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Utilization of Emergency Departments: Examining Patient Perception of Urgency

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Utilization of Emergency Departments: Examining Patient Perception of Urgency

by

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Abstract

Nationwide volumes of those utilizing an emergency department (ED) for care have increased significantly over three decades with health professionals witnessing a significant increase of those triaged as non-urgent. Despite alternative healthcare resources, utilization has continued. Multiple factors are influential in the decision-making process with seriousness of condition having a direct link. However, a gap of knowledge exists between the professionals' actual measured level of acuity and the patient's perceived level. The term "urgency" has no standard definition in healthcare. Few studies have examined urgency from the patient's perspective. The purpose of this study was to identify primary factors influential in the decision to choose the ED with a focus on seriousness of condition as a primary reason. The study also explored perception of urgency of medical conditions from the participant's perspective using the Emergency Severity Index (ESI) algorithm and timeframes as a basis of reference. In a quantitative descriptive study where $n = 52$, data analysis found seriousness of condition, referral, and the inability to obtain an appointment with a primary care provider (PCP) as the top three factors in the decision-making process with seriousness of condition a primary factor. There was a gap in knowledge of urgency as the sample group identified their perception of acuity as different from the standardized Emergency Severity Index levels used by health professionals. Examination of differences in measurement of acuity would help inform future researchers in seeking evidenced-based practice to meet patient needs, particularly when demand exceeds supply of available timely ED resources.

Keywords: patient perception of urgency, emergency department utilization factors, decision-making process, non-urgent emergency department use, patient need

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CHAPTER I

Introduction

Patient volumes in nationwide emergency departments (ED) have increased significantly over the past three decades resulting in overcrowding, a phenomenon which has challenged healthcare providers' ability to consistently provide safe and quality patient care. Inclusive in these high volumes, and contributing to overcrowding, are patients presenting for care with conditions triaged as non-urgent. Factors influential in the patient's decision to seek care for non-urgent conditions have been examined through research with health leaders opining alternative resources were better designed to treat the needs of those with non-urgent conditions. Promotional use of these alternative sites for health care was encouraged, however, with less than desirable results. Seriousness of condition was found to be a primary factor influential in the decision-making process to use the ED over other sites for care. Yet a gap in knowledge exists between perceived urgency and actual acuity levels. There is no standard definition of urgency in healthcare.

Background

The role of hospital-based emergency and trauma care services has evolved from a cottage industry where care was delivered by part-time community physicians, to a specialty department with care provided by highly-trained and certified emergency physicians and skilled registered nurses, many holding advanced practice degrees with emergency nursing certification (Morganti et al., 2013). However, patient care in the 1970s and 1980s was not equitable as vulnerable populations were either denied the same level of care as insured individuals, or transferred to other facilities simply because they were unable to pay for services (American College of Emergency Physicians [ACEP],

2016b). That changed in 1986 with passage of the Emergency Medical Treatment and Labor Act (EMTALA).

Part of the Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985, passage of EMTALA ensured equitable safe and quality health care to all patient populations presenting to Medicare-participating hospitals. Patient "dumping" was federally prohibited as providers were mandated to conduct a medical screening examination (MSE) to any individual presenting for care regardless of insurance coverage and/or financial ability to pay for services (Centers for Medicare and Medicaid, n.d.). If the presenting individual had an emergency condition, ED providers were mandated to provide treatment and/or stabilize before transfer to another facility. EMTALA defined emergency as:

> A condition manifesting itself by acute symptoms of sufficient severity (including severe pain) such that the absence of immediate medical attention could reasonably be expected to result in placing the individual's health [or the health of an unborn child] in serious jeopardy, serious impairment to bodily functions, or serious dysfunction of bodily organs. (ACEP, 2016b, p. 2)

Moving the patient could only occur if the transferring hospital was unable to provide medical services needed (ACEP, 2016b). For example, a hospital without specialties to treat patients with acute severe burn injuries could then, and only then, transfer the patient.

Following enactment of EMTALA, nationwide ED patient volumes increased placing a strain on emergency services with volumes more than doubling the 45 million in 1986 to 90.3 million in 1993 (Institute of Medicine [IOM], 2006). By 2009, ED

utilization had surpassed population rates per capita by 18% (Barish, Mcgauly, & Arnold, 2012). Nationwide volumes have continued to increase significantly (Table 1) reaching an unsurmountable 136, 296 million in 2011, and remaining high at 130.4 million at the time of the most recent National Hospital and Ambulatory Medical Care Survey in 2013 (National Survey) (Center for Disease Control [CDC], 2004; CDC, 2008; CDC, 2010; CDC, 2012; CDC, 2013).

Table 1

Nationwide Annual ED Patient Volumes and Non-Urgent Visits

Year	Annual volume	Increase Percentage	Patients Triaged as Non-Urgent
1993	90.3 million	100% from 1986	*
2003	113.9 million	26% from 1993	32%
2008	123.8 million	0.09% from 2003	29.2%
2009	136,072 million	0.09% from 2008	42.8%
2011	136,296 million	0.002% from 2009	43.5%
2013	130.4 million		**16.3%

Legend * Numbers not provided ** While numbers were decreased, 19.5% of the 130.4 million visits did not have a reported or known triage level possibly underinflating numbers (CDC, 2013).

