EMERGENCY DEPARTMENT BOARDING:
A HEALTHCARE CRISIS

A Culminating Experience Presented to the Faculty of California State University, Stanislaus

In Partial Fulfillment of the Requirements for the Degree of Master of Science in Nursing

By
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CERTIFICATION OF APPROVAL

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DEDICATION

This text is dedicated to the nurses who commit themselves daily to their profession and the act of caring. For all of the emergency department nurses who go to work every day and overcome adversity and act selflessly in the service of their patients. Also I dedicate it to my parents who always believed in me, supported my goal seeking tenacity, and was by my side through the process of writing this document.
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedication</td>
<td>iv</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>v</td>
</tr>
<tr>
<td>Abstract</td>
<td>vi</td>
</tr>
<tr>
<td>I. History on Boarding</td>
<td>1</td>
</tr>
<tr>
<td>II. Boarding Etiology</td>
<td>5</td>
</tr>
<tr>
<td>Patient Trends</td>
<td>6</td>
</tr>
<tr>
<td>Healthcare Access</td>
<td>7</td>
</tr>
<tr>
<td>Hospital Metrics</td>
<td>12</td>
</tr>
<tr>
<td>III. Consequences</td>
<td>16</td>
</tr>
<tr>
<td>Care Delays</td>
<td>17</td>
</tr>
<tr>
<td>Psychiatric Patients</td>
<td>23</td>
</tr>
<tr>
<td>Morbidity and Mortality</td>
<td>24</td>
</tr>
<tr>
<td>Staff Workload</td>
<td>26</td>
</tr>
<tr>
<td>Patient Satisfaction</td>
<td>27</td>
</tr>
<tr>
<td>The Big Picture: Disaster Preparedness</td>
<td>28</td>
</tr>
<tr>
<td>IV. Proposed Solutions</td>
<td>30</td>
</tr>
<tr>
<td>Hospital Expansion</td>
<td>31</td>
</tr>
<tr>
<td>Alternative Boarding Locations</td>
<td>32</td>
</tr>
<tr>
<td>Informatics</td>
<td>35</td>
</tr>
<tr>
<td>Intradepartmental Teams</td>
<td>37</td>
</tr>
<tr>
<td>Legislation</td>
<td>39</td>
</tr>
<tr>
<td>V. Recommendations</td>
<td>42</td>
</tr>
<tr>
<td>Gaps in the Literature</td>
<td>43</td>
</tr>
<tr>
<td>Recommendations</td>
<td>44</td>
</tr>
<tr>
<td>References</td>
<td>53</td>
</tr>
</tbody>
</table>
ABSTRACT

Emergency department crowding has been declared a public health crisis in the United States with millions seeking healthcare predominately though this department nationwide. Crowding worsens when the department is used to provide care to admitted patients. Seventeen percent of care hours are spent on boarded patients. The increase in population, life expectancy, and chronic illness increases the number of patients admitted to hospital inpatient units, which results in boarding in the Emergency Department due to lack of beds. Non-emergent visits also impact boarding. The literature most commonly defines this hold period as the time from admission bed request to the time of physical departure from the emergency department. Patient boarding causes delays in care, ambulance diversion, revenue loss for the hospital and providers, and increased medical negligence claims.

Research reports that increased length of stay in the emergency department post admission to the hospital, leads to disruption of department flow, delays in care, and increased mortality. Existing literature on the issue of boarding will be reviewed to document that it is a problem affecting not only patients and emergency nurses, but all professionals and specialties across the acute care setting. Causes, consequences, and implications for nursing practice are discussed. Recommended interventions will include education programs that target emergency department boarding and throughput for acute care nurses. Specially trained mental health nurses and social workers are needed to address emergency department disparities and unsafe
environments caused by boarding. Partnerships between the emergency department and inpatient units are necessary to get patients to the appropriate floor in a timely manner in order to increase patient safety and satisfaction.
CHAPTER I

HISTORY ON BOARDING

Patience is a virtue; this longstanding proverb places value on the act of being patient, and is typically referenced in circumstances where calmly waiting is difficult, but appreciated. While waiting for something, it feels as though much time passes between the desire to obtain or achieve something and actually receiving it. In general, most people attempt to wait with patience. In the healthcare environment, so much time is spent waiting that hospitals, clinics, and offices around the world have rooms dedicated to just that, waiting.

Merriam-Webster defines the word waiting as staying in a place until an expected event happens, until someone arrives, or until it is your turn to do something (waiting, n.d.). Every day millions of people around the world enter waiting rooms in emergency departments (ED) and wait for their turn to do something, in this case to be seen by a healthcare provider. Ding et al., (2010) reports that Americans spent 13,400 years worth of time waiting to be seen in EDs in the year 2009 alone. Throughout a visit to the ED, waiting continues for triage, provider exams, studies (laboratory work and imaging), and their results.

Not all people who present to an ED wait with patience, though it has become a common expectation that waiting will be necessary. As more people seek healthcare in EDs around the world, the wait time will become longer. This added
wait time often exceeds the limits of patience and results in crowded unsafe conditions.

Emergency department crowding has been declared a public health crisis in the United States (U.S.) with millions seeking care predominately though EDs (Carr, Hollander, Baxt, Datner, & Pines, 2010; Gardner, Sarkar, Maselli, & Gonzalez, 2007). The Centers for Disease Control (CDC) conducted a survey called the National Hospital Ambulatory Medical Care Survey for Emergency Departments (NHAMCS-ED), between 2007 and 2009 (CDC, 2012). According to the survey, ED visits have increased by 20 million ED visits per year in the U.S. Emergency departments have seen an increase in boarding of inpatients due to increased life expectancy and an increase in the use for non-emergent visits (Moskop, Sklar, Geiderman, Schears, & Bookman, 2008).

The U.S is facing a population growth, specifically in the elderly and chronically ill. Millions of citizens in this country remain uninsured and as a result only seek medical care through local EDs, often after their illness has progressed in severity (Moskop et al., 2008). These are only a few of the factors that can be offered to explain the large increase in ED visits and hospital admissions nationwide. As the rate in the demand for ED services has increased, hospitals have not seen the same expansion in resources; such as space in hospitals or staff to care for these patients. This has led to the phenomenon called boarding in which patients are admitted to the hospital; while physically remaining in the ED waiting for an inpatient room to become available.
Many factors contribute to ED crowding, although in a report by the American College of Emergency Physicians (ACEP) in 2008, the number one cause is attributed to inpatient boarding. Boarding causes delays in care, ambulance diversion, revenue losses for the hospital and providers, and increased medical negligence claims (ACEP, 2008). Boarding has been a topic acknowledged in medical literature since the 1980s although long-term solutions have yet to be implemented (Olshaker & Rathlev, 2006; Gantt, 2004).

Boarding patients are created when a patient waits four or more hours to be transferred to their inpatient destination (Liu, Hamedani, Brown, Asplin, & Camargo, 2012). The literature most commonly defines this waiting period as the amount of time from admission bed request to the time of physical departure from the ED (Carr et al., 2010). When an ED visit leads to a request for inpatient admission, it is the result of a team of medical professionals believing that it is essential to the patient’s health to receive inpatient care. Hospitals must strive to maintain environments that promote healing, wellness, and above all safety in order to provide an effective inpatient stay. Rather than receiving timely care in a more therapeutic environment, patients may have to sit in a chair, sleep days on a gurney, or even witness a trauma or resuscitation. It is vital to the field of not only emergency nursing, but to all related areas of acute care to conduct further research on the causes, effects, and solutions to ED boarding. Expanding the knowledge base on causes of this growing problem will improve quality of care for patients, job satisfaction for nurses, and the operation of our hospitals.
The ED is a place where life threatening conditions are treated; its’ purpose must be preserved, and the safety net it casts must remain intact. Much research exists related to ED boarding and will be addressed in the following chapters. Chapters will discuss causes, consequences, and solutions for ED boarding. While many elements of this ongoing crisis remain unexplored, what is certain is that the development of effective solutions to this global problem cannot be delayed.
CHAPTER II
BOARDING ETIOLOGY

Lights, sirens, monitors, and long lines are how emergency rooms are depicted in the media and the minds of people today. Personal disaster, unexpected injury, and untimely illness are all reasons in which patients choose emergency departments (EDs) for their healthcare needs. Emergency departments provide patients’ access to physicians, registered nurses, and instant insight into potential or perceived threats to health and wellness. Though the ED intends to serve patients in a life threatening circumstance, around-the-clock operation within the hospital setting makes the ED a dependable choice for healthcare needs of all kinds.

