Academy of Emergency Nursing Trailblazer Program

Purpose: The Academy of Emergency Nursing (AEN) honors nurses who have made enduring and substantial contributions that have had significant impact and continue to advance the emergency nursing specialty. AEN provides visionary leadership to the Emergency Nurses Association.

About the AEN Trailblazer Program: The AEN Trailblazer Program is one mechanism through which the Academy provides visionary leadership to ENA and the emergency nursing specialty. The program creates an AEN forum for Academy Fellows to explore emerging and future issues in emergency nursing while providing thought leadership to the Academy Board to discuss with the ENA Board of Directors. Fellows participating in the trailblazing program are encouraged to think outside the box and be both bold and provocative with their recommendations.

Disclaimer: The views and opinions expressed in Academy Trailblazer Program documents are those of the trailblazing team group and/or individual Fellows and do not necessarily reflect the opinions, position, or policy of the Fellow's respective employer, of the Academy of Emergency Nursing, or of the Emergency Nurses Association.

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Trailblazer Program Question:

"Under an assumption the staffing crisis is sustained, how should emergency care be delivered given a shortage of emergency nurses?"

INTRODUCTION

Nurse staffing has been a challenge in healthcare for many years. The U.S. Bureau of Labor Statistics projects the RN workforce to grow from 3 million in 2020 to 3.3 million in 2030, an increase of 221,900 or 7%. The Bureau also projects 194,500 openings for registered nurses (RN) each year through 2030, a projected growth of 9% (2022). This was projected before the pandemic, before nurses began leaving the bedside. The Coronavirus disease 19 (COVID-19) pandemic brought this shortage to crisis levels. According to the 2020 National Council of State Boards of Nursing and National Forum of State Nursing Workforce Centers national survey of the U.S. nursing workforce, the median age of RNs was 52 years with more than one-fifth indicating intent to retire from nursing over the next 5 years. The data for the supply of nurses remains unclear, with reports of nursing school capacity challenges and no revised projections of total retirements post-COVID. Nurse staffing shortages are linked to poor quality of care, decreased patient satisfaction, increase medication errors, and increased patient mortality (Phillips et al., 2021; Rosenberg, 2019).

This shortage of nurses extends to the emergency department (ED). There are many reasons why nurses leave the ED. Some include professional development, personal circumstances, such as a desire to travel, or family circumstances. There are several negative reasons that contribute to this dilemma. For example, the impact of the shift work required in the ED, the burnout from the challenging pace of the department, and/or the emotional impact of the challenging patient load (Skene, 2021).

With the assumption that this nursing shortage will continue for the foreseeable future, how should emergency care be delivered? This whitepaper focuses on three topics: team care, telehealth, and redirection of nonemergent patients.

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TEAM CARE

The nursing shortage has been exacerbated in the aftermath of the COVID pandemic. Many nurses chose to leave the profession, leaving hospitals to find creative strategies and processes to provide quality patient care and improve or maintain nurse engagement. One strategy is team nursing. Team nursing is not a new concept. It was first introduced after World War II because of the nursing shortage and advancements in medical technology (Sherman, 1990). The primary goal of team nursing is to use the talents, skills, and abilities of all team members to deliver high-quality, patient-centered care. It is important to learn from the past success and failures of the team nursing model. During the COVID pandemic many hospitals found themselves overwhelmed with the surge of critical care patients. The team style of patient care enabled these hospitals to redeploy, restructure, or reorganize staff from other areas of the hospital to assist in providing care to these critical patients (Endacott et al., 2022). Hospitals successful in using the team model found that a strong leadership presence, clear communication, and clinical nursing involvement were the key ingredients.

Team Care Recommendations

The team care staffing model in the ED should include the following team members:

- *ED experienced registered nurses*: The experienced ED RN would serve as the team leader or Charge Nurse for the area and should be experienced in unit operations and policies.
- *Additional nurses (RN or LVN/LPN)*: Additional nurses are needed to carry out nursing assessments, interventions, medication administration, patient education, and other nursing duties. Experienced ED RNs and other nurses without ED experience can work together in care processes that are commensurate with their knowledge (Boston-Fleischhauer, 2020; Cross et al., 2021).
- *Assistive personnel*: Other assistive personnel such as patient care technicians, unit clerks, nurse assistants, and runners are needed to assist with non-nursing responsibilities such as specimen collection, transport, vital signs, splinting, delivering supplies and equipment, and other duties (Cross et al., 2021).
- *ED Providers*: ED physicians and/or advanced practice providers (nurse practitioner, physician assistant) should be assigned to the team to conduct the medical screening exam, determine the diagnoses, order stabilizing treatment for patients, and determine appropriate patient disposition and follow-up.
- *Scribes*: Scribes are an optional resource and may not be available in all settings. Accurate and timely documentation in the medical record is essential as a record of care delivered and to facilitate continuity of care and performance improvement (Bizimana & Bimerew, 2021). High quality nursing documentation is impacted by many factors including nursing workload, staffing shortages, burnout and lack of motivation, managerial and technical support and accountability,