Further reflected in Table 1, in 2003 health professionals witnessed a significant increase in those triaged with lower acuity levels, a trend which has continued to date (CDC, 2004; CDC, 2008; CDC 2010; CDC, 2012; CDC, 2013). The role of the ED provider evolved from one treating life-saving and emergent acute conditions to having a

central role in the delivery of primary care. In this duality of roles, meeting the needs of the public and community was challenged. Nationwide EDs were in a state of crisis.

With a significant rise in uncompensated health costs associated with the treatment of millions of uninsured Americans with complex health issues and little to no preexisting care, by 2003 over 11% of nationwide hospitals ceased to exist. By 2009, over 26% of nationwide hospitals with operational EDs had closed. EMTALA had not provided a provision for reimbursement. The result was a loss of 17% or 198,000 hospital beds which strained hospital services even further as admission rates had risen 13% (Barish et al., 2012). As discussed later in this chapter, with the loss of inpatient hospital beds patients were "boarded" or kept in the ED until one became available. This "input" contributory factor was later determined as the primary cause of overcrowding (Bellow & Gillespie, 2014). Notwithstanding the cause, by 2010 overcrowding in nationwide EDs was a significant problem as demand for care exceeded the supply of available treatment areas with over 50% of nationwide EDs operating beyond capacity (American Hospital Association [AHA], 2012). Patients with non-urgent conditions were subjected to longer wait times as their conditions did not warrant immediate or emergent attention (IOM, 2006).

State of Crisis and Overcrowding

As patient volumes increased significantly, members of the Institute of Medicine (IOM) (2006) convened to examine nationwide emergency care releasing the groundbreaking report: "Hospital-Based Emergency Care: At the Breaking Point". Two major determinants of ED utilization and overcrowding were realized: increased patient

demand contributed to ED overcrowding, albeit not the primary cause; and increased patient demand was the result of multiple factors rather than population growth alone.

Following the IOM report, The Joint Commission, the hospital wide regulatory agency, created policy where all nationwide EDs must have a plan to address overcrowding (AHA, 2012). As agreed in studies (Barish et al., 2012; Bellow & Gillespie, 2014; Emergency Nursing Association [ENA[, 2010; & McHugh, Van Dyke, McClelland, & Moses, 2014), the standard framework in examining factors contributing to overcrowding was the model by Asplin and colleagues who conceptualized overcrowding was the result of three interdependent components: input, throughput, and output (Bellow & Gillespie, 2014).

Components of overcrowding and position statements. Input represented system demand embodying patients presenting with emergencies and those with unscheduled non-urgent needs. Contributory factors of ED utilization for non-urgent care included availability of alternative resources, insurance status, and/or socioeconomic needs (Bellow & Gillespie, 2014). Based on findings from the most recent National Survey in 2013, 12% of adults presenting to an ED did so as their primary care provider's office was not open, and 7% from the lack of access to alternative resources for care (Gindi, Black, & Cohen, 2016).

Throughput consisted of factors associated with the patient's length of stay in the ED with a focus on the need for improvement of hospital-wide system processes. This included time for triage and registration, availability for diagnostic services such as radiological and laboratory testing, language and cultural barriers, and staffing shortages. Output factors were factors external to ED services, and included those affecting

dispositions of the patient such as boarding in the ED from lack of hospital bed availability (Bellow & Gillespie, 2014). The IOM considered the practice of holding admitted patients as the primary cause of overcrowding (Beaulieu et al., 2014). They took the position ED overcrowding: occurred when demand for care exceeded the supply of available resources; was a nationwide phenomenon placing a strain on ED services; and undermined the ability to provide safe and timely delivery of care (Barish et al., 2012; ENA, 2010). Concurring, and using Asplin and colleagues' conceptual framework as a guide, the Emergency Nurses Association (2010) recognized emergency nurses as front line providers and leaders in research and development of evidenced-based practices and took the position:

- Overcrowding was a hospital-wide system problem;
- ED nurses should advocate for a systems approach when viewing patient flow;
- Emergency nurses need to "integrate successful methods of disaster response and daily surge protocols in the development and implementation of crowding solutions" (p. 1);
- ED nurses should engage all stakeholders inclusive of community leaders in the identification, implementation, evaluation, and reporting of solutions; and
- Emergency nurses should conduct research addressing crowding, holding, and patient flow.

Attempts to reduce patient volumes and overcrowding. As non-urgent visits were viewed by many as inappropriate and an inefficient use of emergency services (Morganti et al., 2013), health leaders attempted to reduce patient volumes through the promotion of alternative resources for care, albeit without achieving the desired results. Reflected in a survey conducted in 2015 for the American Colleges of Emergency Physicians, volumes

were reduced only 22% because of urgent care centers; and a mere 14% reduction in volume of those presenting to an ED for non-urgent care because of retail clinic resources (Marketing General Incorporated, 2015).

