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# Perseverance: A Focused Ethnographic Study of the Emergency Triage Nurse

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Perseverance: A Focused Ethnographic Study of the Emergency Triage Nurse

A Dissertation Presented

by

ELLEN C. SMITHLINE

Submitted to the Graduate School of the  
University of Massachusetts Amherst in partial fulfillment  
of the requirements of the degree of

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May 2021

College of Nursing



Perseverance: A Focused Ethnographic Study of the Emergency Triage Nurse

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## DEDICATION

To my wonderful, inspiring family: Howard, Rachel, Alex, and Sarah, thank you for traveling this journey with me. I would not be here without your support, humor, late-night dinners, and love.

To Ann and Jim Reiser: Thank you for believing in me, Mom and Dad. You taught me that I can achieve great things and provided me the stubbornness to do it.

To Katie, Joan, Jim, Sarah, Rachel, John, Meghan, Christina, and Deb: You always knew when to call during those long trips to and from school. Talking with you always gave me the boost I needed to ride the next wave.

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To all of the Emergency Nurses past, present, and future: Continue to persevere and create change. You will always be the lighthouse that provides direction to others in some of their darkest moments.

To all of the students that I have had the honor of teaching: You have taught me more.

Finally, this is dedicated to all who are not satisfied with the answers to your questions in life: Go back to school to find them, to learn, to explore, and to make your new path.

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This document hereby confirms that my midlife crisis has come to an end, and I have the following people to thank for assisting me through this journey:

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## **ABSTRACT**

**PERSEVERANCE: A FOCUSED ETHNOGRAPHIC STUDY OF THE EMERGENCY TRIAGE NURSE**

**MAY 2021**

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**Introduction:** The emergency triage process is not meeting the needs of the patient or the healthcare team. Current and past research has focused primarily on the emergency triage nurse's ability to accurately designate the triage acuity score, while largely ignoring the impacts of the complex and dynamic environment in which they are immersed. Therefore, the purpose of this study was to describe the factors that influence the decision-making process of the emergency triage nurse (ETN).

**Method:** This was a focused ethnographic study that included four phases. Phase 1 was the grand tour of the emergency triage and waiting room area. Phase 2 was the focused observations of the ETN during triage encounters. Instruments used included demographics, pre- and post-measurements of the National Aerospace and Science Administration Task-Load Index (NASA-TLX), and Fatigue Likert score. Phase 3 included the preliminary analysis of field notes to create a framework for the semistructured questions for focus groups to validate findings. Phase 4 involved focus groups of ETNs

with field notes and audio transcribed verbatim. The researcher kept field notes on Phases 1, 2, & 4.

Results: Perseverance was a theme for both the ETN and the Team Patient (patient and their accompanying advocate). The model, Perseverance of the Emergency Triage Nurse was developed based on recurring themes involving the personal, interpersonal, organizational, environmental, and temporal factors during the decision-making process. Interruptions remained the biggest distractor. An incidental finding was noted related to the role of Team Patient in the triage process. Although Team Patient was the main contributor of interruptions, they also became an extension of the ETN in monitoring and notifying them of changes.

Discussion: Results of this study illustrated the factors that continue to influence the ETN's ability to function in their role. It also demonstrated the complexity of the triage process, including interruptions and reprioritizing within a dynamic environment.

Although Team Patient was the originator of many of these interruptions, Team Patient remained the patient's person – their advocate – their voice. Team Patient's absence during the COVID-19 pandemic has silenced them, thereby creating a gap in care.



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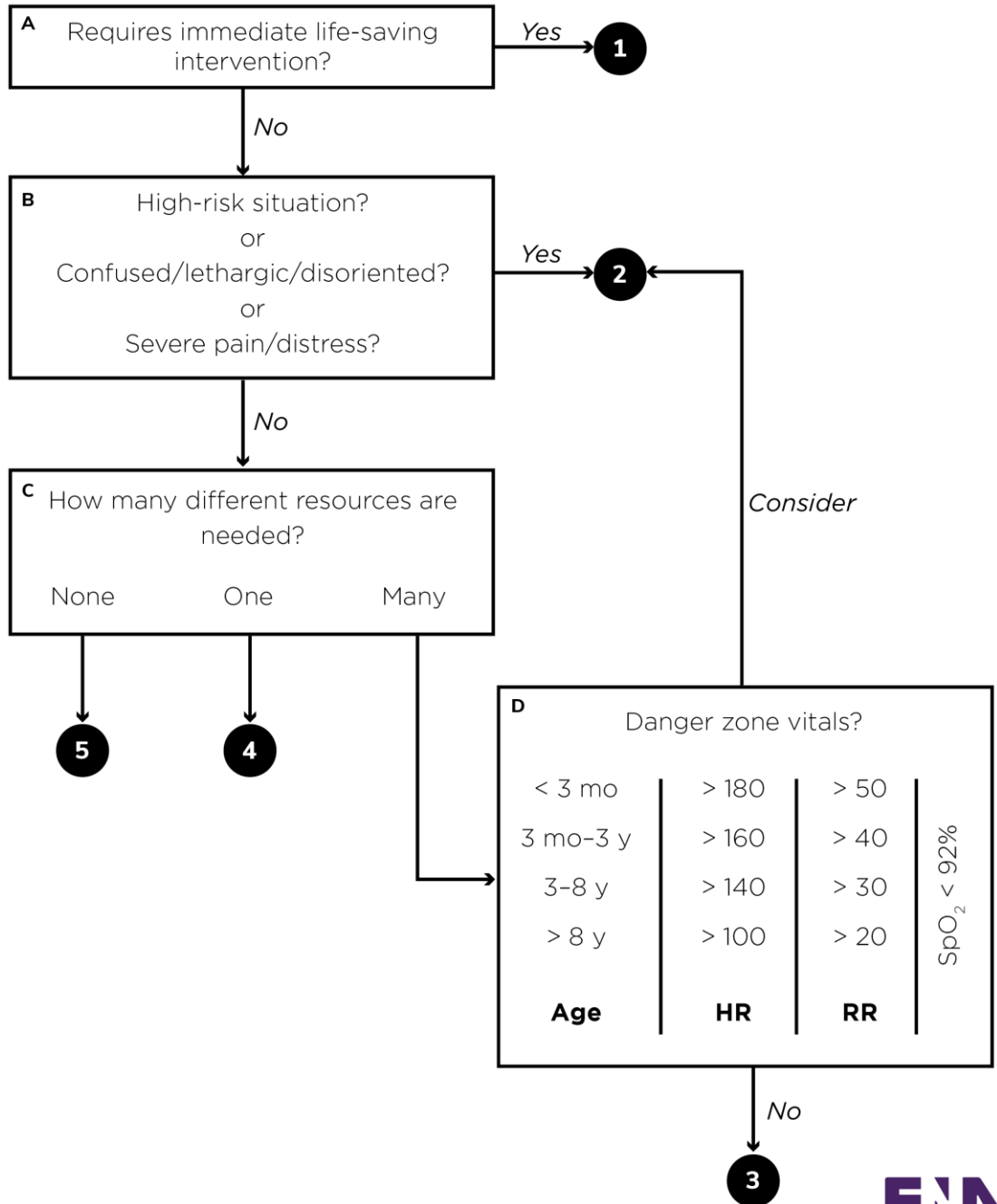
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## **CHAPTER 1**

### **INTRODUCTION**

The emergency triage process is not meeting the needs of the patients or the healthcare team. The emergency triage nurse (ETN) is often the first healthcare provider a patient encounters upon entering the emergency department (ED). The ETN plays a crucial role in performing the initial assessment of the patient, including determining how sick they are and what resources might be needed; a process known as “triage.” An essential step in this process is the generation of an acuity score. One of the most popular and widely used forms is the Emergency Severity Index (ESI). Currently, over 70% of U.S. hospitals use the Emergency Severity Index (ESI), a 5-point scale with 1 as emergent, 2 as unstable, 3–5 as stable and based on number of anticipated resources (see Figure 1 on Page 2; (Gilboy et al., 2011; Ivanov et al., 2020). In 2007, 117 million patients were seen in the US EDs with an increase to 139 million patients in 2017, of which an estimated 113 million were triaged by an ETN (Niska et al., 2010; Rui & Kang, 2017). This rise in patient volume has resulted in higher patient acuity (Yurkova & Wolf, 2011a), and increased nurse-to-patient ratio (Castner, Jessica, 2011a; Chalfin et al., 2007; Yurkova & Wolf, 2011b), which in turn has contributed to longer patient wait times, and delays in care (Arslanian-Engoren, 2004; Bergs & Gillet, 2012; Castner, 2011; Gilboy et al., 2011; Hitchcock et al., 2014a; Yurkova & Wolf, 2011). Research assessing the accuracy of emergency triage assessments indicated that on average, acuity scores

# ESI Triage Algorithm, v4



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Figure 1: ESI Triage Algorithm, V4.

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Note. The ESI algorithm is used to determine the acuity score on 5 levels, as 1 (most urgent) through 5 (least urgent) and resources needed to determine pace of treatment. The Emergency Nurses Association (ENA) recently purchased the rights to the ESI Triage Algorithm as of November 2019.

are accurately classified only 60% of the time (Courtwright, 2012; Gilboy et al., 2011; Mistry et al., 2018). This may be a result of assessment practices that focus on triaging to the ED (i.e., high volume, high acuity, boarding of patients) and not the individual patient (Wolf et al., 2018a). The ETN may assign an acuity score that underestimates the patient's needs (undertriaging) based on these environmental factors. This practice elevates risk for decompensation and progression of disease or injury, thereby harming patients. Overtriaging leads to increased wait times and use of resources, all of which can result in higher mortality and morbidity (Lentz et al., 2017a; Solheim & Wolf, 2012; Yurkova & Wolf, 2011).

The emergency nursing triage process is often presented as a straightforward and simple process wherein the emergency triage nurse is imagined to engage with patients one by one, focusing their full attention on the individual, then generating a thorough and accurate assessment in a step-wise manner (see Figure 2 on Page 4).

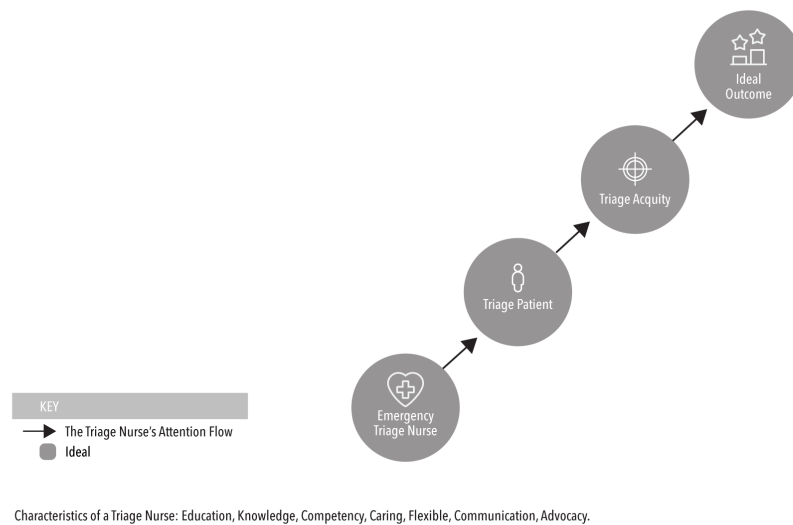


Figure 2: Theoretical framework of the triage process.

But in reality, the process is anything but simple. Emergency triage nurse roles go well beyond solely determining the ESI level of acuity. Prior to the COVID-19 pandemic, ETN responsibilities had already increased to include patient greeter, crisis manager, guide, consoler, waiting room steward, and monitor of all that might arrive through the ED door (Solheim & Wolf, 2012; Tam et al., 2018; van der Linden et al., 2016; Wolf, Delao, et al., 2018; Yurkova & Wolf, 2011). This increase in responsibility, the admitted patients staying in the ED due to lack of inpatient beds (boarding), and decreased resources have led to increased rates of moral injury and subsequent nurse turnover, thereby leading the nurse to persevere in performing their job (Castner, J., 2021; Wolf et al., 2018).

Current and past research has focused primarily on the ETN's ability to accurately designate the triage acuity score, while largely ignoring the impacts of the complex and dynamic environment in which they are immersed while these decisions are being made. In addition, the majority of research has involved surveys, case studies, simulations, and focus groups, thereby not capturing the naturalistic environment of the triage setting. Therefore the purpose of this study was to describe the constellation of factors, including the environmental influences that impact nurse behavior and decision-making during the emergency triage process. We conducted a focused ethnographic study in the triage environment of an urban Level 1 emergency department.

## **CHAPTER 2**

### **REVIEW OF LITERATURE**

The ETN is the gatekeeper of emergency care and is often the first healthcare provider a patient encounters upon entering the emergency department. Nationwide, they have the triage responsibility for most of the 137 million patients who enter the EDs within the United States, compared to 124 million in 2008 (CDC, 2017; Rui & Kang, 2017). This increase in patient volume in the ED has resulted in higher patient acuity (Yurkova & Wolf, 2011), an increase in nurse-to-patient ratio (Castner, 2011; Chalfin et al., 2007; Yurkova & Wolf, 2011), an increase in morbidity and mortality (Arslanian-Engoren, 2004; Gilboy et al., 2011; Lentz et al., 2017b; Yurkova & Wolf, 2011), and delays in care (Arslanian-Engoren, 2004; Bergs & Gillet, 2012; Castner, Jessica, 2011b; Gilboy et al., 2011; Hitchcock et al., 2014b; Schneider et al., 2010; Yurkova & Wolf, 2011). This challenge in patient volume has made it difficult for the emergency triage nurse to identify the acutely ill patient promptly, therefore delaying the care of the patient. Triage plays a crucial role in the pace of evaluation and treatment, yet there remains a 60% accuracy of triage acuity scores (Mistry et al., 2018). The triage acuity score is based on the ESI Triage Algorithm, V4. This flow diagram guides the ETN in the acuity designation based on how quickly they need to be treated and how many resources are required.

Inaccurate designation, also known as undertriage and overtriage, leads to poor patient outcomes, poor patient satisfaction, increased nurse burnout, increased wait times, and poor lack of resources (Courtwright, 2012; Gilboy et al., 2011; Jordi et al.,

2015; van der Linden, M. C. et al., 2016; Van Liew et al., 2016). The following is a review of the constellation of factors that may influence the ETN's decision-making process: The emergency triage nurse, the patient, the organization, and the environment of care, based on the review of literature.

### **Emergency Triage Nurse Factors**

The decision-making process of the triage nurse in determining patient acuity is unclear. Education, experience, critical thinking ability, efficiency and the level of coping, workload, and emotion all play roles in the nursing strategies of acuity designation (Carayon & Gurses, 2008; Castner, 2011; Folkman & Lazarus, 1988b; Göransson et al., 2008; Scheffer & Rubenfeld, 2000). Triage assessment involves a constellation of factors, both intrinsic and extrinsic to the nurse, that influence these decisions. Additional research is needed to capture the complexity of triage, the fluid environment, and increasing demands, in order to design better processes and to address the injustice embedded in the system.