Daily visits to EDs have increased worldwide. It is no longer enough to only examine the quality of the healthcare an ED provides, but also the quality of its’ internal operations. The Centers for Disease Control and Prevention (CDC) reports that in 2011 there were 136.3 million national ED visits, of these, 11.9% resulted in a hospital admission (CDC, 2011). With such a high demand for emergency care it is essential to examine how the health system delivers care (outpatient and inpatient) to all persons that access it through the ED.

The focus of healthcare providers in the ED setting is to provide optimum patient care. Care must be provided in an organized manor that smoothly facilitates the growing number of daily visits. The goal of ED providers and nurses is to
stabilize patients for continued care while considering the severity of their actual or potential diagnosis.

A large influx of ED patients creates crowding; a state in which the demand for ED services is greater than the resources the department can provide (Moskop, Sklar, Geiderman, Scheers, & Bookman, 2008). Inpatient boarders, put simply, are patients who have been admitted to the hospital through the ED. Hospital admission is recommended for persons with high acuity health problems that could result in mortality if not ruled out or treated with inpatient services. Inpatient boarding has been identified as one of the largest stressors on EDs around the world. In this chapter, root causes of boarding are highlighted with an aim of preventing and limiting this phenomenon. Understanding factors that cause boarding, will allow ED staff to function fluidly and holistically within their professional roles.

**Patient Trends**

The need for emergency services was influenced by an increase in vehicular trauma in the 1960s (McClelland, et al., 2014). Since that time, the American healthcare system has relied heavily on EDs to treat not only acute trauma but also medical patients. In addition, the current structure has the ED acting as the entry point for patients with chronic illness, in a psychiatric crisis, and needing routine medical care.

The acute care setting often includes elderly patients that often benefit from admission to the inpatient setting (Wessel, 2015). Wessel (2015) describes the nature of America’s aging population as the largest group of older adults ever, as a result of
the aging of the baby boomer generation. According to the United States (U.S.) Census Bureau, 44.7 million Americans are age 65 or older, which creates an even larger community of patients at risk for hospitalization (Wessel, 2015: U.S. Census Bureau, 2014). Increases in older adults and chronic health conditions create large demands on organizations to provide acute patient care.

All hospitalizations allow patients to receive a variety of resources from the organization, from simply a physical bed to lie in to a registered nurse (RN) who can provide nursing care. As hospital censuses grow, organizations find themselves overwhelmed by the amount of people seen per day. The inability to provide patients with the simple resources they need once admitted, creates the necessity to keep them at their original starting point, the ED.

The large volumes of people presenting to EDs result in a strain on resources and normal department operations. The path of a patient is initial registration and triage by an emergency nurse to reaching the medically recommended destination, which may include: returning home, being admitted, or being transferred to another medical facility. This process must operate with optimum efficiency it is necessary to avoid creating inpatient boarders in the ED.

**Healthcare Access**

The ED is a universal gateway to healthcare services and as a result is often saturated with high volumes of patients each day. The Emergency Medical Treatment and Labor Act (EMTALA), mandates that all patients who present to an ED have access care and must be seen regardless of ability to pay (McClelland et al., 2014;
As a result of this federal legislation, EDs nationwide must provide healthcare access to all persons in this country at the time of their actual or potential emergency.

The healthcare systems task is to accommodate a large patient volume and provide all patients with safe and timely care. Barriers to primary care drive many to urgent care clinics and EDs for low acuity and routine health services. As more patients access ED services, the strain on department resources increases because space, supplies, and bedside care are limited. Barriers to healthcare access demand increased attention. Maintaining quality of ED services, comprised of medical screening, diagnostic procedures, provider examination, and nursing care, becomes increasingly difficult with the burden on departments to process high patient volumes.

**The Affordable Care Act and Insurance Expansion**

According to McClelland et al. (2014), EDs have replaced primary care offices as the access point for hospital admissions for uninsured, under insured, and disenfranchised patients. Socioeconomic factors may force patients to choose an ED as a method to access healthcare. Five million Americans became uninsured between 2006-2010 according to the U.S. Census Bureau and 4.6 million were enrolled in Medicare (Watts, Bryan, & Tarwater, 2014; U.S. Census Bureau, 2011). Insurance coverage and ability to pay for health services often influence how patients make healthcare decisions. Economic theories estimate that by the year 2019 an additional 30 million Americans will have health benefits under the Affordable Care Act (ACA) (Smulowitz, O’Malley, Yang, & Landon, 2014). This act requires American’s to
become legally responsible for carrying a health plan with a designated provider (ACA, 2016). Insurance expansion implies a future of reduced burden on EDs.

Contrary to this belief, an increase in the population of insured persons is projected to have increased impact on ED use (Smulowitz et al., 2014).

The ACA has widely increased the number of patients who have insurance, though the paralleled increase in Medicare enrollees does not create additional primary care resources. Expanding insurance coverage reduces financial barriers to healthcare access, though it does not eliminate other barriers including the continuing shortage of Primary care providers (PCPs) (Smulowitz et al., 2014). Primary care providers are often reluctant to accept patients enrolled in public insurance options, as they are less profitable (Pukurdpol, Wiler, Hsia, & Ginde, 2014). Securing insurance through the ACA leaves many citizens believing that they can be seen at an ED at reduced costs, which lengthen wait periods to receiving outpatient care. The ACA has brought insurance to many but it has only added to ED patient volumes that result in boarder burden (Pukurdpol, Wiler, Hsia, & Ginde, 2014).

**Lack of Primary Care Providers**

Shortages of PCPs are prevalent nationwide and projected to increase in coming years. Not only are there a limited number of providers but there is also limited availability to access those in practice. Patients who report contact with their PCP prior to utilizing the ED state that they could not obtain a timely appointment. Of patients who contacted their PCP, 82% were directed by the provider office to present to an ED prior to obtaining an appointment (McClelland et al., 2014; Howard
et al., 2005). Low acuity patients directed to an ED based on potential risk or lack of provider availability creates higher ED census and strains both hospital and patient resources.

Outpatient screening examination and diagnostic procedures may be facilitated by a PCP at a lower cost and eliminate the need for an ED visit. Although advanced resources are available within the hospital setting, PCPs should perform medical screening examination on their patients and make decisions about their need for inpatient admissions. When a PCP coordinates patient care, the provider has the most accurate version of the patient’s medical and social history allowing for a more thorough examination, diagnosis, and care plan.

Patients sent directly to an ED are often admitted (for observation or inpatient services) as a result of ED providers being unable to determine if patients can function safely as an outpatient simply due to the lack of an adequate history or previous rapport with the patient. The increased strain on the department creates a domino effect and an eventual backlog of operations. Patients with high acuity complaints, who did not go directly to a PCP, are often admitted to the hospital due to inability to rule out co-morbidities or life-threatening illness. On high volume days, these patients wait in the ED as an inpatient boarder. It is essential that available PCPs within the community take boarding into consideration when advising their patients and requesting a direct admission (bypassing the ED) whenever possible.