Triage Acuity Tool of Measurement

The purpose of triage is to prioritize incoming patients and identify who needs immediate treatment. However, prior to 1998, the concept of having an evidenced-based tool offering a standardized measurement of acuity did not exist. This presented a problem when patient volumes increased and demand for care exceeded the supply of available treatment rooms. Prioritization of acuity was needed to see who required immediate treatment. As such, two ED physicians conceptualized and developed the Emergency Services Index (ESI) with testing started in two university teaching hospital EDs. Refining the conceptualized framework of acuity, a joint task force of members of the American College of Emergency Physicians and Emergency Nurses Association was created in 2002 and the standardized five-level ESI algorithm tool emerged (Gilboy, Tanabe, Travers, & Rosenau, 2011). In a study with n = 4897 hospitals, McHugh, Tanabe, McClelland, and Khare (2011) determined the ESI as the most commonly used and most reliable and valid triage acuity system in nationwide EDs.

Shown in Table 2, the ESI algorithm consists of five levels of acuity ranging from 1: the highest acuity level where patients require immediate lifesaving care, to 5: the lowest acuity level where patients do not require any diagnostic tests or treatments beyond the physical examination and could safely wait two to 24 hours to see a provider without the likelihood of an adverse outcome. In basic terms, outside of unstable vital signs and clinical presentations, measurements of acuity are based on standardized

timeframes a patient could safely wait for the medical screening examination (MSE). If the patient's vital signs are stable, determination of measurement for levels three to five was also determined based on the expected number of different resources needed for evaluation and treatment with resources inclusive of: laboratory and/or radiological testing; simple procedures; and medications other than those delivered orally (Gilboy et al., 2011).

Table 2

ESI Levels of Acuity

Acuity Level	Level Name	Standard Timeframe for Treatment	Required Resources
1	Immediate	Immediate	n/a
2	Emergent	1 to 14 minutes	n/a
3	Urgent	15 to 60 minutes	two or more
4	Semi-Urgent	61 minutes to 2 hours	one
5	Non-Urgent	>2 hours to 24 hours	none

Triage is a complex process which involves skills of critical thinking and expert clinical judgment necessary for safe and quality care of the ED patient. In their position statement, the National Emergency Nurses Association (ENA, 2014) believed: advanced specialized skills are necessary to perform in this role competently; and general nursing education, alone, does not prepare the ED nurse for the "complexities of the triage nurse role" (p. 1). Patients are not seen on a first-come first-serve basis, which has been a source of dissatisfaction to the patient presenting with actual non-urgent needs. Precedence is always provided to those with life-saving and emergent acute needs

(Filippatos & Karasi, 2015). The gap in knowledge between the actual levels of triage measured by a trained professional as compared with the patient perception of urgency is explored in Chapter II.

Problem Statement

ED utilization by those presenting with conditions triaged as non-urgent has increased nationwide with multiple factors identified as influential in the patient's decision to use an ED for healthcare needs. While seriousness of condition has been cited in numerous studies as having a direct influence in the decision-making process, a gap in knowledge exists between the actual level of urgency objectively measured by ED professionals, and the perceived level of urgency subjectively measured by patients. Promotional utilization of alternative resources for non-urgent care has been difficult to achieve as there is no standard definition of urgency.

Significance

Attempts at promoting the use of alternative resources for non-urgent care have had less than desirable results. Following the lead of the IOM (2006), researchers have identified multiple factors: predisposing characteristics (demographics and health beliefs), enabling factors (financial ability, insurance coverage, and family and community support), and perception of urgency, as influential in driving the patient's decision to utilize an ED for non-urgent care (Behr & Diaz, 2016; Carrier & Boukus, 2013; Cassil, 2013; Cheung, Wiler, Lowe, & Ginde, 2012; DeLia, Cantor, Brownlee, Nova, & Gaboda, 2012; Doran et al., 2015; Durand et al., 2012; Gindi et al., 2016; Hanson et al., 2014; He, Hou, Toloo, Patrick, & Fitzgerald, 2011; Lobachova et al.,

2014; Nelson, 2011; Rocovich & Patel, 2012; Shaw et al., 2013; Uscher-Pines, Pines, Kellermann, Gillen, & Mehrotra, 2013).

Perception of urgency played a major role with seriousness of condition and had a direct link in the patient's decision to seek care in an ED (Carrier & Boukus, 2013; Cassil, 2013; DeLia et al., 2012; Doran et al., 2015; Durand et al., 2012; Gindi et al., 2016; Hanson et al., 2014; Lobachova et al., 2014; Nelson, 2011; Shaw et al., 2013). While patients perceived their condition as serious, their subjectively measured level of acuity differed from actual acuity determined objectively by the health professional using a standardized tool of measurement (Durand et al., 2012; Ekwall, 2013; Gindi et al., 2016; He et al., 2011; Nelson, 2011; Ruud, Hjortdahl, & Natvig, 2016; Sadillioglu et al., 2013; Toloo, Aitkin, Crilly, & Fitzgerald, 2016). There is no standard definition of urgency in healthcare (Gilboy et al., 2011). Definitions found varied from: "requiring a rapid response or intervention...pressing" (Urgent, n.d.), to "calling for immediate action – pressing" (Urgent, n.d.b).

The presence of alternative resources has not provided a solution to the current crisis in nationwide EDs and, while over 30 million individuals have received insurance coverage through the Affordable Care Act (ACA) (Blumenthal, Abrams, & Nuzum, 2015), 75% of ED providers, nationwide, have witnessed a continued increase in patient volumes (Marketing General Incorporated, 2015). Studies understanding urgency from the patient's perspective were limited.