### **Personal**

#### **Experience**

The ENA position on triage nurse qualification states that the emergency nurse should have at least one year of emergency nursing, possess competence in both knowledge and assessment skills, and have situational awareness. The ETN should receive continued education in trauma, pediatric, and cardiac care in addition to their comprehensive, evidence-based triage education and clinical orientation (Stone & Wolf, 2017). However, Martin et al. (2014) noted that nurses who had knowledge of the ESI 5-

level triage algorithm and minimal experience as an emergency nurse could safely assign accurate acuity scores (Martin et al., 2014a; Stone & Wolf, 2017). It is known that the individual nurse may demonstrate different decision-making abilities and that not all experienced nurses are experts (Considine et al., 2007b; Sanders, Susan & Minick, 2014). Although years-worked remains the primary qualifier for triage assignments, critical thinking is not always linked to education or experience (Smith, 2013). Benner's Theory of Novice to Expert states that nurses start their careers as beginners of the profession eventually gaining experience and learning how to prioritize care (Benner, 1982; Benner et al., 1997; Dresser, 2012). Benner defines the expert stage as one where the nurse has the intuitive grasp of the presenting complexity of the patient and the knowledge that supports it (Benner, 1982). Not all nurses become experts in triage. Therefore it is important that ED organizations designate the triage responsibility to one who is qualified based on their ability, not on their experience as an emergency nurse.

The Revised Cognitive Continuum Theory (Standing, 2008) discusses the four phases of judgment: intuitive judgment, reflective judgment, patient and peer-aided judgment, and system-aided judgment. Intuitive judgment occurs when the decision is made without being aware of the process. Reflective judgment is the ability to use knowledge based on their past exposure. Patient- and peer-aided judgment is a conscious awareness of how data and cues are used from the patient, and system-aided judgment is based on tools, clinical practice guidelines, and policies, and procedures. The ETN requires situational awareness which is the ability to look at the big picture

while using their current knowledge and past experiences to identify and assist in the progression of care.

### **Education**

Rapid and accurate triage decisions affect both patient outcomes and the pace of the emergency department (Stone & Wolf, 2017). The ENA authored a position statement regarding the triage qualifications including the need for specialized education and the nurse's ability to demonstrate their extensive knowledge and situational awareness in the role (Stone & Wolf, 2017). Situational awareness is the perception of your surroundings, the understanding of what is occurring with your surroundings, and the prediction of what may happen in your surroundings (Endsley, 1995). However, a disconnect continues between nurses working in the triage environment, the formal orientation, and the ongoing education received to perform in this role (Brown & Clarke, 2014; Göransson et al., 2006; Innes et al., 2011). Recurring themes regarding structured orientation and ongoing education were noted in many of the qualitative articles reviewed (Stone & Wolf, 2017). There were no requirements for nursing levels of education (i.e., Associates, Bachelors, etc.), only education and orientation of the triage role.

### **Critical Thinking**

Focus groups of emergency nurses have explored concepts of competency and qualifications with the predominant theme of the ability to critically think in this high-demand position (Hitchcock et al., 2014; Wolf et al., 2018). However, a recent high-profile quantitative study disputes that there is no specialized training needed for triage,

as they demonstrated that phlebotomists had a better accuracy of "eye-balling" the patient and assigning acuity compared to the RN using the triage algorithm (Iversen et al., 2018). Although that study was poorly done as it was actually medical students who were acting as phlebotomist and not working within the complex environment of nursing, it demonstrates a point that many nurses utilize, "eye-balling" the patient as part of their initial assessment. This strategy, utilizing visual surveillance instead of physiologic data to determine acuity (Wolf et al., 2018), is also referred to as an "across-the-room" assessment, and it appears to have an increase in real or perceived value as the volume within the ED triage area increases (Noon, 2014a; Schoneman, 2002; Sibbald et al., 2017; Wolf, Delao, et al., 2018). Many interviewed triage nurses stated that they immediately knew that something was not right with the patient, through across-the-room observation, yet what it was specifically remained undefined. Despite this valuable trait, the Emergency Severity Index (ESI) algorithm does not acknowledge the value of intuitive knowledge in the decision-making process (Alba, 2018; Domagala & Vets, 2015; Hicks et al., 2003; Smith, 2013; Standing, 2008). This type of evaluation requires additional research as information is contradictory regarding its accuracy, sensitivity, and specificity (Gilboy et al., 2011; Martin et al., 2014; Mistry et al., 2018; Sanders & DeVon, 2016).

### **Efficiency, Workload, Fatigue, and Time**

The triage nurse who exemplifies efficiency may not correlate with accuracy (Martin et al., 2014). It is assumed that the ability to triage quickly demonstrates expertise and accuracy. However, Smith (2013) noted that despite the fast throughput,



the experienced nurse may be consistently inaccurate in triage acuity designation compared to the expert nurse (Smith, 2013). In addition, the ETN who has a higher level of workload and/or fatigue, has an increased chance of an adverse patient safety event and poor job satisfaction, thereby compounding the temporal factor (Carayon & Gurses, 2008; McMahon et al., 2017). Additional research should explore these factors and their impact on the decision-making process of the accuracy of the triage process.

The ESI algorithm specifies a standardized time for triage of 2–5 minutes; however, the process currently takes approximately 20 minutes. (Castner, 2011; Gilboy et al., 2011; Johnson et al., 2018; van der Linden et al., 2016). This national benchmark does not take into account special populations that may require additional time, such as those with cognitive challenges, English as a second language, being hard of hearing, and people with disabilities that may extend the time needed for standard assessment, therefore possibly contributing to inaccuracies due to time constraints.

### **Characteristics**

The Cone and Murray (2002) focus group study noted the emerging theme about nursing characteristics: "flexibility, autonomy, good communication skills, assertiveness, patience, compassion, willingness to learn and listen, and the ability to prioritize" (Cone & Murray, 2002). The triage nurse adapts these skills based on the current situation with the ability to remain fluid within this dynamic environment (Reay & Rankin, 2013). It is not uncommon to quickly change from identifying and initiating care of a stable patient to a patient complaining of a sore throat, followed by a patient in cardiac arrest, and always anticipating what will come next.

## **Attitudes**

Research supports the statements of nurses' attitudes, and beliefs may lead to bias of acuity designation when screening for victims of violence including domestic abuse, intimate partner violence, and human trafficking (Hinsliff-Smith & McGarry, 2017; McGarry & Nairn, 2015; Robinson, 2010). In the Robinson study, the RN participants were asked to describe who to screen for domestic violence and human trafficking; few stated that all should be screened when entering the ED for care, while most described victims in need of such screening as being foreign born with accents (Robinson, 2010). Research is lacking of the impact of attitudes, beliefs, and biases and their effect on the overall process of triaging patients (Linnarsson et al., 2013; Long & Dowdell, 2018; Rivers et al., 2007). A triage acuity score based on bias, will perpetuate inequitable access and care of those that continue to be marginalized in society. To eliminate this crisis, it is imperative that research into these areas continue.

## **Coping and Emotion**

Folkman and Lazarus (1988b) described the relationship between coping and emotion. The triage nurses' relationship of coping and emotion affects the cognitive appraisal of the situation. Positive and negative coping behaviors, therefore, can impact the decision-making process of the nurse especially regarding the "deployment of attention." (Folkman & Lazarus, 1988a, 1988b; Lazarus et al., 1985). The nurse can either deploy a negative strategy of avoiding the source of distress (i.e., undertriage) or a positive behavior of directing their attention toward it in order to get as much information to either prevent the problem or control it. The nurse can also become

detached—therefore either creating a rational appraisal of the patient and their complaint or ignoring the cues completely (Folkman & Lazarus, 1988a, 1988b). Additional research is needed to assist in the facilitation of appropriate strategies of coping and emotion to enhance the cognitive process.

### **Extrinsic**

The ETN has both the intrinsic and extrinsic factors that influence their triage process. Research has delved into the effects of overcrowding (CDC, 2017; van der Linden et al., 2016) use of technology (Holmes et al., 2015), and staffing (Gilboy et al., 2011; Stone & Wolf, 2017), but little is known about the multifaceted job description of the triage nurse and its impact upon not only patients but visitors. The triage nurse may have multiple responsibilities including the need to perform patient registration, to assist those in need of wheelchairs, wayfinding duties, answering questions to those who wait, and continuing to be on alert for the patient who arrives in duress or an acuity level that changes while a patient is waiting for the next level of care.

### **Patient Factors**

The patient and their accompanying support person are an integral part of the triage process. Special populations including pediatrics, older adults, those with behavioral complaints, and patients with disabilities, both invisible and visible, necessitate extra time and additional information for appropriate acuity designation (Castner, 2011). The ability to communicate, interact, and perform activities of daily living (ADL) provide cues and insight to the triage nurse (Gerdtz, 2001). However, changes in any of these factors can lead to inaccurate triage, longer decision-making

times, and/or an increase in resources of the triage nurse and ED healthcare team. The majority of time studies (i.e., how fast the triage nurse processes a patient) are based on the nurse's ability, not on the patient factors that may influence the decision-making process (Gerdtz, 2001; Hitchcock et al., 2014).

### **Language and Communication**

The ENA noted the need to facilitate communication especially if the patient does not speak English as a primary language (Stone & Wolf, 2017). Although one may be tempted to utilize family or friends to communicate, national standards are to use medically trained interpreters as part of the Patient's Bill of Rights (Gilboy et al., 2011; Stone & Wolf, 2017). Triage is a time-sensitive process; therefore, resources are needed to quickly assist in the identification of a patient's complaints, symptoms, and answers to the triage nurse's inquiries. Poor communication creates increased wait times, inaccurate triage decisions, and an increase in patient morbidity and mortality (Martin et al., 2014; Mistry et al., 2018).

### **Mental Status and Behavioral Complaints**

Gerdtz (2001) also acknowledged the increase in duration of time in triage in the patients who present with a change in mentation either due to hypoxia, toxic ingestion of alcohol, administration of mind-altering drugs, or behavioral complaints. These presentations require an increasing level of skill to attain high-quality decision-making while incorporating safety measures for the patient, the ED team, and the surrounding environment. Nationally, a dramatic increase has occurred in the patients who require behavioral or psychiatric intervention, which has led to increased stays within the ED

while a search for placement has been initiated (Wolf, Delao, et al., 2018). This process contributes to additional wait times for the patient and the remaining population.

### **Level of Independence**

Many patients presenting to triage independently ambulate to their destination, requiring minimal assistance. However additional resources are needed when one is no longer independent. This may range from providing a wheelchair to assisting with navigation or ambulation. In addition, safety becomes a concern as there may be an increased chance of falls. The face-to-face interaction of the triage process increases as the patient is assisted to and from their destinations. This also may extend after the triage phase if they require assistance with elimination or transfer to treatment areas.

### **Organizational Factors**

The majority of U.S. emergency departments utilize the ESI to triage patients (Gilboy et al., 2011). This five-level algorithm was developed around a conceptual model of ED triage by Drs. Wuertz and Eitel in 1998. The goals were to develop a reliable and validated triage tool and implementation handbook (Gilboy et al., 2011). The ESI algorithm sorts patients based on acuity (1-most urgent to 5-least urgent) and resources needed; “the right patient to the right resources at the right place at the right time” (Gilboy et al., 2011). Studies have shown that over 60% of patients in the ED have inaccurate ESI acuity scores, of which 44.8% are incorrectly undertriaged (Mistry et al., 2018). The results of these decisions lead to longer wait time for evaluation and treatment, an increase in morbidity, mortality, overcrowding, and overall healthcare costs, and decreased patient and nurse satisfaction (Mistry et al., 2018). The ENA

purchased the rights to the ESI triage acuity and are currently focusing on the education of the ETN with the development of instructional programs to assist in the accuracy of triage.

### **Policy and Procedures**

The triage decision-making process involves not only the ESI, but also mandated questions by regulatory agencies (medication reconciliation, domestic violence, and suicide screening) and information required during the initial process (i.e., advanced directives, medication reconciliation, etc.; (Castner, 2011; van der Linden et al., 2016; Wolf, Delao, et al., 2018). Some organizations also require nurses to register patients prior to triage, thereby creating additional barriers for decision-making (Gerdtz, 2001)

Emergency departments have created treatment protocols for specific problems or age-appropriate (i.e., pediatrics, geriatrics) to assist in not only efficiency but also to prevent delay in care. They range from administration of over-the-counter pain medications to those of higher acuity to protocols for those experiencing signs of a stroke (Wolf, Delao, et al., 2018). These protocols work well if the ED is staffed with the appropriate resources in this dynamic environment.

### **ED Team Staffing**

Years ago, the triage nurse was the only person on the triage team, but due to the increase in volume and longer wait times that lead to a higher patient population in the waiting rooms, this is no longer the case (CDC, 2017). Today's ED environment needs a fluidity to change with the needs of surges in volume and acuity; it requires a triage team. The team has different skill sets based on the organization. Included may be

patient care technicians to assist in the placement of the patient in the triage assessment area, secretaries to register patients, security to maintain safety and assist in wayfinding, and patient advocates to assist in connecting families and friends to patients. Due to the extended wait times in the waiting room, it is not uncommon to have a trained emergency medical technician (EMT) to assist in monitoring for change in acuity (Stone & Wolf, 2017). This is all to adapt to the new demands of patient care in the ED.

### **Environment of Care Factors**

“Triage is a process, not a destination” (Desseyn, 2017). Triage is not just completing an algorithm that addresses the individual patient, but a dynamic system that fluctuates in complexity and often overlaps as the surge of patients enter the emergency department. This may result in the triage nurse triaging more than one person at a time due to acuity. Overcrowding, unpredictable acuity, and the inability to “close the door and stop seeing patients” create a challenging environment for emergency nurses. Wolf, Delao, et al. (2018) noted that nurses are triaging the emergency department, not the patient due to the influx of high volume, high acuity, and poor nurse-patient ratios. These factors influence the accuracy of triage.

### **Volume in the ED**

Emergency departments contributed an average of 47.7% of medical care between 1996 and 2010, thereby demonstrating one of the factors that lead to overcrowding (Marcozzi et al., 2017). This bottleneck can create an unsatisfactory environment for the decision-making process of triage as the nurse negotiates not only

the patient in front of them but also the one(s) who continue to enter the main ED entrance. This environment creates an imbalance between the need for emergency care and available resources (van der Linden et al., 2016).

### **Technology**

Electronic medical records are a standard for documentation. However, many programs have been developed and instituted without the input of the ETNs, therefore adding burden and possibly delaying the process of this time-sensitive care (Castner, 2011; Gerdtz, 2001). Access to a computer for documentation is a priority, yet computer placement has often been retrofitted to the old ED environments that are still in existence. Computer placement may create a physical barrier that prevents easy communication with the patient and decreases efficiency in the decision-making process.

### **Interventions**

As noted earlier, many EDs have standing triage protocols that allow for interventions or treatment (i.e., EKG for chest pain, medication for fever, X-rays for obvious bone deformity, eye drops for eye pain, and lab work screening for pregnancy and urinary tract infections, etc.). These interventions, despite improving patient care, extend the ESI gold standard of the 2–5 minute triage time period. Castner (2011) noted the average time was 9.03 minutes (SD 7.25; range 1–80 minutes), therefore creating a bottleneck in triage and increasing the possibility of missing acuity in future patients.