**Routine Care Visits**
The passing of EMTALA legislation dictates the overall foundation of emergency operations; it acts as an invisible insurance to American citizens (McClelland et al., 2014). As previously stated, increased ED patient volumes persist due to a variety of factors including insurance expansion and population growth. Another strain placed on EDs are patients who present for routine care that could be treated as an outpatient. Blom, Jonsson, Landin-Olsson and Ivarsson (2014), reports that patients who utilize the ED for routine care contribute to overcrowding and are associated with socioeconomic distress, chronic illness, and high use of health resources.

Tannebaum, Wilken, and Keys (2014) studied patients’ perceptions of reasons for ED use. The patients reported that they believe that co-payments for an ED visit would be less costly than visiting a primary care office, which was estimated to be a $200 fee. Amazingly, participants in this study reported increased frustration with waiting to be seen for scheduled primary care appointments compared to waiting to be seen in an ED (Tannebaum, Wilken, & Keys, 2014).

Reducing the number of routine visits allows hospital resources to be used on patients of higher acuity. Fewer patients utilizing these resources allows ED teams to manage care safely and efficiently to discharge stable patients, process admitted patients, and care for incoming patients. Increasing community awareness of services provided within the ED setting and when to access an ED (rather than a PCP) may decrease avoidable ED visits and reduce the need for boarding.
In addition, patients who repeatedly visit EDs are subject to stigma from staff that perceives their presentation as misuse of the ED, which leads to staff frustration, and the threat of a missed diagnosis (Blom et al., 2014; Howard et al., 2005). A patient who continually presents for routine care is often referred to as a “frequent flyer” and may be under triaged even when their current condition may in fact be life threatening.

Hospital Metrics

It is important to know how a hospital functions in order to understand other potential causes of boarding. Asplin et al. (2003) describes crowding as a combination of three components: input, the amount of patients seeking ED care and their varied acuities; throughput, their process of progression throughout the ED, and output, the movement of ED patients to another care site.

Crowding attributed to the idea of high patient volume is considered as input into the system. Overcoming barriers to care access can reduce the input factor. Emergency departments each have their own process for moving patients through the care system; improvements made to these processes (like those that decrease length of stay) alter throughput factors. Throughput factors are often variables easier for organizations to manipulate that can potentially alleviate strain from crowding.

The American College of Emergency Physicians (ACEP) established a task force to research causes and solutions of ED boarding and to take an active role in eliminating boarding within hospitals (ACEP, 2008). This group reported that increased strain on the ED caused by inpatients being held in the department affects
throughput, which impacts how the ED and the hospital provide quality care (ACEP, 2008). Boarding inpatients effects the speed at which the ED can process the needs of other incoming patients via triage or ambulance, often resulting in ambulance diversion or patients walking out before being seen (ACEP, 2008).

Nurses working in the ED setting struggle to balance the priority between bedside patient care and the operational demands of simply processing patients from entering to exiting the door. Casalino et al. (2012) describes ED overcrowding as a mismatch between the organization of patient flow that results from factors of input, throughput, and output. The increase in hospital census places great demands on the ED to make dispositions on these patients and get them to their medically designated destination as quickly as possible so as not to delay their care or to backlog hospital operations.

**Delayed Disposition**

As patient volumes increase, door-to-provider times increase, inpatient care is delayed, and risk for medical error and mortality rise (ACEP, 2008; Denno, 2014). Extended door-to-disposition times have been identified as a reason for impaired ED throughput times. Door-to-disposition is defined by Pourmand, Lucas, Shokoohi, Yadav, and Fair (2010) as the time between ED patient arrival and the provider’s decision as to what the next step in the care is for the patient. Disposition marks the end of diagnostic testing and evaluation, necessary for decision making in the ED (Casalino et al., 2014). Dispositions include discharge home for outpatient follow-up
with primary or specialty providers, inpatient admission, observation admission, or transfer to another acute care facility for specialty services.

Blom, Jonsson, Landin-Olsson, & Ivarsson reported that during times of high hospital occupancy, physicians are more likely to discharge a patient rather than admit (Blom, Jonsson, Landin-Olsson, & Ivarsson, 2014). Though this study was done at only one hospital in another country, the sample size included 120,203 participants and demonstrated a strong correlation between admission decisions and hospital crowding. Further research is needed to determine a conscious relationship between provider decision and hospital capacity. Research studies should also be conducted to determine if a relationship exists between low hospital census and provider decision.

Casalino et al. (2014) highlight door-to-disposition goals of several countries, solidifying this as a global core measure among EDs. This research established the U.S. goal for door-to-disposition as 75 minutes. The more patients actively registered in an ED create caseloads that are difficult for providers and nurses to manage, often leading to extended lengths of stay and exacerbation of the inpatient boarder burden.

In conclusion, healthcare needs and system structure are experiencing growth and a demand for quality and efficiency across the globe. Increasing populations that are older and or chronically ill, create challenges and place pressure on ED settings. Patients continue to benefit from the safety net provided by the ED. To ensure sustainable high quality care we must establish purposeful and responsible use. Boarder burden increases cost, staff workloads, and prolonged wait times; these must
be addressed to achieve economically stable hospitals, healthy work environments, and satisfied patients. The following chapter will discuss negative implications of ED boarding including delays in bedside care, decreased patient satisfaction, and increased morbidity and mortality.
CHAPTER III
CONSEQUENCES

While sitting behind the emergency department (ED) triage desk a nurse watches as a patient is pulled from their vehicle. It takes only seconds for the nurse to recognize the importance of the patient’s pale skin color and lack of chest movement. An assessment of the patient’s signs and symptoms are automatic. She immediately goes into action and within seconds resuscitation is initiated. A team of ED staff takes over; she sits and composes herself in preparation for the next unknown emergency to check in. This is an example of the adrenaline that fuels emergency nursing. It is the reason the department exists, and the purpose that motivates many to work in the environment. Emergency department nurses thrive on adrenaline, excel in rapid triage, and embrace the unexpected.

Merriam-Webster defines triage, as the process of deciding which patients should be treated first based on how sick or injured they are (Triage, n.d.). An ED nurse is tasked with providing safe, competent, holistic care, while assuring that the sickest patients are identified and stabilized first. No matter what kind of patient is brought to a hospital ED, the actual and potential emergencies never stop and cannot be turned away.

All registered nurses (RNs) act as patient advocates and are first and foremost concerned with delivering excellent patient care. Registered nurses working in acute care specialties prioritize nursing tasks based on the needs of their patient population.
The ultimate goal for all RNs is to deliver comprehensive patient care. The unique needs and priorities of the ED often impede this goal. In this chapter, barriers to timely patient care for boarders in the ED and the accompanying repercussions including delays in care, increased morbidity and mortality, and decreased patient satisfaction will be discussed.

**Care Delays**

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) recommends that health care environments support the care process and needs of the population they serve (JCAHO, 1999). This accrediting agency (now known as The Joint Commission) requires the patient receive comparable care no matter where they are in the system (JCAHO, 1999; Sobie, Gaves & Tringali, 2000). This is the intention of all health care systems and providers, however high hospital occupancy and ED patient volumes create strained environments. According to Intas, Stergiannis, Chalari, Tsoumakas, and Fildissis (2012), JCAHO reports that more than half of all sentinel events are related to delays in treatment occurring in the ED.

Crowding in EDs requires the triage process to be precise, efficient, and continuous. Incoming ED patients must be assessed accurately by the triage RN to ensure emergent patients are not missed amidst the crowded environment. Lower acuity ED patients are subjected to extensive wait times not only due to the fact that they are listed as low priority as a result of their treatment needs, but also do to the limited amount of resources (space and staff). These resources are needed for high
acuity ED patients and boarders who are the highest priority. High volumes of inpatient boarders exacerbate wait times for all ED patients no matter their acuity.