training, and time management (Bizimana & Bimerew, 2021; Vafaei, et al., 2018). Scribes have been shown to improve physician productivity and patient throughput while also providing valuable experience to individuals interested in pursuing a medical profession (Eley & Allen, 2019; Walker et al., 2019). Scribes, also called recorders, have been recognized as important team members in major trauma (Dunn et al., 2018) and Code Blue teams (Crowley et al. 2020). In a situation where nursing shortages exist, nurse scribes may also be used to document nursing care, monitor for diagnostic test results to facilitate throughput, and carry out other various duties. Nurses without ED experience who are floated to the ED to assist on the team may be trained and assigned as a nursing scribe on the team.

It is also important that the team have adequate ancillary services staff to serve the patients. Essential services would include environmental services, access services, respiratory therapy, social work, physical or occupational therapy, laboratory/phlebotomy, radiology, transport, and pharmacy. Ideally, ancillary service staff would be assigned and dedicated to the team. However, it is recognized that this is likely not possible in most units. Nevertheless, the need for adequate ancillary support staff to serve the needs of all patients in the ED cannot be understated.

General Principles for Team Care

In team care, members would be assigned to work as a cohesive team in a specified zone or cluster of rooms. For team care to be effective, several general principles should be followed:

- *Buy-in*: Prior to implementation, the Team Care approach should be developed, discussed, and understood at all levels from frontline staff to management and administration. Involving staff in the design and implementation of the plan enhances buy-in and the potential for successful implementation (Dempsey & Batten, 2022). Buy-in is further enhanced and sustained when relevant metrics are tracked, reported, and celebrated (Dempsey & Batten, 2022).
- *Roles*: All roles must be clearly delineated and understood by all. Learning needs should be assessed, and all roles should be commensurate with the team members' knowledge, scope of practice, and experience (Boston-Fleischhauer, 2020).
- *Teamwork*: There must be mutual respect and understanding of all roles to optimize teamwork, collaboration, and communication. Consider a buddy system to pair experienced staff with floated and/or inexperienced staff (Arneson et al., 2020).
- *Communication*: A communication strategy and devices should be available for the team (e.g., specified channel on 2-way radio, group paging, white board, tracking board or system, visual markers, or other). Cross et al. (2021) describes the importance of frequent huddles and use of multiple communication strategies to keep the team, as well as the entire department, updated on important information.

- *Back-up plans*: A surge plan and a back-up or contingency plan are needed to describe processes for how the team works when the ED/Zone is surging, has multiple boarders, or if there are call-ins on the team (Cross et al., 2021).
- *Flexibility*: Consider offering flexible hours in consideration of staff needs. If older and/or retired nurses are coming back to practice, it is important to consider needed adjustments to roles and schedules (Jakucs, 2020).
- *Learning needs*: Some staff may need more education than others and learning needs should be assessed and addressed (Boston-Fleischhauer, 2020). Involvement of nurse professional development staff would be helpful in developing the assessment tools and education plans and resources (Brown et al., 2021; Patel et al., 2021).
- *Leadership visibility and support*: As with all new processes, strong leadership support is essential. Emergency department and hospital leadership should demonstrate high levels of visibility and engagement on the unit to drive and sustain success (Cross et al., 2021).
- *Design and implementation plan*: A written and detailed plan is important in the process of implementing successful change. One example of a guidance diagram is included in Figure 1.
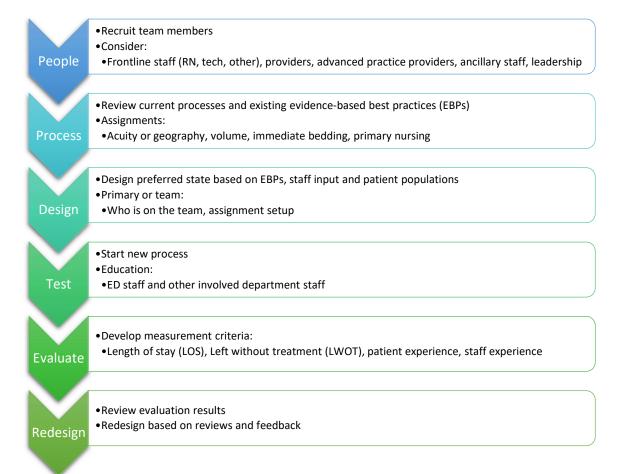
People
- Recruit team members
- Consider:
  - Frontline staff (RN, tech, other), providers, advanced practice providers, ancillary staff, leadership