### **Physical Triage Space**

The physical triage has a juxtaposition of requiring both full access to viewing all who enter the ED and privacy for patient information and interviews. Both old and new EDs continue to struggle with the needs of the community and the needs of triage, including the increasing volume and violence within the department (Wolf et al., 2014). The Emergency Nurses Association Institute of Emergency Nursing Research (ENA IENR) Surveillance study (2011) noted that over 50% of the nurses polled experienced either verbal and/or physical violence within the last 7 days (Emergency Nurses Association Institute of Emergency Nursing Research & ENA NINR, 2011) Future research in designing secure work environments is needed to ensure that the basic hierarchy of need and safety is met (Maslow, 1943, 1954).

### **Conclusion**

The emergency triage process is not meeting the needs of the patients or the healthcare team. The ESI version 4 was implemented in 2012 and did not foresee the impact that overcrowding, high acuity, and extended wait times would have on patient care and triage nurses. The failure is falling on the ETNs and not the system as the ETN's competency is only mainly based on accuracy of the acuity score, not on the ability to prioritize and reprioritize while attempting to provide appropriate care. The emergency departments are unable to "close their doors" when they are at capacity; this therefore leads to congested waiting rooms and EDs, and lack of inpatient beds and resources. The healthcare system is not meeting the demands of the increase in volume and acuity of the US population. The ED continues to provide care for those who lack access due to

financial or physical barriers. The system has failed the ETN and the patients. The federal government should provide guidance and policies in equitable payments to insurance, pharmaceutical, and hospital organizations. Further investigation is needed to provide creative “out of the box” solutions to meet not only the current demands but also those of the future.

Nurse scientists should explore the decision-making process of the experienced versus the expert nurse and factors including the speed of the triage acuity assignment. Researchers should investigate the naturalistic environment of the triage area to understand the competing factors influencing the ETN’s decision-making process. Additional exploration regarding the decision-making processes of the experienced and expert may guide how triage is staffed, as not all emergency nurses are qualified to be triage nurses. The results would assist in identifying the factors that both impede and facilitate triage acuity designation, thereby assisting in improvement of factors related to the emergency triage nurse, patient, institution, and environment of care.

## **CHAPTER 3**

### **METHODS: THE PERSEVERANCE OF THE EMERGENCY TRIAGE NURSE**

#### **Introduction**

The Emergency Triage Nurse (ETN) is often the healthcare provider a patient encounters upon entering the emergency department (ED). The ETN plays a crucial role in identifying and prioritizing patient acuity levels based on how sick they are and what resources are needed. Currently over 70% of U.S. hospitals use the Emergency Severity Index (ESI), a 5-point scale with 1 as emergent, 2 as unstable, 3–5 as stable and based on anticipated resources, as noted in Figure 1 (Gilboy et al., 2011; Ivanov et al., 2020). In 2017, 139 million patients were seen in the ED, of which an estimated 113 million were triaged by ETNs (Rui & Kang, 2017). This increase in patient volume has resulted in higher patient acuity (Yurkova & Wolf, 2011), and increased nurse-to-patient ratios (Castner, 2011; Chalfin et al., 2007; Yurkova & Wolf, 2011), which in turn has contributed to longer patient wait times, delays in care (Arslanian-Engoren, 2004; Bergs & Gillet, 2012; Castner, 2011; Gilboy et al., 2011; Hitchcock et al., 2014; Yurkova & Wolf, 2011), and a 60% accuracy of triage assessments acuity scores (Courtwright, 2012; Gilboy et al., 2011; Mistry et al., 2018). This may be a result of practices more focused on triaging to the waiting room and not the patient (Wolf, Delao, et al., 2018), thereby undertriaging patients and elevating risk for decompensation and progression of disease. Overtriaging leads to increased wait times and use of resources, all of which can result in higher mortality and morbidity (Lentz et al., 2017; Solheim & Wolf, 2012; Yurkova & Wolf, 2011).

Emergency triage nurse roles have expanded beyond determining the ESI level of acuity. Prior to the COVID-19 pandemic, ETN responsibilities had already expanded to include patient greeter, crisis manager, guide, consoler, waiting room steward, and monitor of all that might arrive through the ED door (Solheim & Wolf, 2012; Tam et al., 2018; van der Linden et al., 2016; Wolf, Delao, et al., 2018; Yurkova & Wolf, 2011). This increase in responsibility, boarding of patients, and decreased resources has led to increased rates of moral injury and subsequent nurse turnover, therefore creating a perseverance of the nurse's ability to perform their job (Castner, 2021; Wolf, Delao, et al., 2018).

Current and past research has focused primarily on the ETN's ability to accurately designate the triage acuity score, while largely ignoring the impacts of the complex and dynamic environment in which they are immersed while these decisions are being made. Therefore, the purpose of this study was to describe the constellation of factors, including environmental influences, that impact nurse behavior and decision-making during the emergency triage process. We conducted a focused ethnographic study in the triage environment of an urban Level 1 Emergency Department.

### **Use of Theory**

When asked to define triage, a focus group participant stated, "The process of triage is to sort through patients. Who needs immediate attention? Who can wait? And who really doesn't need to be there at all" (FG1). The triage process is linear; the ETN sees the patient, performs an interview and assessment, assigns an acuity score, and then the patient has an ideal outcome (Figure 2). This working conceptual model makes

the triage process look very simple; however, it is not. It does not take into account the factors that are competing for the ETN's attention. Past research has delved into improving the nurse, improving the nurse-patient relationship, improving acuity accuracy. Therefore it is important to understand the environment in which the ETN is immersed.

## **Methods**

### **Design and Setting**

The study used a focused ethnographic design. This design was chosen for its suitability as a method that captures distinct issues or shared experiences in culture or subculture in a singular setting (Crawford, 2019; Cruz & Higginbottom, 2013). This researcher studied a subculture known as the emergency triage nurse, observing the factors influencing their decision-making process, with episodes of observations that cannot be captured in focus groups or examples of case studies. It was important to utilize instruments that could capture the invisible, what was happening to the ETN internally, that could not be observed. This would capture a lens of the big picture.

A single nurse researcher with specific knowledge regarding the triage process performed episodic observations of the nursing triage process over a 5-day period (Crawford, 2019). This ethnographic study focused specifically on the subculture of specialty nurses engaged in emergency nursing triage in the ED of an urban Level 1 trauma academic hospital with an average of 120,000 visits annually. Observations were conducted at prearranged times during the 11am–11pm ED shifts, as these were the peak times within the ED. The dynamic, fast-paced environment of the emergency room

was observed during peak times in the ED with five 12-hour shifts in the emergency triage area over a 10-day period for a total of 14 observation periods (Alba & Stake, 2014). This was then followed by focus groups of the ETNs.

The unit of analysis for this focused ethnography was individual encounters of emergency nursing triage. Encounters were spatially defined as interactions that occurred between the ETN nurse and a specific patient and/or their patient advocate. This unit of analysis was temporally defined as beginning at the initiation of the first interaction between the ETN and the patient or patient's advocate, and ending at the time of their patient and, if accompanied, their advocate, leaving the triage area. Structured field notes, based on the review of literature and triage algorithm, were recorded by the principal investigator (PI) throughout the periods of observation.

### **Sample and Recruitment**

This study received institutional review board approval. Data were generated between October and December during 2019, prior to the onset of the SARS-CoV2 pandemic and related changes in hospital protocols such as no-visitor policies in the ED. An email was distributed to all triage nursing staff via the hospital network to inform and invite them to participate either in the observational phase, the focus group phase, or both, and a copy of the consent was included. To be eligible, they must have completed triage training and were currently working in the triage position. Purposeful sampling of the ETNs was used for the observation and focus group phase. All ETN who agreed to participate, provided informed consent prior to the initiation of data collection.

## **Data Collection**

Data were collected in four phases (see Appendix A): Phase 1, in order to perform this research, the Big Picture was needed to understand the environment by capturing the culture of the waiting room, interactions, and social norms among those present (Jennings et al., 2011). Therefore the PI took a Grand Tour of the ED triage area and waiting room that included three 60-minute periods of observation of the global footprint 11 am and 11 pm. Field notes and drawings were recorded, along with memos reflexively documenting the investigator's conscious assumptions and working hypotheses. The field notes were analyzed and shared with a second researcher prior to the next observation period.

Phase 2 involved Focused Observation of the ETN During Triage Encounters (Higginbottom, 2011). The researcher was able to capture the activity of the triage environment and temporal and spatial demands of the ETN and patients and their advocates. Field notes based on the review of literature, levels of interaction between the ETN, patient, advocate, team members, and others having touchpoints. Also the environmental and organizational processes were described.

Data generation occurred during October 2019 and included four 60-minute periods of direct observation of cases of emergency nursing triage occurring between 11 am and 11 pm over 5 days. The investigator's field notes documented observations regarding environmental factors and interactions between the ETN and patients, staff, or other individuals in the triage area. To capture factors intrinsic to the ETN, participating ETNs in Phase 2 completed a series of self-report measures assessing





0 1 2 3 4 5 6 7 8 9 10

No Fatigue Extreme Fatigue

Nurses are experiencing higher levels of workload than ever before due to the increase in demands and decreased resources in providing care. Heavy workload demonstrated a correlation with adverse patient safety events and job satisfaction (Carayon & Gurses, 2008). Therefore, human factors engineering was utilized to demonstrate the importance of the nurse's perceived workload. The NASA-TLX was measured for this hidden workload at the beginning of observation or start of their assignment and again at the end of each of their shifts or completion of observation time. This instrument was introduced in the 1980s. It is a subjective, multidimensional assessment tool that measures the mental, physical, temporal demands, frustration, effort, and performance interpreted by the individual (Hart & Staveland, 1988; Hart, 2006; NASA, 2016). This tool has been used by those who need to accomplish their goals quickly, accurately, reliably, while utilizing their resources, therefore fitting well within the triage setting (Hart, 2006). This is reflected in the six questions, 100-point range rating with overall score, which has been used internationally and in 2006 was cited by over 82,000 publications (Hart, 2006; NASA, 2016). This instrument has been used in simulation, but not in the naturalistic environment of triage. Dubovsky and colleagues

utilized this tool in a virtual reality (VR) model of triage to determine if their perceived workloads in VR and on the job were similar. All domains except for physical exertion correlated with both environments (Dubovsky et al., 2017). As noted earlier, the triage nurse may have had an assignment prior to their scheduled triage positions; therefore the NASA-TLX was completed before and after the observation or end of their shift.

Fatigue has been shown to play an essential component in a nurse's decision-making process; therefore this factor was measured using the Fatigue Likert Scale (Keers et al., 2013) The Fatigue Likert Scale is a 10-point scale ranging from a 0 rating of no fatigue, to a 10 rating of extreme fatigue (see Figure 5).

Demographics (see Appendix B) were obtained from each participant and included not only categories of their age and education level, but also their years of experience as a nurse, emergency nurse, and ETN. Additional factors were also obtained regarding certification and average hours worked per week.

It is important to understand the "inner world" of the ETN—something we do not have access to as an observer. Therefore we used these tools to better understand what is going on inside the ETN.

Phase 3 involved preliminary analysis of field notes. Information collected from previous observational data was analyzed and prepared for the next observation. Once an observational phase was completed, data were reanalyzed and synthesized based on review of literature and observations. Recurring themes were used as a framework for the semi-structured questions in order establish focus group validation (Fetterman, 1989).

Phase 4 involved focus groups. The researcher sought out validation through the focus group participants' voices and letting them tell the narrative, also known as member checking. Fetterman (2010) believed this was the most important part of the process, as one also observed the group dynamics and culture. Two focus groups were held in November 2019 with ETNs from the same ED. The PI led the focus groups, and a nurse researcher experienced with focus group research took notes. ETN study volunteers were consented by the PI, followed by a 60-minute group interview. A semistructured interview guide based on the observations and initial coding completed from field notes during Phases 1, 2, and 3 was used to guide these focus group discussions. The sessions were audio-recorded and transcribed verbatim. Additional field notes were generated during the focus groups.

### **Data Analysis**

Focused ethnography methods described by Fetterman, Sandelowski, and Lincoln & Guba guided the analysis (Fetterman, 1989; Lincoln & Guba, 1985; Sandelowski, 2002). Data, including field notes, drawings, and memos were collected and initially analyzed at the end of each observation (Lincoln & Guba, 1985). Field notes were then transcribed into MAXQDA 2020 Analytics Pro, a software tool for the data analysis (VERBI Software, 2019). Initial open coding with line-by-line analysis was utilized, with constant comparison of episodes, reflexivity including assumptions, recorded clarifications, notes, and insights with memos. This was followed by axial coding, which is the reduction of codes and merging into categories and themes (Fetterman, 1989; Heath & Cowley, 2004).

The Perseverance of the Emergency Triage Nurse Model emerged based on the findings of the final stage. This model identified major factors that influenced the ETN decision-making process.

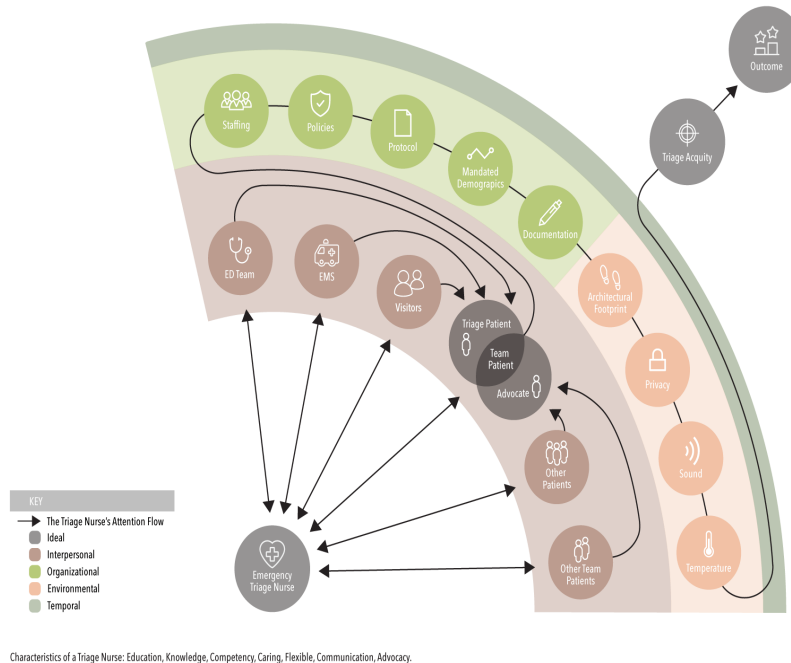


Figure 5: Perseverance of the Emergency Triage Nurse Model.  
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Note: Based on findings from Perseverance: A focused ethnographic research of emergency triage nurses.

### Trustworthiness

Trustworthiness was established through credibility, dependability, confirmability, transferability, and authenticity (Lincoln & Guba, 1985). This process demonstrates how real the information is. Credibility was established through sharing the initial analysis with the focus groups to validate findings (member checking), sharing

data with the dissertation committee, using the MAXQDA 2020 software to organize the data, and establishing prolonged engagement with 142 triage encounters (Crawford, 2019; Fetterman, 1989). Dependability was demonstrated by meeting with dissertation members during each phase and triangulation with the use of field notes, drawings, memos, NASA-TLX tool, Fatigue Likert scores, focus groups, transcribed notes and audio-recordings. Confirmability was noted through audit trails, rich text, and in-vivo quotes, and the researcher's reflexivity as noted in field notes and memos. Transferability is believed to be the most important part of trustworthiness. If the audience can see this in their own culture, areas they work, or in other triage areas, then this research has successfully achieved transferability. Authenticity was the use of the researcher's emergency nursing experience and reflexivity (Crawford, 2019; Fetterman, 1989).