Purpose

The purpose of this study was to identify primary factors influential in the decision to choose the ED with a focus on seriousness of condition as a primary reason. The study also explored perception of urgency of medical conditions from the patient's perspective using the Emergency Severity Index (ESI) algorithm and timeframes as a basis of reference.

Theoretical or Conceptual Framework

The conceptual framework that guided this research study was based on Andersen's Behavioral Model of Health Services Use. Andersen (1995) conceptually explained utilization of health services as a function of three dynamic set of factors: predisposition to utilize services; enabling factors allowing or hindering use; and actual or perceived need for services (Figure 1). This 1995 fourth adapted version emphasized that multiple factors influencing utilization of health services affect the individuals' health status outcome, subsequently affecting health beliefs and perceived need for services (Andersen, 1995). Andersen-based models have become the most frequently applied frameworks in research for explaining behavior in utilization of healthcare services (Babitsch, Gohl, & von Lengerke, 2012; & Behr & Diaz, 2016; He et al., 2011).

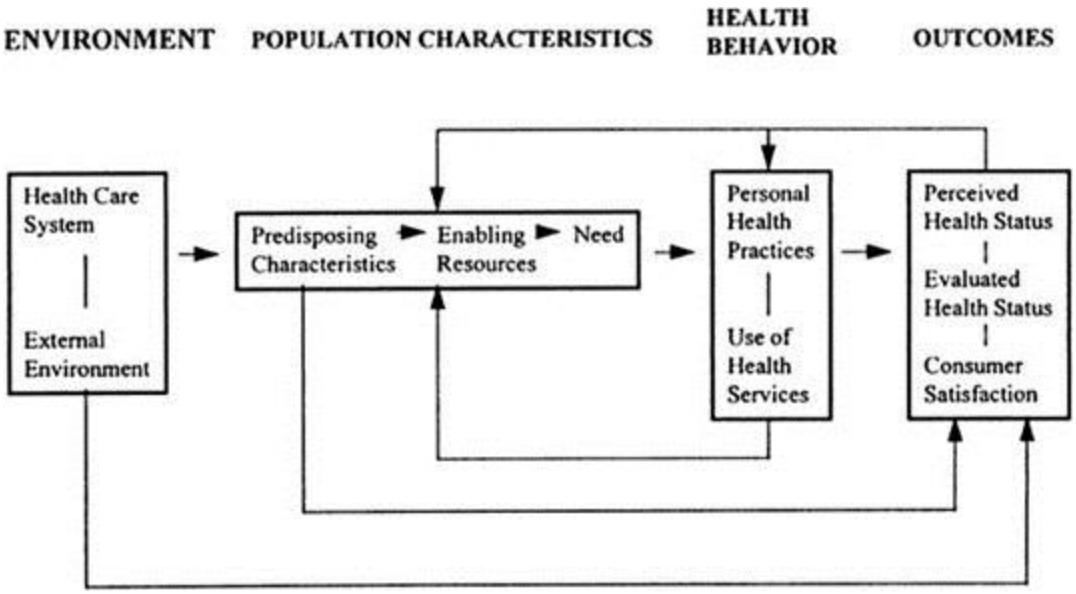

Figure 1: Andersen's 1995 Behavioral Model of Health Services Use

Andersen's Three Dynamics

Andersen (1995) argued the propensity to use health services could be predicted from a set of predisposing characteristics existing prior to an illness or injury inclusive of demographics such as age and gender, social structures, and health beliefs. If an individual believed utilization of health services was an effective method to treat an illness or injury, they would be more likely to seek care. Health beliefs comprised of attitudes, values, and knowledge about health influenced the need for utilization. The perception or belief a patient's medical condition was serious, warranting services in an ED, has predisposed individuals to utilize emergency services for care. Predisposing factors, however, have been determined as the most distant from healthcare utilization as they have a low degree of mutability or variability (Behr & Diaz, 2016).

The second dynamic, enabling factors, including such things as financial ability, insurance coverage, and family and/or community support and availability, allowed health services utilization. Without availability, utilization for healthcare services would not occur (Andersen, 1995). Having a high degree of mutability, enabling factors are easily changed. The Affordable Care Act provided insurance access to millions of uninsured Americans and Medicaid has provided health coverage to low-income individuals. Yet individuals have continued to utilize EDs for health services (ACEP, 2015).

Need for health services, whether perceived or actual, must be present for utilization to occur. This final dynamic is defined in healthcare as the capacity to benefit from reassurance, treatment, and care provided from medical professionals (Jahangir, Irazola, & Rubenstein, 2012). Utilization of healthcare is the moment in which patient needs meet the healthcare system (Babitsch et al., 2012). Notwithstanding predisposing and enabling factors, studies have demonstrated need as the most proximate to health services utilization. Differentiating between perceived and evaluated needs, Andersen (1995) conceptualized perceived need could be largely explained by social structure and health beliefs, however reported when examined broadly, perception, alone, accounted for much of the behavior in utilization for health services (p. 3). The component of actual need was achieved through a health professional's specialized evaluation and objective findings (Behr & Diaz, 2016). Although this final factor's degree of mutability was low, Andersen (1995) opined perceived need, including perception of urgency, could be altered through health education programs.