Process
- Review current processes and existing evidence-based best practices (EBPs)
- Assignments:
  - Acuity or geography, volume, immediate bedding, primary nursing

Design
- Design preferred state based on EBPs, staff input and patient populations
- Primary or team:
  - Who is on the team, assignment setup

Test
- Start new process
- Education:
  - ED staff and other involved department staff

Evaluate
- Develop measurement criteria:
  - Length of stay (LOS), Left without treatment (LWOT), patient experience, staff experience

Redesign
- Review evaluation results
- Redesign based on reviews and feedback

Figure 1 An example of how to implement the change

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TELEHEALTH

Technology, in the form of telehealth, enables nurses to concentrate on their areas of expertise from distant locations (AMA, 2022). Nursing talent distribution via telehealth technology can help mitigate staffing shortages by enabling nurses to staff more than one physical location at a time. For the ED, several options of telehealth can be relatively easily and inexpensively implemented (AMA, 2022; Williams et al., 2021).

- Tele-triage is like traditional triage, except that technology is used to augment or replace certain aspects of the patient engagement. Tele-triage can include virtual encounters by providers to triage patients to clarify if patient needs to be evaluated in ED setting or can be managed using telemedicine visit or office visit. (Rademachet et al., 2019; Williams et al., 2021).
- Tele-emergency medicine utilizes video or similar telehealth technologies to connect clinicians and patients at larger, tertiary care centers with providers at rural and frontier community-based hospitals (Kane-Gill & Rincon, 2019, Rademacher & Kelen, 2019)
- Virtual rounds can be used to virtually monitor ED patients using telehealth technologies. This form of telehealth assists in limiting the number of nurses who are physically present and can be used to monitor psychiatric clients and patients with communicable diseases. Additionally, it saves time and personal protective equipment (Moyse et al., 2021).

Tele-communication provides real-time ED team and interdisciplinary communication to facilitate patient care and workflow in the ED setting.

- *Use of digital communication* (e.g., apps, mobile devices) enables providers and caregivers immediate communication access to the interdisciplinary team (Ehrler et al., 2021). Including mobile communication with interdepartmental and ancillary staff is much timelier and more efficient in reducing time to diagnostics, treatment implementation, shared awareness of changes in plan of care and change of condition of ED patient (Schlessinger, 2018).
- *Use of push notifications* to communicate STAT orders can be done simultaneously to multiple team members (Hettinger et al., 2020).
- *Use of tracking devices* to keep all staff informed on real-time location systems (RTLS) of ED patient (e.g., in radiology) (Schlessinger, 2018).
- *Mobile access to patient status*, e.g., interconnectedness to ED status board (Hettinger et al., 2020).
- *Shared workflow of ED patients* with ED team members (Hettinger et al., 2020).

Health Information Technology (HIT) is a critical component for the interoperability of the electronic health record (EHR) with the care of patients in the ED (Hughes et al., 2022). Difficulties managing patients can be associated with information processing systems (McNutt et al., 2002). Evaluating information

technology in ED workflow is critical to having clarity of communication and technology supporting user provider tasks (Horsky et al., 2006).

HIT to improve ED care may include the following:

- *Monitoring clinical events*, including notification of order entries into EHR and free texting to be incorporated into the ED EHR (Gandrup et al., 2020)
- *Shared awareness of changes* in plan of care and change of condition of the ED patient
- *Real-time decision support* for providers (Schlessinger, 2018).
- *Generating alerts and reminders* such as remote clinical early warning system alerts with mobile notifications (Gandrup et al., 2020; Hettinger et al., 2020)
- *Workflow integration* using health information technology needed for human factors clinical decision support. The integration planning needs to consider time and flow, scope of patient journey, and level of technology support needed (Salwei et al., 2021).

Technology for patient safety can extend staff resources through the utilization of artificial intelligence to analyze physiologic metrics, provide continual visual monitoring of the patient, and alert staff to potential threats or injury.

- Continuous video patient monitoring has been used in intensive care settings to evaluate physiologic parameters as well as to always have a pair of eyes on critically ill patients. Alerts are texted/called to providers based on established criteria and subtle changes in the patient condition. Emergency departments also manage critical care patients, often at a higher care ratio than the critical care setting. Adding this capability in the ED can support an already overextended workforce (Pronovost et al., 2022).
- Expanding continuous remote video monitoring of patients beyond those requiring critical care level nursing, including patients at risk for falls, elopement, and behavioral health disorders. Early intervention can prevent injury and alert other staff if someone is in a dangerous or escalating situation.
- Continuous video monitoring of patients at risk for falls or other harm has been shown to reduce costs, improve resource allocation, and increase staff/patient satisfaction (Abbe & O'Keefe, 2022.)
- Computer-based technologies for ED-based screening, interventions, or referrals for high-risk health behaviors (e.g., unsafe sex, partner violence, substance abuse, depression) has been shown to be feasible and acceptable to both patients and staff (Choo et al. 2012).
- Technology can also be leveraged to conduct a cognitive work analysis to model/design care delivery systems. Developing a template for conducting this analysis could be a product development opportunity for ENA (Austin et al., 2022; Salwei et al., 2021).