## **Results**

The researcher made strategic choices due to the sheer volume of data. These results are not comprehensive. Selective views based on the strategies of the decision-making process from the lens of the ETN are presented.

### **Personal Factors**

A total of 20 triage nurses participated: 15 in the observational phase, and an additional five in the focus group sessions. Table 1 describes the demographics of these ETNs. A total of 142 cases of ETN nursing triage were observed over the 5-day period. Cases were defined as the triage encounters during the observation period. See Appendix B for specific details.

As data generation was completed prior to the COVID-19 pandemic, the researcher became aware that the results of this study would be different due to the change in triage process, especially with the absence of the patient's own advocate. Discussion will include the transformation knowledge that could be applied to the impact of this dynamic process.

### **Themes**

The primary organizing theme that described the ETN's actions and triage decision-making process was Persevere. Merriam Webster's definition is the "continued effort to do or achieve something despite difficulties, failure, or opposition (Merriam Webster). During observation, analysis of the field notes, and focus groups, the theme, "despite this...we overcame...we persevered" emerged. All are engaged in the process of perseverance. The ETN wasn't doing a good job in assessing the patients, whereas the patient was not doing a good job in expressing how sick they are. Blame was put on each one of them. Perseverance takes us out of the clinical space and gives us an idea of the experience of the ETN, patient, Team Patient, and all involved in interactions with the ETN. The ETN's ability to persevere in triage, while working in a chaotic environment that includes high patient volume and acuity, interruptions, and strained resources, creates a challenging position. Perseverance continues from the patient and their advocate's point of view as they advocate for care, vying for position and treatment. This environment creates challenges to make important decisions for those providing care and those who are receiving it.

### **Perseverance of the Emergency Triage Nurse**

The ETN's ability to operate in this high temporal and mental demand, while putting a high amount of effort, creates a demanding environment in following the triage process. However the ETN not only performs the primary purpose of assigning a triage acuity score, but they are responsible for the roles of medical translator (explaining the process and information to the patient and their advocate), negotiator of wait times, provider of compassion, and advocate for the patient dyad. The ENA recommends at least 1-year emergency nursing experience and education in the ESI 5-level triage algorithm (Figure 1) in order to perform within this position (Martin et al., 2014; Stone & Wolf, 2017). However, the newly oriented nurse may not be given the tools to establish an acuity score while taking on the additional roles as noted.

It is important to have qualified ETNs based on their ability, not on their experience as an emergency nurse—because not all experienced nurses are experts (Considine et al., 2007; Sanders & Minick, 2014). The ETN requires strong communication skills, the ability to see the global picture of the ED and anticipate the ever-changing environment.

#### **“Why was this the day”? (FG #2)**

The triage setting has a fast temporal demand that includes the ability to assess and assign the appropriate triage acuity score so that one can quickly identify life-threatening presentations and be always prepared for the next crisis. Therefore, the ETN's strength of communication, both verbal and nonverbal, with the patient dyad was key to gathering vital information to assign the appropriate triage acuity. The ETN needs

to be both succinct in their questioning, restating and redirecting with the initial fact-finding mission, and have the ability to listen to their story, and find the answer to “Why was this the day” while anticipating the next step in the trajectory of care (Johnson et al., 2021).

**“You need to know all the potential possibilities. Not the actual complaint.” (FG1)**

The importance of acknowledging the encounters with an eye-to-eye contact while engaging with a smile, leaning forward, and providing a comforting hand was noted during many of these interactions. This is not just promoting engagement with the patient dyad, but also assessing the patient’s skin temperature, radial pulse, neurological state, ability to vocalize, etc. The focus group sessions discussed strategies they used in viewing the bigger problem of not just the complaint, but the surrounding events. For example, if a patient complained of a fall, was it because they tripped, became weak, or syncope? These details could change the ESI triage acuity score, time to treatment, and outcome

**Listen, Acknowledge, and Apologize**

This was a frequently recurring theme as the ETN attempted to perform their assignment. Many of the interactions between the ETN and Team Patient were to listen to what was said, acknowledge the information, and then apologize to the patient for not meeting their expectations. Many discussions surrounded the need of waiting for care. This continues to be a challenge as the acuity and volume of ED in the US rise, leading to longer delays in care. The ETN also required prowess in conflict management with Team Patient’s interactions. Diffusing and preventing these situations were



discussed in the focus groups. Being repetitive and providing the same message, not meeting the disruptive tone of this individual's voice, and calmly answering questions, setting limits, were some of the many tools used to manage the situation. Others were observed purposely not meeting the eyes of the interrupter, as they were attempting to maintain their focus on the current individual being interviewed and assessed in triage. All of these interactions continue to disrupt the triage process, as the ETN is actively managing both the patient, Team Patient, and the interrupter.

### **Knowing**

It was observed during the triage case studies that in many instances, the ETN was able to recite why the patient was there and even additional information. Despite triaging someone prior to them, they were able to hear the registration process, which included the main complaint. The patient and their advocate were seen expressing surprise and admiration for the ETN's abilities to see not just the other people they were triaging, but also be aware of who was waiting to be seen.

It is important that the ETN not only focuses on the person or Team Patient in front of them, but also has the situational awareness, to sense a change in what is occurring in the periphery (Stone & Wolf, 2017). This "eye-balling" or across-the-room assessment provides constant watch for changes in patients and environment. Its value appears to increase as volume within the ED triage area increases (Noon, 2014; Schoneman, 2002; Sibbald et al., 2017; Stone & Wolf, 2017; Wolf, Delao, et al., 2018).

### **“Trying to be constantly aware and anticipate” (FG2)**

The NASA-TLX is a multidimensional assessment tool that measures the mental, physical, temporal demands, frustration, effort and performance perceived by the individual ETN (Hart, 2006; Hart & Staveland, 1988; NASA, 2016). A total of 14 ETNs (1 missing information) participated in completing this pre- and post-analysis of the NASA-TLX tool (see Appendix C). The ETN with greater than 3 years triage experience had a higher increase in mental and temporal demand than those with less than 3 years ETN experience. Research has shown us that novices possess more tunnel vision when they are exposed to new roles, therefore possibly not seeing or acknowledging the competing factors around them (Benner, 1982). However, those with less than 3 years experience, had a higher level of frustration at the end of their observation compared to those with more experience. However, fatigue did not have any statistically significant change for those with less than 3 years compared to those with more than 3 years (see Appendices C and D). Additional research would need to be conducted due to this small study to confirm this trend.

### **Negotiation**

The ETN appeared to be always negotiating with their inner selves, the patient dyad, and ED staff. The main theme with the patient dyad was the wait: to see the triage nurse, to see a provider, to receive care. As wait times increased, so did the interruptions of those who were unsatisfied waiting to be evaluated. Many conversations were noted to include negotiations on both of their parts to encourage the patient to stay, remain patient, and know that they would receive treatment.

Interruptions of the triage nurse initiated the majority of these negotiations. Another challenge was that of self-care of the ETN. The following negotiation with themselves was repeatedly noted throughout the observation periods:

“Will do one more” before I go get something to eat, use the bathroom, go home. The ETN was concerned regarding the effect of their absence, no matter how brief, on the triage process. Communication and delegation of their task while away, assisted in improving this negotiation process in addition to affirmation from the remaining triage team, that it is OK to take a break or leave at the end of your shift.

### **Interpersonal Factors**

#### **Permission to Interrupt**

Interruptions were caused primarily by the patient and their advocate, known as Team Patient. A phenomenon of follow the leader was noted as one person caught the eye of the ETN and came forward to interrupt, and this cued the next interrupter to follow. This phenomenon continued until the ETN or ED staff member ran interference or set limits. The consequences of interruptions during the triage process can lead to missing information, errors, lack of privacy, decreased job and patient satisfaction of those who are being triaged at the time (Cole et al., 2016; Johnson et al., 2018; Reay et al., 2020; Tam et al., 2018).

The cause of interruptions was noted to be questions about seeking information, cell phone use while being triaged, and surrounding noise. The focus groups addressed how they handled interruptions; some participants would require withdrawal from the triage area and sending them to a private room to ask questions; others would not

acknowledge the interrupter until they had completed their current task. It was noted that there were decreased interruptions if there was an ED staff member near the entrance of the ED, guiding those entering to the right destination and assisting in gathering information.

### **Their Person—Their Advocate—Their Voice**

The “Team Patient” was noted to be the primary source of interruptions. Team Patient is made up of both the patient and their advocate, also known as “their person.” Their Person was the primary source of interruptions. It was noted that the female advocate would be the voice of the patient when interviewed during triage, providing information to the ETN. Their Person was observed not only advocating for their triage position, but also assisting with basic needs such as eating, utilizing the bathroom, and also provided distraction during the wait. They became an extension of the triage team, alerting if there were changes in condition, but also interrupting to inquire about their wait and the patient’s process of care.

The lack of Their Person also could have a negative impact, especially of the role as advocate. Increased barriers were noted for the individuals who required assistance with ambulation (walker, wheelchair) or invisible barriers: being hard of hearing, having cognitive impairment, English as a second language, decreased coping due to their presentation, or the need to have basic needs filled. Those presenting by themselves required additional time of the ETN and interaction to receive the patient’s story and essential details needed to designate an acuity score and assist with their care and understanding of the process. One workaround noted was having the patient remain

close and within eye contact to closely monitor the patient if they were alone. This appeared to provide a surveillance safety net, while also reassuring the patient.

### **Not All Interruptions Are Bad Interruptions**

The ETN may be alerted by Team Patient, another ED staff member, or others that there has been a change in a patient's acuity, requiring emergency assistance. This can be caused by long wait times, disease progression, or a new problem. This requires frequent reprioritization for what is happening currently and preparing for what could occur in the future.

## **Organizational Factors**

### **"Most Mentally Engaged"**

"Triage is the place where you should be the most underworked because it is where you're the most mentally engaged" (FG1). The ENA recommends that the ETN spend a maximum of 4 hours working in the triage area during a shift (Gilboy et al., 2020). Due to rapid turnover, lack of qualified staffing, and nursing preference, many do not abide by this recommendation. Mental fatigue can impact the accuracy of assigning the appropriate triage acuity scale. However, accuracy was not investigated with this research model. The ETNs who worked more than 3 years, who participated in the observational phase, did report high levels of mental and temporal workload scores from the NASA Task Load Index (NASA-TLX) while working in the triage area. Discussion among the focus group continued to be about ways of combatting the mental overload and fatigue, by taking the initiative of asking other nurses working in other roles to

switch with them, while others discussed that they were in a groove and didn't feel compelled to switch.

### **Being the Buffer**

Having additional staffing available to support the ETN would assist in decreasing interruptions, therefore creating a consistent triage process. The ETN assumed additional roles due to lack of staffing: consequently registering patients, fielding interruptions, and continuing with their triage. This process decreases the efficiency and increases time in acquiring required information from those currently being triaged. It also increases the possibility of omission of patient information during the interview, which may affect their trajectory of care (Johnson et al., 2018).

### **Evaluation in the Waiting Room**

Due to long waits for treatment, many departments created protocol orders that can be triggered by the ETN to expedite patient care. Protocol orders include blood and urine test, ECG, radiographs, as well as antipyretics and pain medication. Care no longer starts in the treatment area; it can now be initiated at the time of triage. The resulting diagnostic tests then can lead to a re-triage of the patient to better align their needs with resources.

### **Just the Facts**

"We should not be doing the mandated demographic fields, medication reconciliation, and all this crazy stuff." The focus group participants expressed their frustration with the state and federal-mandated data collection required to be completed before starting your triage documentation (Johnson et al., 2021). The triage

process noted that this increases time for triage and increases the bottleneck with this entry process (Castner, 2011). These collected data extend the triage process from the gold standard of 2–5 minutes to 20 minutes (Castner, 2011; Johnson et al., 2018; van der Linden et al., 2016), thereby decreasing the ETN ability to proceed with the triage process and trajectory of care.

### **The Right Person For the Right Job**

It is important that nurses, who are good at triage, be assigned to this position. However, it appears that not all experienced ED nurses are able to effectively perform as triage nurses (Stone & Wolf, 2017). Therefore, it is important to identify those who will effectively set the pace of the ED throughput, utilizing appropriate resources, and assigning appropriate triage acuity in a chaotic environment. The ENA recommends at least one year of emergency nursing experience and encourages certification in emergency nursing, pediatric, and trauma care, in addition to triage education before orienting in triage (Stone & Wolf, 2017).

### **Environmental Factors**

#### **“I See You & You See Me”**

The triage area is the first thing one visualizes upon entering the ED, as this provides an unobstructed view for the triage nurse. However, those entering were unaware of the security desk to the left of the entrance. It appears that most individuals looked toward the right upon entering the triage area, therefore immediately visualizing the triage team. Although signage was posted, those in crisis did not appear to recognize it; what they wanted was a person to address their needs.

### **“Know the Drill”**

The researcher observed those entering the ED who were familiar with these surroundings and processes. One even expressed that they “knew the drill.” It was also noted that many of “their persons” only knew of this process even after the patient was admitted to the hospital. They would continue to park in the emergency department parking area and then use the ED as a jumping off point to walk to the patient’s hospital room.

### **“Do You Hear What I Hear?”**

Privacy remains a challenge within the triage area. A juxtaposition is present when one wants to be able to address sensitive material in a private area, yet still have a visual field that is unhampered. Frequently the ETN was observed reinforcing the need for their patient’s privacy as interruptions occurred from other individuals. Therefore, increasing the chances of omission or error in the triage process (Johnson et al., 2018). Interestingly, there were patients and their advocates sharing the sensitive information of why they were there while waiting in line, at the vending machines, and other areas of the waiting room. Therefore reinforcing the social norms of “no privacy.”

## **Discussion**

Results of this study illustrate the dynamic environment of the triage nurse and the factors that continue to influence their ability to function within their role. The model, The Perseverance of the Emergency Triage Nurse (see Figure 5), was developed based on these results.



The ETN intrinsic factors must have the ability to obtain information in a succinct manner to designate a triage acuity score. The versatility of their position, the ability to fill in the gaps of what is needed now, creates a mental, temporal demand in an effort to efficiently work in this environment. This multitasking has been shown to affect acuity accuracy (Ivanov et al., 2020). Due to these challenges, KATE an adjunctive machine learning (ML) tool to assist with decision-making has been proposed to aid the ETN during patient assessments. The triage accuracy increased from 59.8% from the ETN to KATE's accuracy of 75.9% (Ivanov et al., 2020). This tool may assist the triage nurse with returning to their previous place in the assessment process after the interruption has ended. The use of interruption management strategies would assist in the management of these distractions (Ratwani et al., 2017).

The ENA recommends a triage team that consist of not just the ETN, but also secretaries to register patients, patient care technicians to assist in the placement of patient, security to maintain safety and patient advocates to assist in wayfinding, and connecting Their Person to Team Patient (Stone & Wolf, 2017).

