affect EDs**

ED overcrowding and diversion is a symptom of a failing healthcare system and is not caused by ED dysfunction. System administrators need to reevaluate the root cause(s) of ED overcrowding and hold internal and external departments accountable for resolving patient flow issues while supporting EDs in their mission to provide quality care. Increasing bed capacity in EDs is not the solution for a lack of greater internal resources. Healthcare leaders must provide the financial resources that support quality leadership, education, and state of the art technology in the ED to enable emergency practitioners to focus on patient care without the nonclinical distractions that can impact positive patient experiences and outcomes.

**ED nurse staffing must be determined by current research**

The continuing practice of determining ED nurse staffing on the basis of financial productivity measures that do not take into account the dynamic variables affecting ED nursing care needs to change. Staffing systems that are evidence based and consider the variables of patient acuity, LOS, and nursing interventions and activities should be utilized to determine safe and effective ED nurse staffing. Providing the appropriate number of nursing staff to deliver quality care in a safe manner will lead to improved patient outcomes and greater nurse satisfaction, which, in turn, will lead to greater staff retention.

**Implementation of technology to improve patient care in the ED**

The need for a dynamic reporting environment that pulls the data together from multiple information systems and places them at the fingertips of the directors, managers, and clinicians who are responsible for ED operations and patient care must be addressed. Some of the opportunities for leveraging technology in the ED include the following:

- Integration of financial, clinical, personnel, operational, and performance data
- Development of real-time reporting and decision support
- Development of standardized coded nomenclatures that are patient focused and inclusive of the ED
- Development of open architecture and interoperability of clinical information systems rather than proprietary “silo” systems
- Adoption and implementation of the Continuity of Care Record (CCR), a minimum data set of patient information used for facility transfers, provider communication, and population of personal health records.

**Create a culture that recognizes ED nurses’ practice and promotes interdisciplinary collaboration and open communication**

While elements of nursing practice are interdependent on other disciplines such as medicine, nurses are independently licensed by and accountable to state boards of nursing to make clinical and managerial decisions regarding nursing care. An emergency nurse is legally and professionally responsible for determining that the orders for patient care are appropriate before implementation. Traditional nursing roles are complementary and supportive of many disciplines, and collaborative efforts must refocus on building trusting relationships while working to eliminate cultures that have traditionally supported attitudes of subordination towards nurses. Abusive and disruptive behavior by any discipline must not be tolerated. Healthcare systems must encourage open dialogue among physicians and nurses to ensure proper and accurate communications of patient-related information.
Encourage constructive, productive, and safer work environments

Ergonomics and personal safety has become a preeminent concern of emergency nurses. Efforts must focus on environmental redesigns that maximize efficiency and personal safety. Hospital and departmental resources and policies should address issues of moving and lifting patients and equipment that exceed recommended workloads for a single individual. Hospitals may need to consider permanent assignment of security personnel to EDs to assist with violent patients and evaluate and defuse potentially lethal encounters among patients, visitors, and staff.

Incentive programs for professionals should be applied uniformly

Fair incentives should apply to physicians as well as nursing. While it is common to financially reward medical colleagues when ED revenues exceed a projected budget (eg, profit sharing), it is very uncommon for similar incentives to be applied to nursing when departmental revenues exceed goals. Nursing administration and staff work equally hard to minimize overtime, maintain costs related to equipment and supplies, and increase efficiency but are rarely recognized or rewarded for this effort. While in some cases it would be impractical to divide rewards among individual nurses, such support could be used on a more global basis to provide increased opportunities for education, specialty certification, and support of other professional activities.

Support and recognition of professional accomplishments

Administrators and supervisors must work to identify meaningful and fair incentives for professional development. Paid time off (eg, continuing medical education) is not unusual for medical staff but hospitals are increasingly eliminating such support for nurses, nurse managers, and nurse directors. Expectations that professional nurses should participate in such activities “on their own time” are unreasonable and discriminatory if similar policies are not applied to all professionals. Media relations should inform and promote positive accomplishments equally among disciplines. Development of career path or progression models that reward increasing clinical competency, knowledge, education, and professional development for nurses is imperative.

ED practitioners must increase collaboration to influence policymaking

Emergency nurses and physicians must take a lead role in educating and advocating for their work environment as well as other initiatives that will improve patient care. They must simultaneously get more involved in hospital committees, social and professional organizations, media campaigns, and public policy initiatives to implement change. Physician and nursing organizations must include one another in professional activities at the time they are initiated and work to integrate one another’s ideas and values into combined policy statements and documents when appropriate. Seeking endorsement after such materials have been developed by one organization or discipline disrespects the other and decreases the likelihood that a collegial alliance can be formed.

SUMMARY

Numerous multifaceted issues confront the nation’s EDs. The nursing shortage, nursing job satisfaction, staffing, ED overcrowding, LOS, number of beds, interpersonal violence, need for technology, need for improved ergonomics in facility design, and accreditation influences are key issues described. Several key strategies for healthcare administrators and ED care providers are proposed. They are to increase administrative commitment, revise staffing guidelines, implement integrated
information systems, create cultures that recognize ED nursing practice, promote interdisciplinary collaboration and open communication, create safer work environments, apply incentive programs uniformly, support and recognize professional accomplishments, and increase ED care providers’ influence in policymaking. It is the authors hope that these recommendations will lead to the implementation of strategies that support EDs’ continuous ability to respond effectively to the needs of their communities.

REFERENCES