Lastly, Andersen's (1995) framework was built on the belief that health status, perceived or evaluated, affected patient outcomes including consumer satisfaction. In contemporary healthcare, patient satisfaction is a commonly used indicator measuring the quality of care received. Overcrowding and lengthy wait times have resulted in decreased patient satisfaction (Filippatos & Karasi, 2015), and patient satisfaction has a direct impact on Medicare reimbursement rates in hospital funding (Centers for Medicare and Medicaid Services, 2015).

Research Questions

1. What are the top three factors selected as influential in the decision to seek medical care in an ED?
2. How often does the population group select "seriousness of condition" as the main reason for seeking care in an ED?
3. How did the sample population perceive and rate urgency of the listed medical conditions?

Definition of Terms

For this study, the following definitions are used:

1. Adult is any patient 18+ years of age.
2. Self-referred are patients presenting to the ED without any recommendations by either a health professional, family member, or friend.
3. Vulnerable populations refer to individuals who were uninsured or underinsured with financial constraints to pay for ED services.
4. ED professional refers to registered nurses and providers skilled in the process of triage.

5. Triage is the area in which, typically, an RN (occasionally, a provider) performs a brief, focused assessment objectively examining clinical findings; prioritizing patient needs; and assigning a level of acuity or urgency based on the ESI algorithm tool.
6. Level of acuity is a proxy measurement of the length of time a patient can safely wait for a medical screening examination and treatment.
7. ESI or the Emergency Service Index is the ED's standard five-level (levels 1 to 5) algorithm tool for measuring the severity of the patient's illness or injury based on medical findings and the length of time a patient can safely wait before the ED provider conducts the medical screening examination and treatment.
8. ESI level 1 is the highest level of acuity requiring immediate (less than one minute) care and life-saving interventions as the patient is critically unstable with life or limb threatening illnesses and/or injuries. The threat of death is imminent.
9. ESI level 2 is the next highest level of acuity where the patient is emergent and needs to be seen within one to 14 minutes. Although non-life-threatening, placement should be rapidly facilitated such as taking the last available room in the ED, or even placing the patient in a hallway bed with portable monitoring equipment, to expedite the medical screening examination and treatment as risk of deterioration is higher.
10. Resources are medical interventions required to treat the patient for disposition to be attained (admission, transfer, discharge). In the ESI triage system, resources are only considered by the triage nurse for acuity levels 3, 4, and 5. These include laboratory testing, radiological testing, IV fluid therapy, any medication

administration other than orally, and simple procedures such as laceration repair or insertion of a Foley catheter.

11. ESI level 3 is where the patient's condition is urgent with non-life-threatening illnesses or injuries; and the nurse estimates several resources will be needed for treatment. The patient can safely wait 15 to 60 minutes for the medical screening exam and treatment without consequences to the outcome.
12. ESI level 4 is the next to lowest level of acuity where the patient's condition is considered semi-urgent; the nurse estimates the use of only one resource; and the patient can safely wait >one to two hours for evaluation and treatment.
13. ESI level 5 is the lowest level of acuity considered non-urgent where no resources are anticipated. The patient can safely wait >two to 24 hours for the medical screening and treatment.
14. For the purposes of this study, non-urgent use of the ED includes any individual seeking and/or receiving care in the ED for semi-urgent (level 4) and non-urgent (level 5) illnesses and injuries as described above.
15. Patient perception of urgency was measured using a 5-point Likert scale identifying the urgency in which the patient felt they should be seen based on ESI acuity level timeframes for the medical screening and treatment as defined above.
16. Presenting condition is the illness or injury identified by the patient requiring medical evaluation and treatment at the time of presentation to triage.
17. CPS represents "Complaint Specific Protocol which is a State regulated nursing scope of practice standing order set designed by the medical and nursing leadership boards, initiated by the ED triage nurse, and applied to a patient

presenting with a specified condition. Examples include orders for electrocardiograms, laboratory tests, specified radiological testing, and specified medications.

Summary

Americans, as well as a growing population of undocumented immigrants, depend on emergency services for medical care resulting from acute life-saving and emergency traumatic and non-traumatic illnesses and injuries as well as for disaster relief; care from mass casualties; and treatment of epidemics: realistic needs not only nationally, but internationally. Yet the issue of ED overcrowding has continued nationwide where 91% of ED providers reported it as a problem; and 40% conveyed overcrowding occurred daily (Marketing General, Incorporated, 2015).

National emergency care environments have received sub-standard grades with an overall national grade of "C" in 2009, which decreased further to "D plus" in 2014. Access to emergency care earned a "D minus": the lowest grade of the five categories measured. Patient safety environment earned a "C" (ACEP, 2016a). These subpar grades have confirmed the need for additional research to assist future researchers in the development of interventions to address the potential negative consequences of increased volumes of patients presenting for non-urgent care. As such, the purpose of this study was to identify primary factors influential in the decision to choose the ED with a focus on seriousness of condition as a primary reason; and to explore perception of urgency of medical conditions from the patient's perspective using the Emergency Severity Index (ESI) algorithm and timeframes as a basis of reference.