The high demand of the Interruptions played a key part in the ability of the ETN to singularly perform this assessment. Ratwani et al (2017) noted that the team that employed strategies, such as "prepare to resume"; by rehearsing what is currently being performed were more likely to return to their original task. Not all interruptions were negative, as some are necessary and beneficial to Team Patient. Team patient was observed to contact the triage nurse when a concerning change occurred, therefore becoming an extension of the triage nurse; having "eyes on the patient" when they

cannot. Interruptions not only affected the ETN, but also Team Patient. They too were interrupted by other individuals disrupting the triage process, that may lead to omission of critical information. Future education and space design should include interruption strategies to manage both interruptions, but the return to the original task. Further research should investigate interruptions of not just the ETN, but also Team Patient. As the effects may include omission of information, but also connection, trust and feeling of safety while in the care of those in the ED

There is temporal demand to complete triage as quickly as possible due to the congestion in the waiting room, the volume of patients waiting to be seen, and the next case coming through the door. It is important that the ETN has the ability to not only triage the individual in front of them, but to also anticipate the higher acuity patient who shows up. They require flexibility to reprioritize to provide the right care at the right time.

Little has been published regarding the architectural needs of the ED, including the triage area and waiting room. Further research is needed to allow the ETN visibility to entrances, without the invitation to interrupt. Those who “knew the drill” used the main triage entrance, as that is what they were comfortable with, even after the patient was admitted. Assisting in wayfinding to decrease the congestion at the main entrance, may also impact the surveillance needs of the ETN.

### **Limitations**

The use of focused ethnographic research has had limited exposure in the real triage environment; therefore the impact of the investigator’s presence is not known.

Although observation was permitted in the ED triage area, no information was recorded regarding specific patient information, including acuity scores. The researcher was a previous employee of the emergency department and remained an observer, establishing boundaries of discouraging the ED to ask for assistance in care. Regular self-inquiry was documented in field notes and memos so that the “researcher could develop a multidimensional understanding of where the learner side is dominant and where some elements of the clinician side may have been called into action” (Thorne, 2016). A small sample of nurses were able to participate in the focus groups, thereby decreasing representation, although validation was noted with initial findings and similar themes emerged from both sessions. This study occurred in one ED setting, therefore possibly limiting the transferability of these results.

This study was completed prior to the COVID-19 pandemic. We are aware that the results of this study could be different due to the change in triage process, especially with the absence of the patient’s own advocate, their person.

### **Implications for Emergency Nurses**

This research suggests that there are many factors that impact the emergency triage nurses ability to perform their assessments as noted in the Perseverance of the ETN Model (Figure 5) at both the intrinsic level of the nurse (education, knowledge, competency, caring, flexibility, communication, and advocacy), interpersonal layer (interactions with Team Patient, other Team Patients, ED team, EMS, and visitors), organizational level (staffing, policies, protocols, technology, and regulatory documentation), environment of care level (architectural footprint, privacy, sound,

temperature), and an overarching temporal level. Interruptions was the main disruptor during triage process. Team Patient members were the main initiators of both positive and negative interruptions for the ETN, as they notified the ED triage team if a change in acuity occurred and also interrupted to advocate for care. However many of these interruptions were disruptive and could be delegated to a unlicensed position who many assist TP in their needs. The caring for TP is an entire role, especially since TP feels a sense of heightened need to advocate for perceived lack of resources—long wait times, etc. in an emergency. This position would decrease the needed recovery time to return to their original task therefore providing continuity of care.

Triage accuracy is essential in the trajectory of care in the ED. The themes of expertise and qualification to effectively manage triage responsibilities must be taken into consideration when assigning this position, not ED experience. It is important to acknowledge the invisible elements related to this position; the mental, physical, temporal demands, effort, performance and possible frustration perceived by the individual which can affect their ability to fulfill this position. There is a need to decrease this workload so that they can effectively perform their job. The work environment will remain challenging as acuity continues to increase and boarding patients in the ED has become a standard of practice. The KATE system would provide another layer of safety to assist the ETN in assigning the correct triage acuity score of the patient and less likelihood of triaging based on their environment. The advantages are that it operates independently of contextual factors, unaffected by the external pressures that can cause undertriage and may mitigate the racial and social biases that can negatively

affect the accuracy of triage assessment (Ivanov et al., 2020). However, the disadvantages are that it does not take into account the nurses' intuitive knowledge, their ability to anticipate the situation that may not be reflected within the triage algorithm. Although KATE is not going to fix the triage process, it may provide a bandaid until the cure is found.

### **Conclusion**

The ETN position demands versatility. Therefore, it is important that one has the right nurse for the right positions. Education regarding the mitigation of interruptions and recovery, communication strategies, and the surveillance of the global footprint surrounding the ETN role could decrease the mental and temporal workload in addition to the effort of assigning an appropriate triage acuity score. Further research regarding architectural footprint of the triage area, interruption strategies and the investigation of the dynamic of Team Patient should be investigated. It is critical that the Emergency Triage Nurse be given the proper resources, including additional ED triage team members, to decrease the additional steps one needs to take to perform triage in a timely manner. Regulatory documentation (patient demographics) should not be required unless it impacts the triage decision. This responsibility utilizes additional bandwidth that should be directed to the triage process. A nationwide evaluation of the ETN responsibilities could develop a standard of care in triage, including the support needed to maintain this position. Emergency triage nursing remains one of the most important positions in the trajectory of care, it is imperative that ETNs are provided the tools to succeed.

## **CHAPTER 4**

### **RESULTS AND DISCUSSION: THE PERSEVERANCE OF TEAM PATIENT**

#### **Introduction**

Many have described it as the worst day of their lives, entering the ED as a patient or as the patient's advocate. Many of the 139 million people who entered the ED in 2017 had that moment. As the ED's volume and acuity continue to evolve, the complexity of waiting to be seen increases with new barriers to navigate. This focused ethnographic study described the factors that influenced the ETN's decision-making process. This study generated the model, Perseverance of the Emergency Triage Nurse Model (Figure 6), and its relation at various levels, including ETN intrinsic characteristics, interpersonal interactions, organizational, environment of care, and temporal influences.

Interactions between the nurse and the patient with and without the company of a friend or family member were incidental findings. The patient advocate played a critical role in providing information and support during the triage and waiting process. Previous research has identified patient advocacy's influence to improve patient satisfaction, support, and safety (Berger et al., 2014). However, their role evolved based on the needs of the patient. The problem is that this dyad's value was underestimated in the progressions of care when they were not there to advocate and provide needed information and assistance, especially those with physical and invisible (cognitive, hearing, visual, learning, etc.) disabilities. The effects of the absence are compounded as ETNs attempt to fill their roles, even more so during the visitor restrictions and nursing

limitations related to the COVID-19 Pandemic. The purpose of this sub-analysis, embedded within the larger ethnographic study, was to identify themes of the patient who is alone or accompanied, their advocate, and the patient-advocate dyad known as Team Patient. A discussion is included into the possible impact of the COVID-19 pandemic on these relationships and processes. These data were generated prior to the COVID-19 pandemic; therefore, the findings continue to provide a framework based on the Visitor Restriction rules' effects during this time.

## **Method**

### **Design and Setting**

This focused ethnographic study (Smithline, 2021) was conducted in an urban Level 1 trauma academic emergency department with an average of 120,000 visits annually. A single nurse researcher with Board Certification in Emergency Nursing (CEN) and over 35 years of nursing with specific knowledge of the triage and ED environments performed intermittent observations between the peak times of 11 am – 11 pm for 5 days over 10 days. These observations involved the interactions of the ETN, including the patient dyad (patient & advocate) at the triage area and rounds of the waiting room and entrance environment. A total of 16 observation periods occurred during this time, followed by two focus groups. Structured field notes were generated during the observation periods.

### **Sample and Recruitment**

The study received institutional review board approval. Observations occurred in October 2019, followed by focus groups in December 2019 before the onset of the

COVID-19 pandemic and the implementation of visitor restrictions. An email was distributed to all triage nurses by the Emergency Department, inviting them to participate in either the triage observational, focus group, or both. The ETN must have at least completed the triage training and was currently working in the triage position to be eligible for the study. The research used purposeful sampling of the ETN in both phases. All participants provided informed consent before the initiation of data collection.

### **Data Collection**

Data were collected in four phases (see Appendix A). Phase 1 involved the Grand Tour of the ED triage area and waiting room, including the main entrance. Three 60 minute periods of observation were conducted between the hours of 11 am and 8 pm. Phase 2 included the Focused observation of the ETN during triage encounters. This observation covered four 60-minute direct observation episodes over five days, with field notes documenting the interactions of the ETN with Team Patient, staff, and other individuals in the triage area. The investigator also would round and record their observations in the waiting room. Phase 3 involved initial coding of the observation data, which served as a framework to develop the semi-structured questions for the focus groups to validate the themes. Phase 4 occurred in December 2019 with two focus groups of ETN from the same emergency department. It was led by the PI and an additional researcher who assisted with field notes. ETN study volunteers consented before the 60-minute group interviews. The semistructured interview guide was based on the initial coding and themes from Phases 1, 2, and 3. The sessions were audio-



recorded and transcribed verbatim. Additional field notes were generated during these focus groups.

### **Data Analysis**

Focused ethnography methods guided the analysis (Crawford, 2019; Jennings et al., 2011; Sandelowski, 2004; Sandelowski, 2011; Sandelowski & Barroso, 2003). The data were analyzed in a 3-step process: Step 1 initial open coding with line-by-line analysis, constant comparison of episodes, bracketing researcher's assumptions, thoughts, notes, and insights. This was followed by Step 2 utilizing axial coding, which reduced codes and merged them into categories, paradigms (Heath & Cowley, 2004). Step 3 identified emerging theory or phenomenon after saturation had occurred with categorizing, selecting code, and integrating the categories (Cruz & Higginbottom, 2013; Heath & Cowley, 2004; Thorne, 2000, 2016; Thorne et al., 1997). Trustworthiness was established thru credibility, dependability, and transferability (Fetterman, 1989; Lincoln & Guba, 1985; Sandelowski, 2004). Credibility included sharing initial analysis with focus groups to validate the findings, triangulation through the use of field notes, drawings, memos, NASA-TLX tool, fatigue Likert scores, focus group's transcribed notes, and audio-recordings. Prolonged engagement and persistent observation as noted by the 142 triage encounters observed. Member checking occurred with both the focus groups and committee members. Prevalent themes were discussed with those in the focus groups to either support or deny these findings. The researcher met with the committee members throughout each phase of the study to discuss coding and emerging themes and model. Dependability included memos and audit trail thru the analysis stage. The

study demonstrated transferability based on the use of thick description. However, generalizability would need to be established through additional confirmation with experts.

The themes of patients and their person initiating interruptions were supported by previous research (Brixey et al., 2007; Cole et al., 2016; Johnson, 2013; Johnson et al., 2014; Johnson et al., 2018). However, this observation remained in the triage area and did not include the main ED.

## **Results**

### **Team Patient**

During the study's observation period, many family and friends would accompany and assist the patients in each step of the triage process. They were also present individually or as a dyad in other areas of triage and the waiting room. The advocate's presence was noted but uncounted in the volume of those waiting to be seen in the common area of the triage and waiting room. This presence led to observing their position regarding care coordination, providing information, prompting, and supporting each other. The advocate also helped translate the ETN information if the patient had difficulty understanding, assisted with basic needs and navigation of their care. Their presence also provided the interpersonal and social support required at the moment. Therefore the researcher identified them as Team Patient (TP). This advocate was not just an extension of the patient but also that of the ETN.

### **Their Person—Their Voice—Their Advocate**

Their advocacy started as soon as they arrived through the main ED entrance by alerting the surrounding area for immediate attention if needed and assisting those who required assistance with a wheelchair or arm for ambulation. Their person, identified as their advocate, accompanied them to triage to help to answer the questions of why they were. TP included critical information regarding the patient's past medical history, medications, and other pertinent information that could change the trajectory of care. It was also noted that the majority of patients accepted their person to be their voice.

The advocate's role was observed to increase based on the patient's cognitive abilities, those with difficulties hearing or verbalizing due to disease, English as a second language, behavioral health needs, physical needs requiring assistance, pain/discomfort, or those who appeared to be overwhelmed with the circumstances that led them to this moment.

Their Person's role did not end in triage. They were seen providing the gaps of care and resources needed while the patient waited in the waiting room. Patients who required assistance with wheelchairs, navigating the waiting room seating area, meeting basic needs like toileting and nourishment, but most importantly, being there to support in the present. They were also responsible for advocating for care, inquiry of the next phase of treatment, and ensuring that Team Patient was not forgotten. Another role that may be overlooked is the advocate filling in as an extension of the triage nurse. As the waiting room becomes congested and waits times increase, Their Person was

observed monitoring the patient and alerting the ED triage team for any changes as they waited.

### **Interruptions—The Bad and the Good**

Interruptions were the primary intrusion during triage, therefore delaying the process and care. Interruptions were noted to be initiated by the patient, advocate, visitors, Emergency Medical Services (EMS), and other ED team members. Team Patient primarily initiated these disruptions with questions regarding wait time, plan of care, wayfinding, and advocating for additional care due to status changes. They also sought out information regarding the results of protocol orders for x/rays and labs. Their person would contact nursing if there were problems with changes; pain, GI distress, in mentation, or worsening of symptoms & acuity. This development alerted the ETN to readdress the need for immediate assistance, additional resources, or the need for appropriate intervention or redirection. Thereby decreasing the chance of negative consequences and outcomes.

### **How Team Patient Interrupted**

Urgency appears to remove all social cues in how one waits to be seen. The author noted the phenomenon of “follow the leader.” Once one person interrupted the ETN while they were triaging, the door opened up for additional interruptions from other Team Patients. This frequently created a delay in care as the ETN would require the ceasing of another Team Patient’s triage process to address the interrupter’s needs. This interruption can also be disruptive to the Team Patient who was currently being assessed for triage. Vital information may be omitted, a poor decision made, and the

nurse-patient relationship affected, resulting in a negative outcome (Johnson et al., 2018). This phenomenon suggests that interruptions do not just affect the ETN.

### **Virtual Team Patient**

The patient who arrived alone was not necessarily alone during their stay in the waiting room. The advocate was observed to be “virtually present” through the use of technology via phone or video. The patients were observed receiving support and a needed distraction. Their virtual advocate also gave the patient the responsibility to provide updates regarding care and encouragement to seek additional information from the ETN regarding the status of Xrays, labs performed, and wait time to be seen.

### **Community Team Patient**

It was noted that some of the unaccompanied patients requiring assistance, either immediately or eventually, were adopted by the community around them, including other patients or Team Patients. Urgency provided advocacy by the community located in the triage line or waiting room. It was an immediate response to the basic needs of either getting a wheelchair for someone unable to walk or the individual’s apparent distress (i.e., symptoms of stroke). This community response was dynamic, as it could be transferred to other Team Patients who could advocate for their needs at that moment and became extensions of communication to the ETN.

### **Isolated Patient**

There was a challenge for the observed unaccompanied patients presenting to triage, including those with physical and invisible disabilities. Invisible disabilities include vision, movement, thinking, remembering, learning, communicating, hearing, mental

health, and social relationships (CDC, 2020), which were revealed during the triage process. Many of these disabilities were observed to require additional resources and time to complete the triage process. Interpreters were necessary for those who did not speak English.

In comparison, other unaccompanied patients were overwhelmed and had difficulty answering questions or understanding the process of care. It was noted that some of the ETNs would have them sit closer to triage so that they could “keep an eye on them,” and conversely, the patient could keep an eye on the ETN. This visual reminder demonstrated that the patient was not alone and forgotten. Someone cared that they were there.