Patients accessing healthcare through an ED that have inpatient boarders may wait in lines to see a triage nurse and receive care services, and may experience delays getting assigned a bed within the ED. Inpatient boarders that are unable to transition to beds in the hospital occupy space within the ED preventing timely room assignment for other patients within the ED. When boarders occupy space for extended time periods, the ED operates with fewer resources in a smaller environment for new and pending patients.

As with patients who walk into the hospital for medical care, ambulance patients are also affected by inpatient boarders. The American College of Emergency Physicians (ACEP, 2008) state that one third of hospitals in the United States (U.S.) reported going on ambulance diversion. Diversion occurs when an ED redirects an ambulance bound for the hospital to another facility due to saturation of resources or internal disaster under policies developed by the local emergency medical services (EMS) agencies (Geiderman, Marco, Moskop, Adams, & Derse, 2015). These patients are cared for during transport by expert health professionals, though studies show care delays and increased mortality rates with prolonged transport times to the farther destination (ACEP, 2008).

The impact of ED crowding on ambulance patients is not limited to the hospital system. Without space to safely transfer the patient, EMS crews hold them in the ED while waiting for a bed. Hospital delays in providing EMS crews with
transfer resources results in fewer units being available in the community to respond to incoming 911 calls. Not only do patients suffer from care delays within the ED setting, the community at large is placed at risk as a result of this temporary first responder shortage.

**Care to Boarders**

Input of patients through the ED is ongoing and the daily census cannot be precisely predicted. It is inevitable that on days with peak hospital census, inpatient units often fill to capacity. Once the hospital lacks inpatient resources including beds, rooms, and RNs, the patients will wait in the ED until the shortage is resolved. Clark and Normile (2002) reported that a positive correlation was shown between increased length of stay in the ED and delays in admission orders and testing being carried out.

Inpatient boarders are admitted to the hospital after the ED workup is complete and a medical determination has been made that the patient would benefit from close inpatient monitoring, assessment, and treatment. Inpatients may board in the ED regardless of their acuity. Patients admitted to any unit with any diagnosis may remain in the care of ED nurses within the ED environment, for hours or even days. Intas et al., (2012) report that ED boarders experience reduced quality of care with potential for errors and delayed, or missed care.

Boarders increase the workload for ED staff making safety an even greater concern. Despite JCAHO standards for high quality patient care across all care settings, Liu et al. (2011) describe the focus of ED care as being on initial treatment and diagnosis rather than continuum of care at the inpatient level. Inpatient care is
often delayed as a result of the demands of the ED environment coupled with the RNs responsibility to set priorities for action based on acuity.

All RNs set priorities for care that determine the routine of their day. They decide which patients must be seen first and determine which patients have the highest clinical acuity, safety and risk factors, or have the most urgent need for intervention. This method of assessment and implementation exists as a standard of practice across all areas of nursing. Within the context of the ED environment, these priorities look different than they might on an inpatient unit.

**Admission order delays**

The ED is continually managing incoming patient volumes and emergent situations take precedence over facilitating written admission orders that are traditionally meant for inpatient nursing staff (Cohen & Ream, 2013). Studies show that boarding is associated with a higher incidence of delays in medication administration in the ED than on inpatient units with 27.8% of patients having an adverse event related to missed home medications (Sri-On et al., 2014; Liu et al., 2011). Another study compared times of antibiotic administration to boarders compared to non-boarded admissions and on average, traditional admissions received treatment one hour earlier (Sobie, Gaves, & Tringali 2000).

The ED nurse often has a mixture of incoming ED patients and inpatient boarders during their daily assignment. Naturally, the ED nurse would care for the new ambulance patient brought to the ED for respiratory distress before passing oral medications or meals to the boarded patient. Although a patient has a degree of
established acuity in order to become an admitted boarder, they are thought of as stable as compared to other incoming emergencies. Inpatient care that is required for boarders becomes a low priority for ED staff.

Inpatient care is generally holistic in nature and considers all human needs from basic self care measures of bathing and toileting, to medication administration, education, and social services. Nurses on inpatient units are skilled in areas of care planning, interdepartmental collaboration, and discharge teaching. These elements of bedside nursing are skills that all RNs possess, though constraints of the ED prevent the ED nurse from carrying these out to their full extent.

Sri-On et al. (2014) explains that when administering medications the ED nurse would choose to administer a potentially lifesaving medication to an acutely ill ED patient rather than a medication for chronic illness to a boarder. Both patients deserve timely medication administration, although the ED is not as supportive of administration of routine medication as is the inpatient environment.

Though it is evident that care delays occur in the ED, studies show boarders have lower incidence of laboratory delays (such as repeat cardiac enzymes) and electrocardiogram. The reason for this may be that ED staff identify these repeat examinations as a higher priority intervention and EDs are readily equipped to provide these services (Sri-On et al., 2014; Liu et al., 2011). Getting patients to the appropriate units increases patient’s safety, since they are with nurses that are vigilant of their individualized needs and traditionally facilitate patient orders and administer medications upon admission.
Length of stay

Length of stay (LOS) is a measurement of the total time a patient spends in the ED starting from their registered arrival time. The longer a patients’ LOS can affect their level of satisfaction with the organization. Patients’ who become frustrated by long wait times often leave facilities without being seen. Length of stay is greatly influenced by throughput factors including turn around times for diagnostic testing and wait times for language translation (Gardner, Sarkar, Maselli, & Gonzalez, 2007).

Standards of care in emergency medicine worldwide have established a six-hour time span in which emergent patients may need to be observed before they can be safely discharged and avoid inpatient admission (Fogarty, Saunders, & Cummins, 2013). As a result of this care standard, research related to boarding suggests that patients should transfer after a six-hour period (Forgarty et al., 2013). Researchers found that for every additional boarded patient, compliance with the six-hour standard went down 0.37% (Fogarty et al., 2013).

As patients reach disposition to being admitted, it is essential that care be transferred to inpatient units as quickly as possible to prevent the bottleneck of incoming patients that result in increased in LOS (White et al., 2013). The inability to transfer care from the ED to the proper recommended level of inpatient care is the cause of other delays patients encounter. It prolongs the wait time for all ED services not only for boarders, but for all ED patients (ACEP, 2008). According to White et al. (2013) as the department takes on inpatient boarders, the LOS for ED patients rise
10%. This means that the longer that it takes to get inpatients out the ED the longer
the visit will be for all patients in the ED (White et al., 2013).

Cost

Anderson, Dobkin, and Gross (2014), state that an estimated 36% of
healthcare spending is directed at inpatient hospital visits; a cost that is deferred to
ED budgets while the patient is boarded, though it is not reimbursed to the
department. Further revenue for the ED is lost when ambulances face diversion and
patients leave without being seen as a result of wait times for rooms occupied by
inpatients.

Psychiatric Patients

One in eight ED visits reported in 2008 was related to a psychiatric complaint
and 41% of these required inpatient hospitalization (Nolan, Fee, Cooper, Rankin, &
beds decreased 62% overall and 89% in state and county psychiatric facilities. This
decrease in available inpatient beds on psychiatric units requires these patients to
board in EDs across the county. Adding to this problem is the overall shortage of
mental health services, which leaves millions of Americans in crisis (Misek, DeBarba
& Brill, 2014).

Mental illness can affect patients in acute and chronic ways. Patients with
mental illness frequently access healthcare through the ED. Patients may present to
the ED seeking psychiatric services while experiencing many different levels of
actual or potential distress. Suicidal or homicidal ideations are life-threatening
emergencies that require immediate attention by ED professionals. Unable to ensure
that patients with mental health needs will be safe in an outpatient setting, EDs must
board these patients until staff can find a means to provide them with needed services.

Commonly, psychiatric patients are seen in the ED for a medical screening
including physical exam, laboratory work, imaging studies, and electrocardiograms to
rule out a medical cause of their mentation. Once medical screening is complete,
patients with mental illness are required to be seen by mental health professionals
before they can be safely discharged home.