CHAPTER II

Research-Based Evidence

Because of the increased patient demand for non-urgent care at EDs, research studies have identified multiple factors influential in the patient's decision to utilize the ED over alternative resources for care. Although seriousness of condition was found to have a direct link in the decision-making process, a gap of knowledge between the actual acuity level and perceived level of urgency exists as there is no standard definition of urgency. While the gap between actual and perceived urgency was acknowledged in previous studies, literature examining urgency of conditions from the patient's perspective was lacking. Hypothesizing seriousness of condition has continued as a primary factor, and the gap of knowledge of urgency also continues to exist, the purpose of this study was to identify primary factors influential in the decision to choose the ED with a focus on seriousness of condition as a primary reason; and to explore perception of urgency of medical conditions from the participant's perspective using the Emergency Severity Index (ESI) algorithm and timeframes as a basis of reference.

Through use of the University's online library, EBSCO CINAHL, Medline, and Internet searches on "patient perception of urgency", "professional standards measuring urgency"; "why patients use the ED for care" returned a moderate number of national and international articles related to utilization of the ED. Focus was also placed on identifying studies using Andersen's Behavioral Model of Health Services Use as a basis of review of ED utilization for non-urgent needs.

Literature Related to Statement of Purpose

Multiple factors have been identified as influential in the patient's decision to choose the ED for care with perception of seriousness or urgency having a direct link. A gap in knowledge in the patient's perceived level of urgency and health professional's actual acuity level measured using a standardized tool has continued to exist. As such, literature relevant to this MSN thesis study included identifying primary factors influential in the decision-making process with a focus on seriousness of condition, as well as the existing gap of knowledge between perceived and actual acuity.

Influential Factors Including Seriousness of Condition

Durand et al. (2012) conducted a qualitative descriptive design study in 10 EDs located in France to explore why patients with non-urgent conditions utilized emergency services for care. Categorization of urgency was determined by asking triage nurses with at least six months of triage experience: "Could the problem be taken care of by a primary care physician?" (p. 3). If the answer was "yes", the patient was categorized as non-urgent. Neither written protocols nor triage algorithms were used. Durand et al. (2012) reported, based on an extensive literature review, there was no universal definition of a non-urgent ED visit.

Using a semi-structured questionnaire as the survey instrument with $n = 87$ non-urgent patients interviewed, Durand et al. (2012) identified factors influential in the decision to seek care in an ED which included, in order of frequency: fulfilling health care needs; barriers to PCPs; and advantages of an ED. Of the sample population, 29.9% reported reducing anxiety through assurance was important in their decision to use the ED for care with one participant conveying: "I do not know what I have, but it worried

me, so I preferred to come immediately to the ED so at least I am reassured" (p. 5). Pain was considered an emergency with 35.6% of patients using emergency services to fulfill health care needs by alleviating pain. Over 17% viewed their condition as serious warranting ED services (Durand et al., 2012). Further barriers reported were: "When I called my doctor, he said he was all booked up"; "my doctor consults by appointment only and he doesn't have time for me"; and "I preferred the ED to my doctor because it is so hard to get in to see him" (Durand et al., 2012, p. 5).

Advantages of an ED was the third recurring theme of ED utilization for non-urgent care with availability of resources such as diagnostic testing not available in a PCP's office; convenience; and the ability to have every need met in one place. Through Durand et al. (2012) study, participants reported: "My doctor cannot do X-rays or laboratory tests, while the ED has all the technical support." and "Everything is in one place." (p. 5).

Nelson (2011) conducted a quantitative descriptive study which examined reasons for non-urgent ED utilization as, from 1998 to 2008, patient volumes had increased over 50% in the United Kingdom. Patients triaged as non-urgent in a local hospital were approached for participation. With informed consent provided, triage nurses contacted the qualified participants several days later conducting a telephone interview using a structured questionnaire. With $n = 27$, 85% named pain and urgency of condition as the primary reasons for seeking care in the ED; and 15% reported the ED as the only "appropriate source of care" for their illness or injury (p. 34). Over 20% said they utilized the ED as their condition was worsening (Nelson, 2011).

Other identified influential factors in the study included the need for x-rays (37%); referral by a PCP (15%); and inability to obtain a timely appointment with their primary physician (4%). It was also concluded patients' perception of urgency, pain, and feeling their conditions were worsening "largely" influenced the patient's decision in ED utilization for non-urgent care (Nelson, 2011, p. 34).

Examining findings reported in the 1999 to 2009 National Health Interview Surveys, Cheung et al. (2012) determined an association with barriers to timely primary care and ED utilization for both Medicaid and private insurance beneficiaries. Barriers included unable to reach the PCP via telephone; limited hours and/or availability to timely care; long wait times at the PCP office; and lack of transportation. Using a descriptive analysis with a 95% confidence interval and multivariable logistic regression models, with n = 230,258, analysis found 16.3% of Medicaid beneficiaries had more than one barrier to primary care access with 39.6% seeking care in an ED. Statistically lower, 17.7% of privately insured participants experienced more than one barrier to PCP access, with 8.9% utilizing an ED. The study authors concluded, as EDs remained an important resource for acute care for those with Medicaid, expanse of coverage provided in health care reform may not, alone, be sufficient to decrease ED utilization for non-urgent needs (Cheung et al., 2012).