REDIRECTION

Redirection is a method that could be utilized to lessen the burden on already overwhelmed and understaffed emergency departments. The premise is to redirect patients away from the emergency department to areas capable of providing specific care. This concept is very dependent on community resources but could include redirection of emergency medical system (EMS) patients to facilities such as urgent care clinics, primary care provider's offices, substance abuse centers, and mental health facilities. According to the ENA position statement *Crowding, Boarding, and Patient Throughput* (Rogers, 2020) emergency department crowding is associated with numerous problems including increased patient mortality and morbidity, medical errors, decreased patient satisfaction, and increased rates of patients leaving without being seen. The same paper demonstrated that crowding could contribute to increased nursing workload, burnout, and turnover of staff.

In 2019, the Center for Medicare and Medicaid Services proposed the Emergency Triage, Treat, and Transport (ET3) Model to accommodate those patients who may call 911 for a perceived medical emergency but are found to have a lower acuity event. The idea was the patients could be evaluated and treated at lower-acuity, less costly destinations (Centers for Medicare & Medicaid Services, 2019). In this model, EMS, potentially assisted by a higher-level healthcare professional, could render treatment at the scene and not transport or transport to either an emergency department or a lower acuity facility (Centers for Medicare & Medicaid Services, 2019).

Turpen (personal communication, March 20, 2022) reported that in the first 10 months of implementing the ET3 Model their EMS system was able to "treat and release" ten patients and was able to transport one patient to a lower acuity facility away from the ED. The review did note several barriers in their application of the ET3 Model including alternative destination buy-in, perception of patient safety, patient reluctance, EMS crew reluctance, age range of Medicare, and Wi-Fi capability or lack thereof due to distance prohibiting contact with higher level of care for discussion/collaboration.

The Los Angeles Fire Department study (Sanko et al., 2020) showed that using a pre-hospital advanced practice provider as part of their field team could reduce unnecessary transport of low-acuity patients to EDs. Alternative destinations and interventions included mental health facilities and social work evaluation for high utilizers. In that study no patient who recontacted 911 within 3 days of initial contact required inpatient hospitalization.

The National Association of EMS Physicians (NAEMSP) produced a position statement on the role of pre-hospital advanced practice providers (APPs) (Wright et al., 2021). The position statement includes functions that the NAEMSP believes prehospital APPS may be capable of performing such as: field response with EMS for direct patient care and assisting with coordination of alternative destination decisions.

SUMMARY AND RECOMMENDATIONS

The crisis of COVID-19 brought to the forefront of our society the recognition that healthcare workers are leaving the workforce at a rate not previously seen. This drought of qualified nurses leaves the ill and injured members of our communities at risk for poor, if not fatal, outcomes. We recognize that our current methods of care are failing us. We propose a combination of changes including new staffing patterns and staffing models, use of technology devices and programs, and consideration of redirection or proactively redirecting select patient populations away from the overburdened EDs.

We recognize that there may be certain components of data collection and screenings currently required by governing bodies that unnecessarily further burden the ED nurse. We propose a deferral of the initial triage process and move the data collection and screenings to a point in time when urgent/emergent care delivery elements are not at the forefront. The ENA resolution on screening (Proehl et al., 2020) promotes an evidence-based process for deciding on triage appropriate screens, and that screening information that does not impact a triage acuity level assignment should not be mandated as part of the triage process.

Finally, the use of the ED to board patients in need of in-patient care also requires further addressing to reduce the burden on the overwhelmed ED team. This may include the use of available inpatient nurses to assist in the care of boarded patients and their unique needs. These needs may be best served by nurses experienced in inpatient care and who serve as part of the team. The position of the ENA (Rogers, 2020) is as follows:

- Crowding, boarding, and/or patient throughput delays are associated with deleterious patient outcomes, negative impacts on emergency staff, and disruption of communities' overall emergency services.
- Patient boarding should be addressed as a collaborative effort inclusive of multidisciplinary stakeholders from the ED and inpatient areas.

To ease the burden of the ED nurse, we recommend the following:

- Applying these staffing changes and adopting a team-centered approach to care with ongoing systematic evaluation of staffing models.
- Incorporating technological applications to improve care delivery and patient safety.
- Adopting a culture change of redirection of select populations by EMS to appropriate level of care.

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