As with all boarders, patients pending mental health evaluations and services
require ED staff supervision, nursing care, and necessary security measures required
by the facility. All of these factors contribute to boarder burden. In a study of five
EDs, psychiatric patients were boarded an average of 11.5 hours (Weiss et al., 2012).
Patients can go without needed care for days. Weiss et al. found that delays in
transfer of psychiatric patients increases their risk of suicidal ideation and mortality;
while raising the safety and security risk for ED patients and staff. Boarders who
have psychiatric needs experience incredible delays in mental health services and as a
result are put at risk of becoming increasingly dangerous to themselves and others.

**Morbidity and Mortality**

High hospital occupancy has a positive correlation with increased patient risk
for adverse outcomes and mortality (AECP, 2008; Zhou et al., 2012). Simply put,
being boarded in the ED for extended times is a risk factor for increased morbidity
and mortality. The Institute of Medicine (IOM) recognized ED waiting times as a
public health issue that leads to delays in care and delays in getting to inpatient beds, which contributes to increased mortality rates (Intas et al., 2012). Mortality increases from 2.5% for patients boarding two hours or less to 4.5% in patients who boarded more than 12 hours (Singer et al., 2010; Sri-On et al., 2014). The greatest risk for increased mortality is for boarders experiencing a six-hour delay or longer in transitioning to the inpatient bed (Intas et al., 2012).

The majority of research on the relationship between ED holding and mortality is conducted in relationship to critical care patients. Critical care patients by nature are at higher risk for mortality. As a result of boarding, patients are cared for by ED nurses and physicians who are asked to initiate intensive care protocols while continuing to manage other ED cases (Kusterbeck, 2011). Critical care patients often require total care by an RN and advanced resources, which are only available within the critical care unit (Clark & Normile, 2007; Kusterbeck, 2011). Though critical care patients take priority over other patients in the ED environment, the specialized knowledge found in the intensive care unit may not be present in the ED. The need to prioritize these patients further prevents ED nurses from attending to other patients including other boarders resulting in missed care, which may contribute to increased mortality.

When the ED performs its intended functions such as trauma resuscitation, risks of mortality have not been directly linked to issues of missed care or length of stay (Servia et al., 2012). Although mortality was increased in patients with trauma emergencies, increased length of stay in the ED was not proven to be a determining
factor. Although patients with severe trauma are at risk for increased mortality from their injuries, this study implies that extending stay while managing the trauma did not directly impact outcomes of care (Servia et al., 2012). This is most likely directly linked to the fact that the ED is equipped to handle these types of patient emergencies.

**Staff Workload**

Patient ratios exist to protect RNs from dangerous workloads that lead to delayed and withheld care. Boarders in the ED setting immensely increase the workload for the ED team. When patients board in the department the patient volume is absorbed and nurse to patient ratios are compromised (Kusterbeck, 2011). Clark and Normile (2002) discuss the demands placed on ED nurses when adapting to boarding conditions. Nurses question their workload and expectations while balancing ED patients and boarders. These questions include: What are my responsibilities, how long will patients wait, and what is expected of me?

Administrators, patients, and nurses have higher expectations than ever on what should be done during the shift and how long tasks should take to be completed. These expectations place increased stress on ED nurses functioning to absorb the boarder burden, as well as on inpatient nurses to turn over beds for boarders. High expectations and high stress environments lead to nurse burn out. Nurse burnout and job turnover are attributed to higher workloads, job dissatisfaction, emotional exhaustion, and decreased patient satisfaction (Vahey, Aiken, Sloane, Clarke, & Vargas, 2004). Nurse burnout can result in job turn over, which exacerbates short
staffing in the hospital and further increases the workload and strain on fellow staff (Vahey et al., 2004). It is impossible to resolve issues of patient boarding without proper staffing in hospitals. Attention must be paid to the reality of what nurses experience on a day-to-day basis, solutions cannot be developed without first considering the resulting demands that are placed on staff.

**Patient Satisfaction**

The ED environment is fast-paced, noisy, and never sleeps. Many ED patients are placed in hallways, chairs, or separated from others only by curtains. Lack of privacy in the ED diminishes the patient experience. It is possible that they may be boarded in areas where they may suffer the emotional stress of hearing or witnessing a traumatic situation.

Providing satisfactory care to the patient is another driving force behind addressing issues of ED crowding and boarding. It is not always possible to meet the precise expectations of each individual, though it is necessary to maintain ethical practice standards for all patients. Healthcare ethics call for providers to first and foremost do no harm; the ramifications of ED boarding compromise safety and proves when boarding is in effect non-malfeasance cannot be guaranteed. Research shows that a delay in the change of care environment from the ED has a great impact on patient satisfaction. Studies indicate that patients are displeased with ED boarding. Patients prefer time-spent boarding to be in inpatient unit hallways and holding areas, (overflow units opened for boarders) rather than within the ED itself (Casalino et al., 2012; Garson et al., 2008; Viccellio et al., 2013).
Though hospitals must look for solutions to boarding that are logical and feasible, consideration of patient preference must be a high priority. The movement of insurance payers towards models of pay for performance, impact how we find solutions to problems such as boarding (Farley et al., 2014). If long-term solutions do not produce strategies that satisfy patients, revenue loss may follow.

**The Big Picture: Disaster Preparedness**

Hospital crowding is occurring nearly constantly across the nation; it is a public health problem that interferes with the ED and hospitals ability to function properly especially in the event of a disaster (Pines, 2013; Rabin et al., 2014). The U.S. is greatly affected by events that occur daily at the community and national level, that include legislative initiatives, natural disasters, and even terrorism. Hospital administrators, incorporating all health care professionals, must establish an agreed upon method to cope with times of crowding which include strategies for catastrophic events. Without daily solutions for overcrowding and boarding hospital systems may find themselves unprepared to adapt to the influx of patients during a mass causality incident.

In conclusion, increased attention to the global phenomenon that is ED boarding must be met with urgency and addressed through nursing research. Emergency department crowding is a multifaceted problem impacting communities throughout the world. Allowing boarding in EDs leaves patients unsatisfied and places them at risk for delays in care, reduced quality of care, and may even result in increased mortality. It is essential to find long term solutions to decrease and
eliminate boarding to assure the safety of patients, decrease the workload and burnout of staff, and adapt to the demands of modern healthcare. The following chapter will present proposed recommendations for reduced ED length of stay and potential solutions to boarding.
CHAPTER IV

PROPOSED SOLUTIONS

Caring is an essential component of what all nurses do for their patients. Merriam Webster defines care as, regard coming from desire or esteem; it is also defined as effort made to do something correctly, safely, or without causing damage (Care, n.d.). Nurses embrace both of these interpretations of caring: regard for patients with an effort to care for them safely. It is this desire to care that drives nurses to address barriers to quality and safety.

Modern obstacles affecting healthcare today like hospital crowding and emergency department (ED) boarding are barriers that prevent nurses from practicing “care” at the bedside in a safe environment. Recognizing the global impact of boarding starting with root causes of short and long term consequences is critical. Medical research has identified issues with ED boarding for more than 20 years. The development of practical, generalizable, and sustainable solutions must be established to progress from situation awareness to safe resolution. Healthcare is a constantly evolving industry impacted by diverse and increased populations of patients, socioeconomics issues, and ever changing legislation. It is nursing that is called to bring forward evidenced based interventions to meet these challenges and to keep the focus of healthcare on holistic human caring.

With the desire to connect with patients from a caring perspective, nurses must work to maintain the integrity of care by ensuring that patients receive safe
quality care. As previously discussed, ED boarding directly compromises the nurses ability to guarantee quality care. In addition, it contributes to staff burnout and strains the nurse’s ability to provide compassionate care. The literature on boarding recommends various solutions that have been implemented in hospitals across the United States (U.S.) and these strategies will be discussed in this chapter.