Conducting a review of the 2013 and 2014 National Health Interview Surveys, Gindi et al. (2016) examined ED utilization and reasons for use, concluding while reasons varied, little variation existed between two surveys. With the sample population of n = 26,825 in 2013 and n = 28,052 in 2014, all adults between the age of 18 to 64, 77% reported seriousness of condition as the primary reason for ED utilization. Over

11% utilized the ED as their PCP office was not open; and lack of access to other resources for care accounted for 7% of ED utilization. Medicaid beneficiaries were more likely to choose seriousness of condition as the primary reason, however those with private insurance utilized the ED because their PCP office was not open (Gindi et al., 2016).

Carrier and Boukus (2013) reviewed findings from the 2012 Autoworker Health Care Survey conducted with all participants having employer provided health insurance. Data was analyzed using a quantitative descriptive research study design. Sixty-four percent (n=5544) of the sample population (8636) completed and returned the mailed survey questionnaires. Over 49% reported they believed their condition was emergent requiring immediate attention with 30% citing seriousness of condition as their primary reason (actual triage levels were not provided). Additional factors in ED utilization included: access barriers as their PCP office was closed (25%); the inability to obtain a timely appointment with their PCP (11%); referral by their PCP (24.1%) or family and friends (21.9%); and ED was utilized for convenience (7.5%) (Carrier & Boukus, 2013).

Opining it was possible to understand patients' reasons behind ED utilization without soliciting information, DeLia et al. (2012) reviewed findings from the New Jersey Family Health Survey conducted from November 2008 to November 2009. This quantitative study used a randomly-dialed digit telephone survey of n = 2,100 landlines and n = 400 cell phones. Using a bivariate correlation and multiple regression analysis with a 95% confidence interval to review data reported, three recurring themes in ED utilization were determined: Urgency of condition (69%); access barriers to PCP and other offices for care (15%); and PCP referrals (7%). Perception of urgency was the

primary reason of ED utilization for 69.3% of participants. However, only 34% sought care immediately; 14% waited four hours; over 20% delayed treatment by three to seven days; and 14% of those reporting their condition was serious waited seven days before utilizing an ED for care (DeLia et al., 2012).

Examining factors in ED utilization for non-urgent care conditions to determine if factors differed between the two groups in the study, frequent versus non-frequent users of EDs, Doran et al. (2015) conducted a prospective cross-sectional study design, part of a larger trial, at Bellevue Hospital Center in New York City. Data was collected through a baseline questionnaire verbally administered by research associates. The study was conducted with both English and Spanish speaking populations with translation phone systems used with both the researcher and participant using a dual-headset. Patients qualified for participation if they were 23 years of age and/or older and presented to the urban hospital with lower acuity level conditions defined as: any condition that "a layperson would be expected to recognize as low-acuity" (p. e507). Frequent users were patients having presented for care three or more times in a year.

Of the 1,404 participants approached, 439 declined and 25 were excluded. In the sample population of n=940, 17% (163) qualified as frequent users. Multivariate logistic regression analysis was used to determine any differences between the two groups. Common themes identified as reasons for utilization of the ED included:

- Perceived need as their condition could not wait (78.8%); and the patient expected admission (36.9%);
- Convenience as 82.3% reported coming to the ED was easier than making an appointment;
- Access barriers as 66.7% did not know how to make a clinic appointment;

- Costs where 54.8% opined their regular clinic would require an upfront payment; and
- Quality as 56.7% of participants perceived they received better care in the ED.

No statistically significant differences existed between the groups once adjustments were made for baseline characteristics (Doran et al., 2015).

Using a regional hospital in the southeast housing an ED averaging 175 visits daily, Hanson et al. (2014) conducted a qualitative research study with primary methods of data collection inclusive of interviews, observations, and artifacts or the collection of additional information for clarification. Analysis of data collected from the sample population of n=20 included the use of open, axial, and selective coding; with research reliability achieved through standard qualitative techniques; rigorous collection; coding methods; and field notes. Four themes influential in a patient's decision to utilize an ED for care emerged: severity of condition; convenience; reputation; and external referrals (Hansen et al., 2014).

Seriousness of condition included severity of pain experienced as participants reported: "I had to do something about my head pain."; "the severity of pain from my sprained ankle"; and "I woke up with a severe headache and nausea" (p. 483). Convenience, determined from the average time or distance for travel, was reported as major factor of influence; and reputation was an important factor with participants reporting quality of service as a reason even when the distance was longer or other resources were open and available for treatment. External referrals as stated by participants included: "Medical clinics do not have all necessities"; "I went to the urgent care but they were not equipped to perform needed testing"; and "the neurologist influenced her to come" (Hanson et al., 2014, p. 484-485).

Seeking to measure frequencies and distribution of factors of ED utilization, Lobachova et al. (2014) conducted a quantitative descriptive research design study of patients presenting to an ED of an urban teaching medical center staffed by board-certified or eligible ED providers. In randomly selected time blocks, the survey: a nine-question written instrument with open and closed-ended questions, was administered verbally by trained research assistants seven days a week; 24 hours a day for two consecutive months beginning in July 2009. Of the 1,515 patients approached, 15% were deemed ineligible because of severity of illness; recent participation in another study; incarcerated; and psychological/cognitive reasons. Of the 1,083 agreeing to participate, n=1062 (98%) completed the survey. Parametric tests were used for univariate and multivariate analysis with results presented as frequencies with 95% confidence intervals (Lobachova et al., 2014).