The unaccompanied patient, who required a mask, was observed to be self-isolating in the waiting room. They would sit in the furthest areas, away from the other occupants of the waiting room. The majority of these patients appeared to be alone with the waiting room residents respecting and maintaining distance and interaction with these isolated individuals.

### **Prepared Team Patient**

There were varying degrees of preparedness noted of the dyads in both triage and the waiting room. Some Team Patients “knew the drill” and presented the medications with PMH in writing to the ETN and were prepared with snacks, drinks, reading material, change for the vending machine, and most importantly, a phone charging cord. They knew the emergency department’s layout, and some even assisted others with wayfinding and what the process was. They contributed to the feel of

community within the waiting room, offering assistance and direction for those who needed it. At the same time, they were also those who appeared to be in denial of coming to the ED. Primarily it was the advocate who appeared more prepared, encouraging the patient to accurately self-report and not underreport.

## **Discussion**

### **Before COVID-19 Pandemic**

The TP's impact was noted even in Pre-COVID times, as those who were not just seeking treatment but also advocating for care and assistants. This dyad played an integral part in the triage process, continuity of care, and patient support. They also appeared to be an extension of the ETN, monitoring their patient for changes and alerting when these occurred.

Research has included the patient and visitor as separate units regarding interruptions, yet not as a dyad, and therefore the impact requires exploration in the triage setting (Johnson et al., 2018; Johnson, 2013; Ratwani et al., 2017). Johnson et al. (2018) demonstrated that interruptions during the triage process extended the triage time from an average of 4.54 minutes to 6.64 minutes ( $p = 0.004$ ), resulting in delays that could compromise patient outcomes. Many of the observed interruptions involved inquiry regarding wait times, wayfinding, care updates. These topics could be delegated or intercepted by an ED position such as an ED patient advocate. They can assist without the impact of interruptions on patient care.

## **COVID-19 Pandemic**

As we know it, the Team Patient is no longer present due to the visitor restrictions associated with the COVID-19 Pandemic. Patients now enter the ED on their own, seeking care and requiring their voice. This has created challenges for those who have visible and invisible disabilities. (CDC, 2020). Without Their Person, they were denied equal access to care. As the world was trying to flatten the curve, hospital organizations maintained strict guidelines with visitors' entry into the hospital. Therefore, many with these disabilities were facing the challenges of communicating their needs. ETN needed to fill that gap in alleviating their anxiety while exchanging information and understanding these uncharted waters. The importance of Team Patient was noted during this study to not only communicate accurate information regarding the patient's psychosocial history but assist the patient with their needs and provide support. A valued resource during these limited resource times. Yet this position was not factored into the first wave of the pandemic.

It was noted that unaccompanied patients were reported to develop a community within the waiting room to assist each other when needed when not wearing a mask. However, the COVID 19 guidelines stressed the use of face masks and social distancing, which may have impacted this waiting room community. The use of technology was also noted for those alone in the ED, providing their virtual TP. However, the older population and those with disabilities may not have the option of having their VTP to support them due to the lack of operation access or ability.



The Office of Civil Rights at the US Department of Health and Human Services noted that the elderly and disabled were denied equal access to care during the initial times of the Pandemic (Francis, 2020; Leiter & Gelfand, 2021; Lewis et al., 2020; Pellicano & Stears, 2020; Shapiro, 2020). The first wave of the pandemic created isolation for the patient and additional barriers for the healthcare team to provide appropriate care and caring for the individual, therefore creating a more significant gap in care (Francis, 2020; Leiter & Gelfand, 2021; Pellicano & Stears, 2020; Shapiro, 2020). There were attempts to provide communication through a virtual platform due to visitor restrictions, but this required the healthcare staff to assist in the process. Video and telephone alternatives technology required breaking through barriers with hearing and visual impairments. The older adult may also have the inability to understand due to cognition and dexterity with these devices' operations, creating frustration and discouragement in their use (CDC, 2021; Sonis et al., 2020). Virtual Team Patient could still advocate for care and provide crucial information to assist in the triage interview and assessment, but only after communication was initiated. The ED Team's process of initiating contact in a fast-paced environment could delay the needed time-sensitive information and decisions. Most importantly, this did not replace the physical presence of their person, their advocate.

As a result of the inequity of care for those with disabilities, many states, including Connecticut and Massachusetts, amended the visitor policies before the pandemic's second wave. Their orders allowed patients with disabilities to have a designated support person to assist them with their psychosocial needs and medical

care (Gifford et al., 2020; Healy, 2020; Fink, 2020). However, they did not address the older population, which continued to widen the gap of care. Also, signage posted at many ED entrances omitted the exception to the rule that those with disabilities had a right to the presence of an advocate (Shapiro, 2020; Valley et al., 2020).

This researcher recommends that all patients entering the ED have the right to have Their Person accompany them through their ED visit. Most ED visits are unplanned, therefore creating anxiety about their future healthcare treatments, needs, and safety. The lack of Team Patient could lead to sub-optimal care. Team Patient would decrease not only that anxiety but also provide support, assistance with basic needs and provide vital information that could impact clinical decisions and outcome (Sulkes & Committee on Public Policy and Advocacy, 2020). Hospital organizations would also need to allocate staff to assist in any use of required PPE to ensure this reunion's success. This model would require the support of National COVID-19 funds to provide the hospital organization's additional financial needs, especially those in urban and rural areas. Taylor et al. (2020) suggested using medical students as Family Engagement Navigators in the ICU (Taylor et al., 2020). This author recommends that all pre-licensure medical, nursing, and physician assistant students assist in this gap of connection with and without the presence of the patient's advocate. This will help fill the communication needs and navigation throughout care and emotional needs by Team Patient and assist in more clinical exposure for the students.

To prevent further confusion and unequal access to care, the Biden administration, HHS, and CDC should initiate a standard of care for visitation,

communication with family and friends for all healthcare organizations (Leiter & Gelfand, 2021). It is a priority during emergency care. There is a temporal demand to obtain information quickly and decisions made, especially for those who do not possess the ability or capacity to consent. Therefore all healthcare organizations must permit Team Patient entry.

It is vital that once thinking outside the box, to reunite Team Patient by allowing an individual to be their designated person for their stay. Rapid COVID-19 testing has quickly grown in availability and could meet the needs of those who would like to be part of Team Patient. This would require testing before entering the emergency triage area, and the negative results would allow reunification of the dyad to assist in care. Their presence would also decrease the triage team's need to help in basic ADL and give the needed extension of the ETN for monitoring patients for changes in acuity.

It is recommended that the CDC should provide protocols for visitor screening and those who have received COVID-19 immunizations. As noted, rapid COVID-19 testing has become easily accessible, and many of the population have received the vaccine. This information would provide risk mitigation with the reintroduction of visitors, creating a safer environment for their presence within the ED, and removing barriers for marginalized care.

“Family presence at the bedside, along with regular communication between healthcare providers and their patient and families, are not indulgences—they need to be part of the standard of care (Leiter & Gelfand, 2021).”

## **Conclusion**

In conclusion, Team Patient's presence provided critical information regarding the patient and became an extension of the ETN as they monitor for changes in acuity. The patient's advocate provides psychosocial support that others cannot replace in this time of stress. Despite the interruptions generated by this dyad, the positive outweighs the negative with their presence. Further research should delve into this relationship and its impact on care and providing the voice of all who cannot.

## **CHAPTER 5**

### **CONCLUSION AND RECOMMENDATIONS**

Emergency triage nursing determines the trajectory of care based on the assigned triage acuity score. The information obtained from the patient should be without barriers, distractions including interruptions. Unfortunately this succinct process does not occur in the current environment of triage. This focused ethnographic study identified the many factors that influence the decision-making process of the ETN.

The ETN requires the ability to work within a high temporal and mental demand, to possess the communication skills to gather critical information from the patient and their person and have the ability to listen and see the potential possibilities of the patient's presentation. The nurse should possess an expertise in not just observing the patient in front of them, but also surveying the surrounding environment, understanding that one needs to constantly anticipate the next critical event. One needs the right nurse for the right job. Therefore it is important to provide the resources, education, and support to nurture these nurses while they are developing as emergency nurses prior to their assumption of the triage role.

The primary disruptors noted were interruptions. Interruptions occurred usually while a nurse was triaging a patient by the ED team, EMS, visitors, other patients, and advocates. Other Team Patients was the primary source of this disruption in the triage process. However it was noted that there was a decrease in these events if a staff member acted as a buffer preventing the interruption. The importance of staffing this

position would decrease the many interruptions, decrease the process time, and improve the workload of the nurse and increase optimal outcome of the patient.

Organizational requirements also were seen as factors that influenced the decision-making process. Staffing policies not just including the assigned staff, but the ability to flex up if there is high acuity or volume, provide a team position of preventing interruption encounters to the ETN. Standard protocols have assisted in the initiation of care in the waiting room; however, this is implemented by the ETN which requires them time to activate the orders.

The regulatory demographic burden required as part of triage, despite the lack of impact on their care, increases the triage process. These questions asked before the patient is processed provide frustration for both the patient, their advocate, and ETN. These mandatory fields should not be at the beginning of triage.

The environmental factors impacted the lack of privacy of the patients and the distractions of sound. The architectural footprint encouraged interruptions of the ETN, distractions of movement of those entering and walking through the triage area. All impacted the mental workload of this team.

The final factor was time. The temporal awareness of all present with both the ETN, the ED team, Team Patient, unaccompanied patients, EMS, visitors, and the triage patient. Those from the triage team were “getting through the triage line” and preparing for the next critical patient arrival. While the patients, advocates, visitors were of a mindset of “when will I be seen?” while they were waiting—waiting to be triaged, to be treated, to be cared for. Unfortunately this requires improvements of the

interpersonal, organizational, and environmental levels to decrease the temporal demand of waiting to be seen.

The incidental finding of Team Patient and their importance is even more pronounced due to the COVID-19 restrictions. As noted in Chapter 4, it is imperative that the federal and healthcare agencies provide guidance and promote visitors as a standard of care so that no patient is alone, that their voice and needs are heard. This will not only alleviate the hazards of the patient being alone and isolated, it will also decrease the moral distress of the healthcare providers during these uncharted times. “We can seize the opportunity to create systems of COVID-19 care that are not only grounded in science, but also in empathy” (Leiter & Gelfand, 2021).

## APPENDIX A

### THE FOUR PHASES OF THE FOCUSED ETHNOGRAPHIC STUDY OF EMERGENCY TRIAGE NURSES

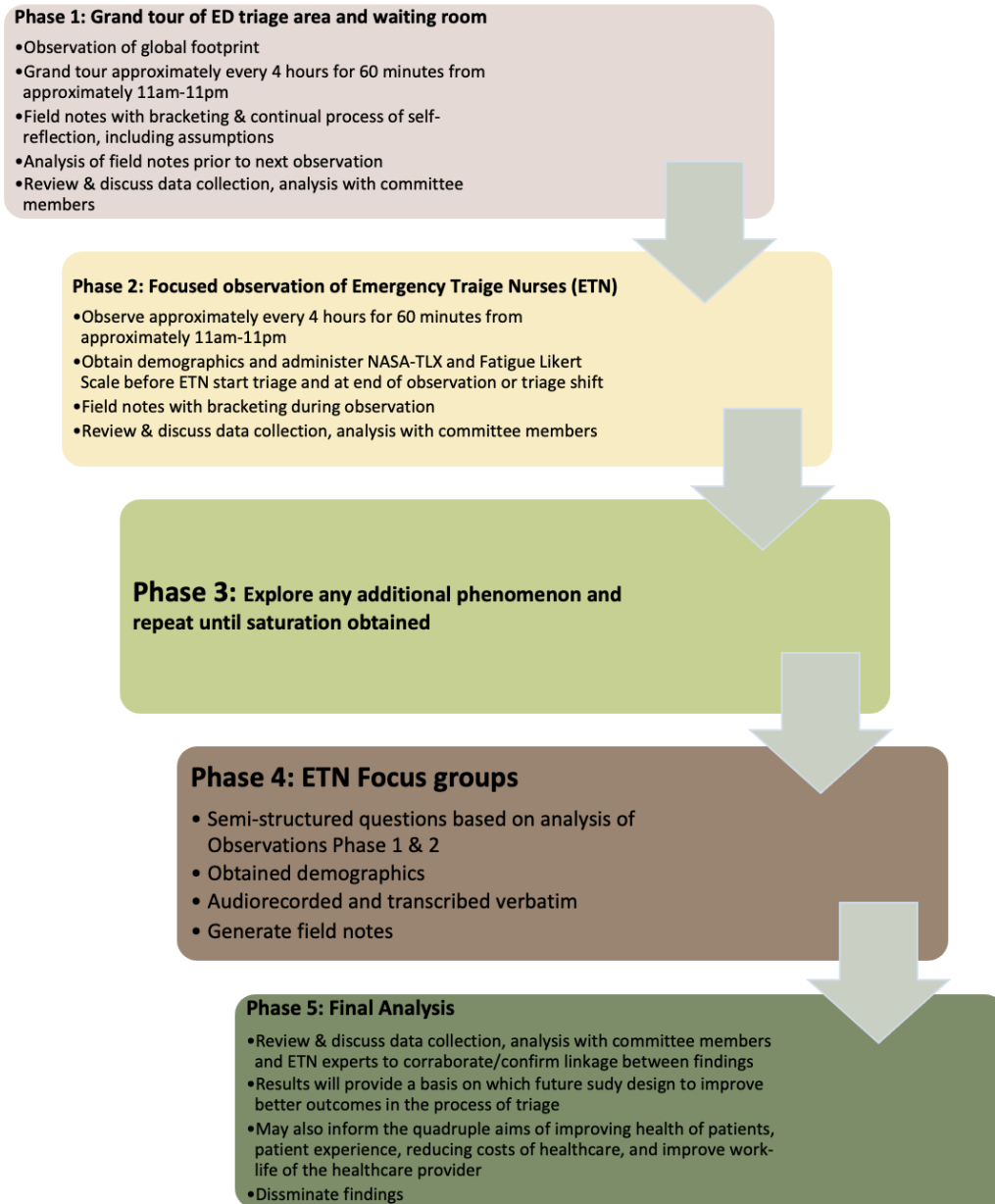


Figure 3: Ethnographic study of emergency triage nursing process.

Note: Each phase includes description and instruments used to gather data.



## APPENDIX B

### PARTICIPANT DEMOGRAPHICS

Table 1: Observation participant demographics.