**Hospital Expansion**

Boarding occurs when a hospital is saturated with patients and cannot accommodate additional admitted patients, as a result of limited physical space. Solutions exist to address the lack of space to meet the inpatient bed demands. The most apparent would be to expand the hospitals physical structure and add beds. Increasing bed space seems logical and may be the only solution for some communities in dire need of more beds as a result of community growth and demographic changes.

Hospital expansion as the solution for crowding and boarding sounds simple, though the ability to execute such structural changes would require large amounts of time, money, and additional staffing. Becker and Friedman (2014) write that expansion may take years, as it requires building the space and training new providers. Community hospitals may be limited by their funding sources, and depend on owner and investors support.

Becker and Friedman (2014) also reported that expanding hospitals might not eliminate overall workflow issues that result from boarding. Research studies using interventions that increased the number of hospital beds as a resolution for boarding
problems did not demonstrate a significant change in overall ED hold times. These studies did find that restructuring EDs resulted in decreased boarding times (Khare, Powell, Reinhardt, & Lucenti, 2008; Sharieff et al., 2013). In another study, Olshaker and Rathlev (2006) described a solution for ED boarding that increased the number of intensive care unit (ICU) beds, which resulted in the reduction of ambulance diversion by 66%, although throughput times in the ED and waits for other inpatient floors did not decrease as a result of this intervention.

It appears that expansion is not a long-term solution for boarding, though it seems to address the root cause of boarding (limited space). Efficient hospital operations and decreased lengths of stay (LOS) have greater overall impact on wait times. Healthcare is constantly changing and it is essential to develop efficient facilities rather than expand medical structures (add beds).

**Alternative Boarding Locations**

Adverse consequences of ED boarding are not limited to the ED itself, though it is the only department that traditionally houses boarders. When there is no space on inpatient units, the default solution is for the ED to keep them. Unfortunately, keeping boarders in the ED environment remains a part of hospital culture (Greene, 2007).

The solutions are many, though the goal is singular; simply stated, we need to get patients to their beds on the inpatient unit and out of the ED. Patients with special needs and defined diagnosis are not meant to remain in the ED and quality care is not
guaranteed in a busy systems model. The ED and obstetrics should not be the only two departments that are forced to adapt in times of crowding.

Obstetrics does not require the ED to house women in labor until they have available space (Greene, 2007). Alternatives to ED boarding are possible, though they require collaboration from all departments. All departments should house patients that deserve quality care, therefore solutions to boarding should be addressed on a systems level, with interventions that include moving boarders to inpatient units.

**Boarding on Inpatient Units**

Boarding on inpatient units is a possible solution though it remains a controversial idea. This intervention, introduced by Viccellio et al. (2013), was named the full capacity protocol (FCP). When the hospital is crowded with inpatient boarders, up to two inpatients would be moved to each inpatient unit in order to decrease ED wait times. The argument can be made that taking boarders from the ED and placing them in an inpatient hallway or overflow area is simply transferring the problem from one location to the next. It is reasonable to assume that boarder burden does not decrease when a patient is transferred to an inpatient location, however it may distribute the patient care workload and may lead to increased vigilance with patient care throughout the hospital.

A defined barrier to quality care in the ED relates to the nurse workload and the non-stop nature of the department. To ensure quality of care, boarders belong in an inpatient setting. Sending boarders to their inpatient location pending their official room assignment allows inpatient nurses to initiate care sooner than would otherwise
occur in the ED. When this solution has been implemented, wait times for boarders decreased as inpatient staff were motivated to expedite locating an appropriate bed (Greene, 2007).

Soliciting buy-in from inpatient staff to resolve boarding issues may be difficult as it does not resolve the overall problem and it increases the inpatient nurse’s workload. However it is important to consider the fact that patients prefer this kind of boarding. Patients who were boarded in the hallway of an inpatient unit report increased patient satisfaction more than that of patients boarded in the ED (Garson et al., 2008; Viccellio et al., 2013; Rabin et al., 2014).

Overflow Units

The creation of overflow or observation units has been a popular strategy across healthcare to deal with increased hospital census (Gantt, 2004). As an alternative to large-scale hospital expansion, many studies have discussed the creation of alternative overflow units that are opened and staffed in times of high hospital occupancy. Similar to boarding on inpatient hallways, boarders are sent to units specifically staffed and monitored for ED boarders. Patients’ reported higher patient satisfaction via patient surveys when boarded in special units versus the ED (Gantt, 2004).

These units are fully staffed and monitored while functioning as a temporary location to house inpatients with varied diagnosis and in need of inpatient orders outside of the ED. These units aim to reduce ED workload, improve flow, and reduce liability (Gantt, 2004).
The American College of Emergency Physicians (ACEP) also discussed observation units as an alternative to inpatient admission (ACEP, 2008). Utilizing these units for an observation period to rule out or diagnose medical conditions like acute coronary syndrome and other conditions that may benefit from extended observation, may eliminate the need for extended hospital stay altogether. Overflow units provide increased safety for boarders as they guarantee resources are in place for these patients. However they may be costly for hospitals to develop and are difficult to justify in times of low census (ACEP, 2008; Gantt, 2004).

**Informatics**

Clinical informatics is an essential component to maintaining department flow and tracking boarded patients and available beds. Hospitals frequently utilize specialized software or develop programs that allow for intradepartmental communication and collaboration to place patients in inpatient beds. These interventions are referred to as digital bed tracking or electronic bed boards (Greene, 2007; Healy-Rodriguez et al., 2013). The use of informatics as a boarding intervention may help to increase hospital efficiency, organization, and communication. In order for these to be effective however data entered into the system must be accurate. Healy-Rodriguez et al. (2013) reports discrepancies and unreliability in electronic bed tracking system-making data. Implementing digital bed tracking programs along with more formal interventions for boarding allows all units and administrators to remain engaged in the effort to get patients into rooms.
Minimizing the effects of ED boarding on patient outcomes begins by addressing problems of flow, a patient’s progression through the ED. Enhancing the efficiency of the ED and decreasing the overall amount of time a patient is in the hospital frees space and other resources for incoming patients. Length of stay must be decreased from both ED and inpatient areas in order to create beds and safe staffing ratios.

Strategies to decrease LOS in the ED include expansion of the ED nurse’s scope of practice through standardized order sets or advanced nursing interventions (ANIs). Stauber (2013) describes the use of ANIs to allow ED nursing to initiate orders (otherwise requiring a provider’s order) to expedite the process of patient diagnosis and disposition. These orders include laboratory and radiology studies, and even medication administration for pain according to protocols defined by the patient’s clinical symptoms agreed upon by hospital administration, physicians, and nurses (Stauber, 2013). Utilizing the clinical knowledge of ED nurse’s to implement ANIs during triage and bedside assessment decreases turn-around times for laboratory results, allowing the ED physician to evaluate the patient faster. The ED LOS is decreased when less time is spent making a clinical decision (Stauber, 2013).

A solution to improve efficiency and decrease LOS includes decreasing triage times and filtering patients to specified care areas. Sharieff et al. (2013) describes a popular solution that utilizes the Lean principles to develop ED process changes; such as faster charting and triage methods that use fewer questions and having patients separated into different areas by acuity. Some EDs may require additional staffing,
point-of-care testing (including urinalysis and blood glucose), and policy creation or revision to improve efficiency and decrease LOS (Pines, 2013).

In addition to targeting ED LOS, inpatient LOS must be addressed to reduce boarding as well. Reducing the amount of time needed for care transition from the ED to the inpatient unit is often addressed with digital or printed nurse-to-nurse reports to make transfer of information faster (Baker & Esbenshade, 2015; Healy-Rodriguez et al., 2013). Decreasing inpatient LOS through interventions that incorporate improved communication between professionals and departments is an important intervention that is commonly described in the literature. Daily bed huddle meetings are recommended to discuss plans of care, discharges, and pending admissions, and may include rounding on inpatient boarders (Baker & Esbenshade, 2015; Healy-Rodriguez et al., 2013; Kusterbeck, 2011; Greene, 2007).

Redesigning and modifying ED processes is a vital component to boarding reduction, decreasing delays in processing patients through the healthcare system and getting them to their appropriate level of care. Many solutions to boarding have been put into action in hospitals nationwide. It is apparent that differences in strategies exist. Those that have proven effective all agree that boarding must be approached with intradepartmental collaboration and unification of team members.

**Intradepartmental Teams**

Boarding is a problem that affects all departments, thus one individual or department cannot manage it alone. Perhaps the most effective and financially sustainable solution to boarding reported in the literature is the creation of teams to
manage patient care, beds, and scheduled procedures. These teams often include house supervisors, hospitalists, ED physicians and staff, social workers, and environmental services (Chadaga et al., 2012). Establishing leadership and a team to address patient flow ensures communication and puts patient care at the center of hospital strategies (Baker & Esbenshade, 2015). Through these collaborations patients are identified early as requiring admission resources and can be closely monitored for ongoing needs by ED staff, house supervisors, inpatient charge nurses, physicians, and senior leadership.

Baker and Esbenshade (2015) discuss the importance of interdisciplinary teams devoted to boarding issues that are comprised of ED and inpatient leaders, hospitalist physicians, administrators, environmental services, and discharge coordinators. These researchers reported that in order to promote transparency and communication with patients who board, a minimum rounding of every four-hours should take place in the ED. Rounding should be lead by house supervisors, ED directors, and charge nurses, which would keep patients informed, allow monitoring for safety risks, and assessment of areas needing additional staff support. Increased rounding assures patients their care is important to the organization and that the room they occupy will not impede their recovery. Rounding also gives frontline ED staff the opportunity to engage frequently with leadership to remain informed and have an outlet for stress and immediate recognition for their hard work.

Howell, Bessman, Marshall, and Wright (2010) discuses the implementation of a hospitalist led group engaged in an active bed management approach. A
hospitalist is dedicated only to getting inpatients into beds. With shared ownership of boarding patients, rooms will become available faster improving care and patient satisfaction. Ongoing communication between team members from each department allows for planning and anticipation of hospital wide needs and better patient care management.

**Social Workers**

Many EDs utilize social workers who have experience on medical-legal aspects of care to reduce unnecessary admission and provide additional support for bereavement, counseling, and substance abuse (Bristow & Herrick, 2002). Patients that are seen by social workers upon referral by the ED physician or nurse at discharge are likely to experience a higher degree of satisfaction. In addition, they obtain outpatient resources and address discharge education reducing unnecessary admissions while increasing inpatient space for boarders.

Bristow and Herrick (2002), reported that collaboration between the ED nurse and the social worker help identify patients who can be treated in less costly settings (than the ED) and fosters collaboration with nursing homes, clinics, primary care offices, and other community programs. Facilities may be reluctant to increase staffing for social workers and mental health nursing, though overall cost savings and improved patient outcomes are likely to be seen by the organization.

**Legislation**

Many solutions to ED crowding and boarding have been proposed and even implemented. However Becker and Friedman (2014) state that the main reason that
limited solutions to the problem exists is the lack of hospital incentives to develop them. Under pay-for-performance reimbursement, Becker and Friedman (2014) state that the Department of Health and Human Services (HHS) could include wait times as an indicator of performance; the less patients wait the more their payer source will reimburse the facility. Economic solutions to boarding may result in hospitals competing for patients and ultimately lead them to invest attention toward wait time reduction without the need for formal legislation (Becker & Friedman, 2014).

Legislation is recommended as a possible solution that would propel healthcare systems toward boarding resolution. Due to the threat to public safety and emergency services, boarding should be a priority for hospital administrators and policymakers (Pines, 2013). Though the literature agrees that state and federal legislation are not a first choice solution to boarding, it may become the only choice to protect patients from lack of care dangers if hospitals remain unwilling to independently implement solutions (Rabin et al., 2014).

How health care systems operate in times of crowding and other internal and external crises must be addressed with sustainable solutions. Solutions to ED boarding exist; many have proven effective. Boarding must be met with urgency as the nations hospitals are saturated beyond their ability to honor their moral and legal obligation to provide safe services for all patients. If hospitals cannot provide appropriate care to inpatients, and low acuity ED patients in a timely fashion, how can we ensure safe operation in times of high stress and acuity? Ignoring ED boarding is not simply ignoring stable patients that need a place to be admitted to the
hospital, it is ignoring the inevitable reality that our hospitals may one day be faced with grand scale casualties that they are not prepared to accommodate.
CHAPTER V
RECOMMENDATIONS

Emergency departments (EDs) around the world serve different populations and communities. They vary in design, maintenance, management, staff, and policy. Despite the many notable differences in which emergency care is delivered, the problems plaguing these departments are similar. The most urgent problem is that of boarding, an international problem that has left the healthcare system in crisis.

Boarding patients in the ED is a phenomenon that has been in the medical literature for approximately two decades. Patients stay in the physical space that the ED staff prepares for them; it may be a private room or a hallway, a gurney or a chair. When patient’s board in the ED their care is often delayed or withheld. Delays in care may include late medication administration, failure to assist with activities of daily living (ADLs), or missed repeat laboratory studies. Care delays among other factors contribute to overall poor outcomes and increased morbidity and mortality for boarding patients (American College of Emergency Physicians, 2008; Zhou et al., 2012).

Research shows the more time spent in the ED after being admitted to the hospital leads to disruption of department flow, delays in care, and increased mortality (ACEP, 2008; Bellow & Gillespie, 2013; Rabin et al., 2014). Delaying patient care is irresponsible, unethical, and dangerous, although it is often an
unavoidable result of the need to triage and treat the ongoing arrival of patients with emergencies.

The ED nurse may not be able to accomplish all required tasks involved in comprehensive inpatient care on top of their ED patient load (Denno, 2014). A study of over 44.3 million ED admissions showed 17% of care hours were spent on boarded patients (Carr, Hollander, Baxt, Datner, & Pines, 2010). Intradepartmental efficiency and quality of care is directly affected when patients board (Bellow & Gillespie, 2013).

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) requires patients receive comparable care no matter where they are in the system (JCAHO, 1999). Despite JCAHO requirements and patient safety goals, departments fail to maintain adequate interventions for hospital crowding or prevention of boarding patients. Further research is needed to develop effective and generalizable methods for ED restructuring to accommodate the increased demand on the ED and reduce the need to board patients. This chapter will address needs for future research and recommendations for interventions at the community and hospital level.

**Gaps in the Literature**

The literature on actual and potential causes for ED boarding is comprehensive, although a gap in the literature remains in reference to meaningful solutions for this issue. There is a lack of information associated with how nurses manage ED boarding. Emergency nurses constantly adapt to whatever workload the
day brings. On a daily basis these professionals are forced to prioritize which patients and nursing care they will complete next, including interventions to transfer care to other departments. In addition, there is a need to understand the role of interdisciplinary and intradepartmental collaboration to resolve the problem. Leaders in ED medicine and nursing must continue to collaborate and share successful strategies to ensure patient safety is never compromised in any ED due to boarding. Facilities must support frontline ED nursing staff by advocating for collaboration to get boarders placed into inpatient beds and keep patients safe and ED workloads manageable.

Interventions for boarding are lacking and those that have been successful may not be published and disseminated. Little qualitative research has been done on this topic, which would improve staff knowledge and help us understand the patients’ perceptions of boarding. Research on this topic is relevant to both emergency nursing as well as nurses in all acute care areas. Further studies should be conducted across departments to examine boarding patients preferences as well as the experiences of nurses caring for boarders across care settings. Most importantly, research is needed that gives viable strategies to eliminate this threat to quality patient care.