#### Nursing Demographics

##### Emergency Triage Nurse - Observation Participants

n-15

	Median	25 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile		
Age (Category)	26-30	31-35	46-50		
Years as RN (Category)	7-10	7-10	21-25		
Years as Emergency Nurse (Category)	7-10	3-6	16-20		
Months/years as Emergency Triage Nurse (Category)	3-6	1-3	16-20		
Months/years in healthcare (Category)	11-15	7-10	26-30		

Current Certifications (Category)	CEN n=3 (20%)	TNCC n=13 (86.7%)	ENPC n=3 (20%)	ACLS n=14 (93.3%)	PALS n=4 (26.7%)
First Nursing Licensure (Category)	Diploma n=1 (6.7%)	ASN n=7 (46.7%)	BS/BSN n=7 (46.7%)		
Highest level of education (Category)	ASN n=3 (20%)	BS/BSN n=9 (60%)	MS/MSN n=1 (6.7%)	Other (BA) n=2 (13.3%)	
Worked as Emergency Nurse in other emergency/urgent care settings (Category)	Yes n=4 (26.7%)				
Worked as ETN in other emergency/urgent care settings (Category)	Yes n=4 (26.7%)				
How many places have you practiced as an RN (Category)	1 place n=3 (20%)	2 places 7 (46.7%)	3 places 1 (6.7%)	4 places 1 (6.7%)	5 places n=3 (20%)
How many hours do you typically work in week?	24 hrs n=2 (13.3%)	32-36 hrs n=4 (26.6%)	>36 hrs n=9 (60.1%)	Range: 24-50hrs/week	

Table 2: Focus group participant demographics.

Nursing Demographics					
Emergency Triage Nurse – Focus Groups					
n-5					
	Median	25 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile		
Years as RN (Category)	41-45	31-35	46-50		
Years as Emergency Nurse (Category)	21-25	7-10	21-25		
Months/years as Emergency Triage Nurse (Category)	16-20	7-10	21-25		
Months/years in healthcare (Category)	11-15	3-6	16-20		
Current Certifications (Category)	CEN n=3 (60%)	TNCC n=5 (100%)	ENPC n=1 (20%)	ACLS n=5 (100%)	PALS n=0 (0%)
First Nursing License (Category)	Diploma n=0 (0%)	ASN n=1 (20%)	BS/BSN n=4 (80%)		
Highest level of education (Category)	ASN n=1 (20%)	BS/BSN n=4 (80%)	MS/MSN n=0 (0%)	Other (BA) n=0 (0%)	
Worked as Emergency Nurse in other emergency/urgent care settings (Category)	Yes n=0 (0%)				
Worked as ETN in other emergency/urgent care settings (Category)	n=0 (0%)				
How many placed have you practiced as an RN (Category)	n=0 (0%)				
How many hours do you typically work in week?	24 hrs n=0 (0%)	32-36 hrs n=0 (0%)	>36 hrs n=5 (100%)	Range: 36- 48hrs/week	

## APPENDIX C

### NASA-TLX ANALYSIS

Table 3: NASA-TLX pre- and post-values percentage of change.  
(N = 14 (missing information = 1))

Worked Triage 0-3 years >3 years	P Value	95% CI	
Change in Mental demand	p=0.015	1.267-9.563	Those with >3 yrs. of experience had higher levels of mental demand
Change in temporal demand	p=0.032	0.4603-8.742	Those with >3 yrs. of experience had higher levels of temporal demand
Change in frustration	p=0.011	-21.517—3.501	Those with >3 yrs. had lower levels of frustration

## APPENDIX D

### FATIGUE LIKERT SCORE ANALYSIS

Table 4: Pre- and post-Fatigue Likert score analysis.

n=14			
	Mean	Std. Err.	95% CI
Pre-fatigue	3.928571	.6585389	2.505885-5.351258
Post-fatigue	5.714286	0.6987318	4.204768-7.223804

- **Fatigue Likert Scale**
- **p=0.12**

## BIBLIOGRAPHY

- Alba, B. (2018). Factors that impact on emergency nurses' ethical decision-making ability. *Nursing Ethics*, 25(7), 855–866. <https://doi.org/10.1177/0969733016674769>
- Alba, T., & Stake, R. (2014). Science of the particular: An advocacy of naturalistic case study in health research. *Qualitative Health Research*, 24(8), 1150–1161. <https://doi.org/10.1177/1049732314543196>
- Arslanian-Engoren, C. (2004). Do emergency nurses' triage decisions predict differences in admission or discharge diagnoses for acute coronary syndromes? *Journal of Cardiovascular Nursing*, 19(4), 280–286.
- Benner, P. (1982). From novice to expert... the Dreyfus Model of Skill Acquisition. *American Journal of Nursing*, 82, 402–407.
- Benner, P., Tanner, C. A., & Chesla, C. A. (1997). Nurse practitioner extra. Becoming an expert nurse... adapted with permission from *Expertise in Nursing Practice: Caring, Clinical Judgment, and Ethics*, by Patricia Benner, PhD, RN, FAAN, Christine A. Tanner, PhD, RN, FAAN, and Catherine A. Chesla. *American Journal of Nursing*, 97(6), 16BBB–16DDD 2p.
- Berger, Z., Flickinger, T. E., Pfoh, E., Martinez, K. A., & Dy, S. M. (2014). Promoting engagement by patients and families to reduce adverse events in acute care settings: A systematic review. *BMJ Quality & Safety*, 23(7), 548–555.
- Bergs, J., & Gillet, J. (2012). Comment on “Under-triage as a Significant Factor Affecting Transfer Time between the Emergency Department and the Intensive Care Unit”. *Journal of Emergency Nursing*, 38(4), 320–321. <https://doi.org/10.1016/j.jen.2011.09.022>
- Brown, A., & Clarke, D. E. (2014). Reducing uncertainty in triaging mental health presentations: Examining triage decision-making. *International Emergency Nursing*, 22(1), 47–51. <https://doi.org/10.1016/j.ienj.2013.01.005>
- Carayon, P., & Gurses, A. P. (2008). Nursing workload and patient Safety—A human factors engineering perspective. In R. G. Hughs (Ed.), *Patient safety and quality: An evidence-based handbook for nurses* (Chapter 30). Agency for Healthcare Research and Quality (US).
- Castner, J. (2011). Emergency department triage: What data are nurses collecting? *Journal of Emergency Nursing*, 37(4), 417–422. <https://doi.org/10.1016/j.jen.2011.01.002>
- Castner, J. (2021). Health disparities and emergency nursing. *Journal of Emergency Nursing*, 47(1), 6–9. <https://doi.org/10.1016/j.jen.2020.11.004>

- Centers for Disease Control and Prevention (CDC). (2017). *CDC Health US special features: Emergency Department*. <https://www.cdc.gov/nchs/fastats/emergency-department.htm>
- Chalfin, D., Trzeciak, S., Likourezos, A., Baumann, B., & Dellinger, R. P. (2007). Impact of delayed transfer of critically ill patients from the emergency department to the intensive care unit. *Critical Care Medicine*, 35(6), 1477–1483. <https://doi.org/10.1097/01.CCM.0000266585.74905.5A>
- Cole, G., Stefanus, D., Gardner, H., Levy, M., & Klein, E. (2016). The impact of interruptions on the duration of nursing interventions: A direct observation study in an academic emergency department. *BMJ Quality & Safety*, 25(6), 457–465. <https://doi.org/10.1136/bmjqs-2014-003683>
- Cone, K. J., & Murray, R. (2002). Characteristics, insights, decision making, and preparation of ED triage nurses. *Journal of Emergency Nursing*, 28(5), 401–406. <https://doi.org/10.1067/men.2002.127513>
- Considine, J., Botti, M., & Thomas, S. (2007). Do knowledge and experience have specific roles in triage decision-making? *Academic Emergency Medicine*, 14(8), 722–726.
- Courtwright, A. (2012). *Who is 'too sick to benefit'?* (No. 42). Wiley-Blackwell. <https://doi.org/10.1002/hast.51>
- Crawford, R. (2019). Using focused ethnography in nursing research. *Kai Tiaki Nursing Research*, 10(1), 63–67.
- Cruz, E. V., & Higginbottom, G. (2013). The use of focused ethnography in nursing research. *Nurse Researcher*, 20(4), 36–43. <https://doi.org/10.7748/nr2013.03.20.4.36.e305>
- Desseyn, P. (2017). Triage is a process, not a destination. *Journal of Emergency Nursing*, 43(4), 375–377. <https://doi.org/10.1016/j.jen.2017.03.015>
- Domagala, S. E., & Vets, J. (2015). Emergency nursing triage: Keeping it safe. *Journal of Emergency Nursing*, 41(4), 313–316. <https://doi.org/10.1016/j.jen.2015.01.022>
- Dresser, S. (2012). The role of nursing surveillance in keeping patients safe. *Journal of Nursing Administration*, 42(7), 361–368. <https://doi.org/10.1097/NNA.0b013e3182619377>
- Dubovsky, S., Antonius, D., Ellis, D., Ceusters, W., Sugarman, R., Roberts, R., Kandifer, S., Phillips, J., Daurignac, E., Leonard, K., Butler, L., & Castner, J. (2017). A preliminary study of a novel emergency department nursing triage simulation for research applications. *BMC Research Notes*, 10(1), 15. <https://doi.org/10.1186/s13104-016-2337-3>

- Emergency Nurses Association (ENA) Institute of Emergency Nursing Research, & ENA NINR. (2011). *Emergency Department Violence Surveillance Study*.  
[https://www.ena.org/docs/default-source/resource-library/practice-resources/workplace-violence/2011-emergency-department-violence-surveillance-report.pdf?sfvrsn=5ad81911\\_6](https://www.ena.org/docs/default-source/resource-library/practice-resources/workplace-violence/2011-emergency-department-violence-surveillance-report.pdf?sfvrsn=5ad81911_6)
- Endsley, M. R. (1995). Toward a theory of situation awareness in dynamic systems. *Human Factors: The Journal of the Human Factors and Ergonomics Society*, 37(1), 64–84.
- Fetterman, D. M. (1989). *Ethnography step by step*. Sage.
- Fetterman, D. M. (2010). *Ethnography step by step* (3rd ed.). SAGE Publications.
- Fink, S. (2020, June 09,). Connecticut hospitals ordered to allow visitors for patients with disabilities. *NYTimes*.  
<https://www.nytimes.com/2020/06/09/nyregion/coronavirus-connecticut-hospitals-disabilities.html>
- Folkman, S., & Lazarus, R. S. (1988a). Coping as a mediator of emotion. *Journal of Personality and Social Psychology*, 54(3), 466–475. <https://doi.org/10.1037/0022-3514.54.3.466>
- Folkman, S., & Lazarus, R. S. (1988b). The relationship between coping and emotion: Implications for theory and research. [https://doi.org/doi.org/10.1016/0277-9536\(88\)90395-4](https://doi.org/doi.org/10.1016/0277-9536(88)90395-4)
- Francis, L. P. (2020). Disability nondiscrimination: An urgent issue for pandemic justice. *American Journal of Public Health (1971)*, 110(10), 1458–1459. <https://doi.org/10.2105/AJPH.2020.305880>
- Gerdzt, M. (2001). Triage nurses' clinical decision making. An observational study of urgency assessment. *Journal of Advanced Nursing*, 35(4), 550–561.
- Gilboy, N., Tanabe, T., Travers, D., & Rosenau, A. M. (2011). Emergency Severity Index (ESI): A triage tool for emergency department care, Version 4. Implementation Handbook 2012 Edition AHRQ Publication No. 12-0014. Agency for Healthcare Research and Quality.  
<https://www.ahrq.gov/professionals/systems/hospital/esi/index.html>
- Gilboy, N., Tanabe, P., Travers, D., & Rosenau, A. (2020). *Implementation handbook 2020 edition ESI: Emergency Severity Index. A triage tool for emergency department care*. AHRQ. <https://www.ahrq.gov/professionals/systems/hospital/esi/index.html>

- Göransson, K. E., Ehnfors, M., Fonteyn, M. E., & Ehrenberg, A. (2008). Thinking strategies used by Registered Nurses during emergency department triage. *Journal of Advanced Nursing*, 61(2), 163–172. <https://doi.org/10.1111/j.1365-2648.2007.04473.x>
- Göransson, K. E., Ehrenberg, A., Marklund, B., & Ehnfors, M. (2006). Emergency department triage: Is there a link between nurses' personal characteristics and accuracy in triage decisions? *Accident and Emergency Nursing*, 14(2), 83–88. <https://doi.org/10.1016/j.aaen.2005.12.001>
- Hart, S. (2006). NASA-Task Load Index (NASA-TLX); 20 years later. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 50(9), 904–908. <https://doi.org/10.1177/154193120605000909>
- Hart, S., & Staveland, L. (1988). Development of NASA-TLX (Task Load Index): Results of empirical and theoretical research. In P. Hancock, & N. Meshkati (Eds.), *Human mental workload* (pp. 139–183). North Holland. [https://doi.org/10.1016/S0166-4115\(08\)62386-9](https://doi.org/10.1016/S0166-4115(08)62386-9)
- Healy, M. (2020). Rights of disabled persons to accommodations during COVID-19 crisis. <http://www.mass.gov/ago/civilrights>
- Heath, H., & Cowley, S. (2004). Developing a grounded theory approach: A comparison of Glaser and Strauss. *International Journal of Nursing Studies*, 41(2), 141–150. [https://doi.org/10.1016/S0020-7489\(03\)00113-5](https://doi.org/10.1016/S0020-7489(03)00113-5)
- Hicks, F., Merritt, S., & Elstein, A. (2003). Critical thinking and clinical decision making in critical care nursing: A pilot study. *Heart & Lung*, 32(3), 169–180. [https://doi.org/10.1016/S0147-9563\(03\)00038-4](https://doi.org/10.1016/S0147-9563(03)00038-4)
- Hinsliff-Smith, K., & McGarry, J. (2017). Understanding management and support for domestic violence and abuse within emergency departments: A systematic literature review from 2000–2015. *Journal of Clinical Nursing*, 26(23), 4013–4027. <https://doi.org/10.1111/jocn.13849>
- Hitchcock, M., Gillespie, B., Crilly, J., & Chaboyer, W. (2014). Triage: an investigation of the process and potential vulnerabilities. *Journal of Advanced Nursing*, 70(7), 1532–1541. <https://doi.org/10.1111/jan.12304>
- Holmes, J., Freilich, J., Taylor, S., & Buettner, D. (2015). Electronic alerts for triage protocol compliance among emergency department triage nurses: A randomized controlled trial. *Nursing Research*, 64(3), 226–230. <https://doi.org/10.1097/NNR.0000000000000094>