Recommendations

Community Recommendations

Emergency department crowding remains a global problem. At the local level, communities must seek solutions to primary care barriers in order to reduce the strain on EDs and enhance health services for patients. Expanding access to routine
medical care has been the goal of health policy for decades. This is also the intent of the Affordable Care Act (ACA, 2016) which increases health access through affordable insurance options for patients. This legislation reduces financial barriers to primary care by providing patients with insurance. Unfortunately, there are not enough primary care providers (PCPs) to accommodate the increased number of patients who are entering the health care system. The United States department of Health and Human Services (2013) reports that by the year 2020 there will be shortage of 20,400 primary care physicians. It is essential that communities examine their healthcare infrastructure to assure that there are enough PCPs to care for these additional patients.

As a result of not having a PCP to contact, limited appointment availability, or PCPs not accepting their insurance plan, high volumes of patients currently present to ED seeking routine care. In order to alleviate ED crowding, PCPs must be present in communities to maintain ongoing relationships with patients, deliver preventative care, carry out routine visits, and manage chronic disease.

Nurse practitioners (NPs) are an underutilized group of PCPs that are experts in primary care. The Institute of Medicine (IOM, 2010) has acknowledged the use of NP workforce expansion as a strategy to resolve the shortage of PCPs nationwide. In order to optimally utilize their skills and knowledge and meet the increased need for patient care, the Board of Registered Nursing (BRN) must expand the NP scope of practice. Providers including physicians, physician assistants, and NPs must be active
in the development of health policy advocating for their patients and practice at the national, state, and community levels.

Community health leaders and policymakers must work together to increase the number of local PCPs and to develop policy that focuses on improving health and wellness for all patients. In addition, public health providers must provide education to residents on how to access healthcare. The ACA brings insurance coverage to patients, though it does not increase the public’s understanding of access methods.

Funding is needed that supports community nursing based classes and literacy appropriate teaching materials. These are needed to enhance patient knowledge of community resources, emergent versus non-emergent conditions, and the benefits of preventative medicine. Approaching ED boarding from a prevention standpoint through community interventions and primary care follow up, may result in healthier communities and decrease the strain on the acute care system.

It is well known that patients who present for routine needs to the ED often state that it was due to access barriers, such as a lack of available primary care services. Many patients demonstrate health barriers related to not knowing how to manage viral illness or low-grade pediatric fevers. Enhancing community outreach efforts may enhance health literacy, patient access, and improve health habits, which may decrease non-emergent ED visits. Ultimately, this may lead to decreased crowding and boarding conditions and establish a common goal of health and wellness.

**Hospital Recommendations**
Successful interventions for ED boarding that appear in the literature include intradepartmental teams collaborating to get patients into the appropriate beds (Baker & Esbenshade, 2015). Meetings between these disciplines is essential to minimize boarding as it gives leaders a platform to coordinate admissions, discharges, and unit based barriers to facilitating these patient transitions. Boarding is a problem affecting hospitals as a whole and this kind of collaboration and buy-in from all leaders is necessary for successful implementation of boarding interventions.

**Psychiatric Boarders**

Patient and staff safety is put at risk due to an ongoing shortage of mental health services nationwide and results in ED psychiatric patient boarders (Nolan, Fee, Cooper, Rankin, & Blegen, 2015; Misek, Debarba, & Brill, 2014). While in a state of acute psychiatric crisis, some patients can unintentionally pose safety risks to themselves, staff, and other patients. Patients experiencing a mental health crisis often do not require an inpatient admission but are required to be evaluated by a mental health professional before they can receive further psychiatric services or be deemed safe to return home. It is the responsibility of all healthcare providers to provide timely and excellent care to this vulnerable patient population. Having trained mental health specialist in the ED would enhance the care delivered to these patients.

Many hospitals utilize community mental health resources to provide mental health screenings and facility placements; this creates delays in patient care and increases length of stay (LOS) (American College of Emergency Physicians, 2014). Hospitals could decrease the LOS for mental health patients by utilizing their own
employees to provide the mental health care and act as a case manager to coordinate the next steps in care. The Emergency Nurses Association (2013) white paper discusses that ED nurses and physician’s lack mental health expertise and support the creation of positions for mental health practitioners. It is the recommendation of this writer that hospitals aide in reducing disparities in mental health by hiring their own expert psychiatric nurses to facilitate crisis evaluations and ongoing support services in the event that a patient must board.

Boarding and extended LOS is costly. Funding mental health professionals on a full time or on-call basis may be financially beneficial to any organization. Hospitals could not function without nursing staff, and they do not function well without mental health nursing staff. Mental health needs are relevant for boarders in the ED and to all patients with psychiatric comorbidities. These issues cannot be neglected in an ED or during inpatient stay. Funding for these specialized mental health staff members is essential to improving care outcomes, decreasing boarding, and maintaining safe ED environments.

**Staff Education**

Initiation of nurse training programs to increase safety of inpatient care in the ED should be a priority in nursing research (Denno, 2014). Classes and inservice training can be developed for new ED staff that focuses on the needs and priorities of boarders. All nurses within a facility should be educated and trained to handle floating to the ED and providing care to inpatients needing to be boarded. These trained inpatient nurses could be available to present to the ED to assist staff with
inpatient assessments for boarders, and to round on patients to assist ED staff with managing the workload.

Emergency department nurses are well versed in most disease processes as the ED setting cares for all populations, while they may be unfamiliar with managing inpatients. Departments should conduct self-assessments to identify knowledge deficits or frequently missed interventions when ED nurses care for boarders. Assessing for high incidence of missed care allows departments to develop education programs to reorient and enhance the knowledge of staff.

**Specially Trained RNs**

Intense nurse workloads also place boarders at risk for missed care and ED nurses at risk for burnout. Facilities should consider implementing specialized staff on all shifts to provide services within the ED not only on inpatient units. Lift teams (to promote frequent turns and repositioning), as well as increased staffing for wound care, physical therapy, swallow evaluations, and vascular access monitoring need to cover the ED in times of boarding and peak census. These specialties’ may be absent from the ED setting or services are postponed until the official bed assignments are made. Bornemann-Shepherd et al., (2015) report that reduction in the interruption of nursing care leads to less errors. Care to boarders that can be delegated to increased ancillary staff, and intradepartmental collaborations, may lead to decreased workload on ED nurses and fewer hospital associated adverse events.
Social Workers

Facilities should have social workers available to help ED nurses facilitate barriers to safe discharge. Interpersonal social needs of patients are often left for ED staff to reconcile. Due to lack of time, limited community resources, or lack of staff expertise on social interventions, these patient needs are commonly neglected. Interventions for social issues including barriers to transportation, obtaining outpatient follow up and prescriptions, or securing a safe environment to be discharged decrease ED LOS as well as reduce return ED visits (Olshaker, Greene, & Jerrard, 1999). The presence of social workers ensures high quality patient care and can be done in a setting outside of the ED treatment room to keep patient flow moving.

In conclusion, emergency departments provide services to people of all generations, races, religions, and socioeconomic groups. ED providers and nurses save lives every day and provide care to many persons otherwise disenfranchised from health services. It is essential that all policy makers, the health industries, community leaders, and patients support EDs as they learn to adapt to the modern healthcare climate, especially the issues raised in times of hospital crowding.

Boarding was once considered a simple answer to a seemingly simple problem; if no inpatient bed is available, the patient stays in the one they currently occupy within the ED environment. The existing body of literature on the safety risks caused by boarding cannot be ignored or dismissed as a simple problem that only affects the ED. Boarding threatens the safety of all hospitalized patients, and impedes
the EDs ability to respond promptly and comprehensively in the event of local or global crisis. To protect the lives of all citizens around the world it is essential to reduce hospital crowding and maintain the EDs ability to function optimally to assure quality patient care.
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