- Innes, K., Plummer, V., & Considine, J. (2011). Nurses' perceptions of their preparation for triage. *Australasian Emergency Nursing Journal*, 14(2), 81–86.  
<https://doi.org/10.1016/j.aenj.2011.03.003>
- Ivanov, O., Wolf, L., Brecher, D., Lewis, E., Masek, K., Montgomery, K., Andrieiev, Y., McLaughlin, M., Liu, S., Dunne, R., Klauer, K., & Reilly, C. (2020). Improving ED Emergency Severity Index acuity assignment using machine learning and clinical natural language processing. *Journal of Emergency Nursing*.  
<https://doi.org/10.1016/j.jen.2020.11.001>
- Iversen, A. K. S., Kristensen, M., Østervig, R., Køber, L., Sölétormos, G., Lundager Forberg, J., Eugen Olsen, J., Rasmussen, L., Schou, M., & Iversen, K. (2018). A simple clinical assessment is superior to systematic triage in prediction of mortality in the emergency department. *Emergency Medicine Journal (Print)*.  
<https://doi.org/10.1136/emered-2016-206382>
- Jennings, B. M., Sandelowski, M., & Mark, B. (2011). The nurse's medication day. *Qualitative Health Research*, 21(10), 1441–1451.  
<https://doi.org/10.1177/1049732311411927>
- Johnson, K., Gillespie, G., & Vance, K. (2018). Effects of interruptions on triage process in emergency department. *Journal of Nursing Care Quality*, 33(4), 375–381.  
<https://doi.org/10.1097/NCQ.0000000000000314>
- Johnson, K., Punches, B., & Smith, C. (2021). Perceptions of the essential components of triage: A qualitative analysis. *Journal of Emergency Nursing*, 47(1), 192–197.  
<https://doi.org/10.1016/j.jen.2020.08.009>
- Johnson, K. D. (2013). Causes and occurrences of interruptions during ED triage. *Journal of Emergency Nursing*, 40(5), 434–439.
- Jordi, K., Grossmann, F., Gaddis, G., Cignacco, E., Denhaerynck, K., Schwendimann, R., & Nickel, C. (2015). Nurses' accuracy and self-perceived ability using the Emergency Severity Index triage tool: A cross-sectional study in four Swiss hospitals. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, 23, 62.  
<https://doi.org/10.1186/s13049-015-0142-y>
- Keers, R. N., Williams, S. D., Cooke, J., & Ashcroft, D. M. (2013). Causes of medication administration errors in hospitals: A systematic review of quantitative and qualitative evidence. *Drug Safety*, 36(11), 1045–1067.  
<https://doi.org/10.1007/s40264-013-0090-2>
- Lazarus, R. S., DeLongis, A., Folkman, S., & Gruen, R. (1985). Stress and adaptational outcomes: The problem of confounded measures. *American Psychologist*, 40(7), 770–779. <https://doi.org/10.1037/0003-066X.40.7.770>

- Lentz, B. A., Jenson, A., Hinson, J. S., Levin, S., Cabral, S., George, K., Hsu, E. B., Kelen, G., & Hansoti, B. (2017). Validity of emergency department triage tools: Addressing heterogeneous definitions of over-triage and under-triage. *American Journal of Emergency Medicine*. <https://doi.org/10.1016/j.ajem.2017.02.012>
- Leiter, R. E., & Gelfand, S. (2021). *Even during a pandemic, hospitals must make family visits and communication the standard of care*. *STAT*. <https://www.statnews.com/2021/01/09/even-during-a-pandemic-hospitals-must-make-family-visits-and-communication-the-standard-of-care/>
- Lewis, N., Friedrichs, M., Wagstaff, S., Sage, K., LaCross, N., Bui, D., McCaffrey, K., Barbeau, B., George, A., Rose, C., Willardson, S., Carter, A., Smoot, C., Nakashima, A., & Dunn, A. (2020). Disparities in COVID-19 incidence, hospitalizations, and testing, by area-level deprivation—Utah, March 3–July 9, 2020. *Morbidity and Mortality Weekly Report*, 69(38), 1369–1373. <https://doi.org/10.15585/mmwr.mm6938a4>
- Linnarsson, J. R., Benzein, E., Arestedt, K., & Erlingsson, C. (2013). Preparedness to care for victims of violence and their families in emergency departments. *Emergency Medicine Journal*, 30(3), 198–201. <https://doi.org/10.1136/emmermed-2012-201127>
- Locke, L. F., Spirduso, W. W., & Silverman, S. J. (2014). *Proposals that work: A guide for planning dissertations and grant proposals*. Sage Publications.
- Long, E., & Dowdell, E. B. (2018). Nurses' perceptions of victims of human trafficking in an urban emergency department: A qualitative study. *Journal of Emergency Nursing*, 44(4), 375–383. <https://doi.org/10.1016/j.jen.2017.11.004>
- Marcozzi, D., Carr, B., Liferidge, A., Baehr, N., & Browne, B. (2017). Trends in the contribution of emergency departments to the provision of health care in the USA. *International Journal of Health Services*, 20731417734498. <https://doi.org/10.1177/0020731417734498>
- Marshall, C., & Rossman, G. (2016). *Designing qualitative research* (6th ed.). Sage Publications.
- Martin, A., Davidson, C. L., Panik, A., Buckenmyer, C., Delpais, P., & Ortiz, M. (2014). An examination of ESI triage scoring accuracy in relationship to ED nursing attitudes and experience. *Journal of Emergency Nursing; Special Disaster Issue*, 40(5), 461–468. <https://doi.org/10.1016/j.jen.2013.09.009>
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50, 370–396.
- Maslow, A. H. (1954). The instinctoid nature of basic needs. *Journal of Personality*, 22(3), 326. <https://doi.org/10.1111/j.1467-6494.1954.tb01136.x>

- McGarry, J., & Nairn, S. (2015). An exploration of the perceptions of emergency department nursing staff towards the role of a domestic abuse nurse specialist: A qualitative study. *International Emergency Nursing*, 23(2), 65–70.  
<https://doi.org/10.1016/j.ienj.2014.06.003>
- McMahon, B., Hudson, J., Prewitt, J., Carman, M., & Engleson, M. (2017). Measuring fatigue in triage: A pilot study. *Advanced Emergency Nursing Journal*, 39(2), 114–122. <https://doi.org/10.1097/TME.000000000000143>
- Merriam-Webster. *Persevere*. <https://www.merriam-webster.com/dictionary/persevere>
- Mistry, B., Stewart De Ramirez, S., Kelen, G., Schmitz, P. S. K., Balhara, K., Levin, S., Martinez, D., Psoter, K., Anton, X., & Hinson, J. (2018). Accuracy and reliability of emergency department triage using the Emergency Severity Index: An international multicenter assessment. *Annals of Emergency Medicine*, 71(5), 581–587, e3.  
<https://doi.org/10.1016/j.annemergmed.2017.09.036>
- NASA. (2016). *NASA TLX: Task load index*.  
<https://humansystems.arc.nasa.gov/groups/TLX/index.php>
- Niska, R., Bhuiya, F., & Xu, J. (2010). *National hospital ambulatory medical care survey: 2007 emergency department summary*. National Health Statistics Reports 2017. <https://www.cdc.gov/nchs/data/nhsr/nhs>
- Noon, A. J. (2014). The cognitive processes underpinning clinical decision in triage assessment: A theoretical conundrum? *International Emergency Nursing*, 22(1), 40–46. <https://doi.org/10.1016/j.ienj.2013.01.003>
- Pellicano, E., & Stears, M. (2020). The hidden inequalities of COVID-19. *Autism*, 24(6), 1309–1310. <https://doi.org/10.1177/1362361320927590>
- Ratwani, R., Fong, A., Puthumana, J., & Hettinger, A. (2017). Emergency physician use of cognitive strategies to manage interruptions. *Annals of Emergency Medicine*, 70(5), 683–687. <https://doi.org/10.1016/j.annemergmed.2017.04.036>
- Reay, G., & Rankin, J. A. (2013). The application of theory to triage decision-making. *International Emergency Nursing*, 21(2), 97–102.  
<https://doi.org/10.1016/j.ienj.2012.03.010>
- Reay, G., Smith MacDonald, L., Then, K., Hall, M., & Rankin, J. (2020). Triage emergency nurse decision-making: Incidental findings from a focus group study. *International Emergency Nursing*, 48, 100791. <https://doi.org/10.1016/j.ienj.2019.100791>
- Rivers, J. E., Maze, C. L., Hannah, S. A., & Lederman, C. S. (2007). Domestic violence screening and service acceptance among adult victims in a dependency court setting. *Child Welfare*, 86(1), 123–144.

- Robinson, R. (2010). Myths and stereotypes: How registered nurses screen for Intimate partner violence. *Journal of Emergency Nursing*, 36(6), 572–576.  
<https://doi.org/10.1016/j.jen.2009.09.008>
- Rui, P., & Kang, K. (2017). *National Hospital Ambulatory Medical Care Survey: 2017 emergency department summary tables*.  
[https://www.cdc.gov/nchs/data/nhamcs/web\\_tables/2017\\_ed\\_web\\_tables-508.pdf](https://www.cdc.gov/nchs/data/nhamcs/web_tables/2017_ed_web_tables-508.pdf)
- Sandelowski, M. (2002). Finding the findings in qualitative studies. *Journal of Nursing Scholarship*, 34(3), 213–219. <https://doi.org/10.1111/j.1547-5069.2002.00213.x>
- Sandelowski, M. (2011). “Casing” the research case study. *Research in Nursing & Health*, 34(2), 153–159. <https://doi.org/10.1002/nur.20421>
- Sandelowski, M., & Barroso, J. (2003). Classifying the findings in qualitative studies. *Qualitative Health Research*, 13(7), 905–923.
- Sanders, S., & Minick, P. (2014). Making better decisions during triage. *Emergency Nurse*, 22(6), 14–19. <https://doi.org/10.7748/en.22.6.14.e1336>
- Sanders, S. F., & DeVon, H. A. (2016). Accuracy in ED triage for symptoms of acute myocardial infarction. *Journal of Emergency Nursing*, 42(4), 331–337.  
<https://doi.org/10.1016/j.jen.2015.12.011>
- Scheffer, B. K., & Rubenfeld, M. G. (2000). A consensus statement on critical thinking in nursing. *Journal of Nursing Education*, 39(8), 352–359.
- Schneider, S. M., Gardner, A. F., Weiss, L. D., Wood, J. P., Ybarra, M., Beck, D. M., Stauffer, A. R., Wilkerson, D., Brabson, T., Jennings, A., Mitchell, M., McGrath, R. B., Christopher, T. A., King, B., Muelleman, R. L., Wagner, M. J., Char, D. M., McGee, D. L., Pilgrim, R. L., . . . Jouriles, N. (2010). The future of emergency medicine. *Annals of Emergency Medicine*, 56(2), 178–183.  
<https://doi.org/10.1016/j.annemergmed.2010.04.011>
- Schoneman, D. (2002). The intervention of surveillance across classification systems. *International Journal of Nursing Terminologies & Classifications*, 13(4), 137–147.
- Shapiro, J. (2020). *Hospital visitor bans under scrutiny after disability groups raise concerns over care*. NPR. <https://www.npr.org/2020/05/17/857531789/federal-government-asked-to-tell-hospitals-modify-visit-bans>
- Sibbald, M., Sherbino, J., Preyra, I., Coffin-Simpson, T., Norman, G., & Monteiro, S. (2017). Eyeballing: The use of visual appearance to diagnose 'sick.' *Medical Education*, 51(11), 1138–1145. <https://doi.org/10.1111/medu.13396>

- Smith, A. (2013). Using a theory to understand triage decision making. *International Emergency Nursing*, 21(2), 113–117. <https://doi.org/10.1016/j.ienj.2012.03.003>
- Solheim, J., & Wolf, L. (2012). Root out under-triage in the ED. *Case Management Advisor*, 23(6), 67–69.
- Sonis, J., Kennedy, M., Aaronson, E., Baugh, J., Raja, A., Yun, B., & White, B. (2020). Humanism in the age of COVID-19: Renewing focus on communication and compassion. *Western Journal of Emergency Medicine*, 21(3), 499–502. <https://doi.org/10.5811/westjem.2020.4.47596>
- Stake, R. E. (1995). *The art of case study research*. Sage Publications.
- Standing, M. (2008). Clinical judgement and decision-making in nursing—Nine modes of practice in a revised cognitive continuum. *Journal of Advanced Nursing*, 62(1), 124–134. <https://doi.org/10.1111/j.1365-2648.2007.04583.x>
- Stone, E., & Wolf, L. (2017). *Triage qualifications and competency*. (No. 43). United States: Elsevier Inc. <https://doi.org/10.1016/j.jen.2017.08.008>
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park.
- Sulkes, S., & Committee on Public Policy and Advocacy. (2020). *Hospitalized patients and designated support staff policy statement*. [www.aadmd.org](http://www.aadmd.org).
- Tam, H., Chung, S., & Lou, C. (2018). A review of triage accuracy and future direction. *BMC Emergency Medicine*, 18(1), 58. <https://doi.org/10.1186/s12873-018-0215-0>
- Taylor, S. P., Short, R. T., Asher, A. M., Muthukkumar, R., & Sanka, P. (2020). Family engagement navigators: A novel program to facilitate family-centered care in the intensive care unit during covid-19. *NEJM Catalyst Innovations in Care Delivery*. <https://doi.org/10.1056/CAT.20.0396>
- Thorne, S. (2000). Data analysis in qualitative research. *Evidence-Based Nursing*, 3(3), 68–70.
- Thorne, S. (2016). *Interpretive description: Qualitative research for applied practice* (2nd ed.). Routledge.
- Thorne, S., Kirkham, S. R., & MacDonald-Emes, J. (1997). Focus on qualitative methods. interpretive description: A noncategorical qualitative alternative for developing nursing knowledge. *Research in Nursing & Health*, 20(2), 169–177. [https://doi.org/10.1002/\(SICI\)1098-240X\(199704\)20:2<169::AID-NUR9>3.0.CO;2-I](https://doi.org/10.1002/(SICI)1098-240X(199704)20:2<169::AID-NUR9>3.0.CO;2-I)

- Valley, T., Schutz, A., Nagle, M., Miles, L., Lipman, K., Ketcham, S., Kent, M., Hibbard, C., Harlan, E., & Hauschildt, K. (2020). Changes to visitation policies and communication practices in Michigan ICUs during the COVID-19 pandemic. *American Journal of Respiratory & Critical Care Medicine*, 202(6), 883–885. <https://doi.org/10.1164/rccm.202005-1706LE>
- van der Linden, M. C., Meester, B., & van der Linden, N. (2016). Emergency department crowding affects triage processes. *International Emergency Nursing; Special Issue: Triage*, 29, 27–31. <https://doi.org/10.1016/j.ienj.2016.02.003>
- Van Liew, C., Santoro, M., Edwards, L., Kang, J., & Cronan, T. (2016). Assessing the structure of the Ways of Coping Questionnaire in fibromyalgia patients using common factor analytic approaches. *Pain Research & Management: Journal of the Canadian Pain Society*. <https://doi.org/10.1155/2016/7297826>
- VERBI Software. (2019). MAXQDA 2020 [computer software]. Berlin, Germany.
- Walker, D., & Myrick, F. (2006). Grounded theory: An exploration of process and procedure. *Qualitative Health Research*, 16(4), 547–559. <https://doi.org/10.1177/1049732305285972>
- Wolf, L. A., Delao, A., & Perhats, C. (2014). Nothing changes, nobody cares: Understanding the experience of emergency nurses physically or verbally assaulted while providing care. *Journal of Emergency Nursing*, 40(4), 305–310. <https://doi.org/10.1016/j.jen.2013.11.006>
- Wolf, L. A., Delao, A. M., Perhats, C., Moon, M. D., & Zavotsky, K. E. (2018). Triageing the emergency department, not the patient: United States emergency nurses' experience of the triage process. *Journal of Emergency Nursing*, 44(3), 258–266. <https://doi.org/10.1016/j.jen.2017.06.010>
- Wolf, L. A., Perhats, C., Delao, A., Clark, P., Moon, M., & Zavotsky, K. (2018). Assessing for occult suicidality at triage: Experiences of emergency nurses. *Journal of Emergency Nursing*, 44(5), 491–498. <https://doi.org/10.1016/j.jen.2018.01.013>
- Yurkova, I., & Wolf, L. (2011). Under-triage as a significant factor affecting transfer time between the emergency department and the intensive care unit. *Journal of Emergency Nursing*, 37(5), 491–496. <https://doi.org/10.1016/j.jen.2011.01.016>