Primary reasons determined as influential in the decision to use an ED for care included: seriousness of condition (61%) where condition was perceived as an emergency (26%); and referral by the PCP (35%) and from family and/or friends (48%). Of the 35% (379) referred by their PCP, 37% (140) were admitted. In contrast, 20% (805) of the self-referred patients were admitted. This difference was statistically significant (p = 0.004) (Lobachova et al., 2014).

Rocovich and Patel (2012) conducted a quantitative descriptive research design study with a sample population of n=262 patients presenting for care at a suburban hospital ED for two consecutive months beginning in July 2011 with 100% triaged as non-urgent. The purpose of the study was to identify reasons why self-referred patients utilized an ED when PCP offices were open. Research was conducted during normal

business hours of 8 a.m. to 5 p.m., Monday through Friday, hours of operation for primary care offices.

The primary method of data collection was through use of a questionnaire administered by researchers. Categorical data including patient demographics, insurance status, access to PCPs, and perception of seriousness of condition were summarized using counts and percentages. Patients were placed into groups: non-urgent, which consisted of those who perceived their condition as "minor" or "somewhat urgent" (49%); and emergent, which consisted of those who perceived themselves as "very urgent" and "emergent" (51%) (p. 93). While statistical significance was determined between the two groups in demographic characteristics ($p < 0.05$), the study did not identify any other statistical significance (Rocovich & Patel 2012).

In a qualitative research design study using a grounded theory approach, Shaw et al. (2013) explored the decision-making process of those utilizing an ED for primary non-urgent needs, placing a focus on underserved populations. The sample population included patients discharged from the non-urgent care area of an adult level 1 trauma center ED in New Jersey and included residents who were 21 years of age and older and spoke and understood both English and/or Spanish. Triage was measured by health professionals using the ESI algorithm tool. Of the 217 participants approached, n=30 comprised the sample population. Reasons for exclusion included non-residents; language barriers; and refusal to participate (Shaw et al., 2013).

Shaw et al. (2013) used a semi-structured guide with interviews conducted and audiotaped by three researchers, one of whom was bi-lingual. Once data was received, participants were placed into two sub-groups: those that had knowledge of alternative

resources for care, however utilized the ED (*n*=23); and those with no knowledge of alternative resources and used the ED as a safety net for care (*n*=7). Factors identified as primary reasons in ED utilization for non-urgent care included:

- Referral by medical professional: "I am an epileptic and ran out of medication...my neurologist told me to come to the ED to get my medicine." (p. 1294);
- Access barriers to their PCP: "If I were at the federally qualified health center (FQHC), I would have just sat there.... I was hurting and did not know what was wrong." (p. 1295);
- Perceived need as an emergency only warranting the ED for care: "I will come here because they are really good as far as pain management is concerned." (p. 1297). Referring to a patient with chronic health issues, Shaw et al. (2013) reported the patient defined non-urgent issues as ones without severe pain;
- Transportation barriers: "My husband lost his job due to lung cancer.... we had to get rid of our house, cars, and bank accounts to take care of him." (p. 1297);
- Cost factors: "You're supposed to pay a fee upfront at the FQHC but if you don't have it, you don't have it." (p. 1297); and
- Perceived racial issues: "I was the only white person at the FQHC and I kind of felt out of place." (p. 1296).

Shaw et al. (2013) determined the patients' definition of an emergency and perception of need was "central" in the decision to utilize the ED for care as patients reported their current health need required immediate attention warranting an ED (p. 1296).

Seeking to examine factors influential in adult individuals' decision to utilize an ED for non-urgent care, Uscher-Pines et al. (2013) conducted a systematic literature review using multiple databases. Of the 1,990 abstracts returned, and 63 articles identified for full text review, 26 research articles were reviewed. Six studies (23%)

described only visits for non-urgent conditions; and twenty articles (77%) compared non-urgent visits to other level of acuity visits within the ED.

All studies defined non-urgency differently. Eleven (42%) identified non-urgent visits through retrospective review of medical records; eleven (42%) defined non-urgent at triage; and 12% defined non-urgency based on the patient's self-assessment. Three articles used Andersen's Behavioral Model of Health Services Use as a conceptual framework (Uscher-Pines et al., 2013). Of the multiple factors identified, the most common included:

- Predisposing factor of age as, when compared to older individuals (>65), younger individuals were more likely to utilize an ED for non-urgent care;
- Convenience with 60% citing location of the ED was more convenient than their regular PCP;
- Referral with 50% presented to an ED for non-urgent care during business hours as they were referred by their PCP; and
- Negative perception of alternative resources for care with 76% of non-urgent users reporting they received better quality care in the ED.

Uscher-Pines et al. (2013) conveyed, while no studies comparing urgent versus non-urgent users explored perception of seriousness of condition, four articles reported 80% had presented as their condition was serious and could not wait for treatment.

Gap in knowledge of perception. In the second part of the qualitative descriptive study conducted in 10 EDs in France (part one reviewed under influential factors including seriousness of condition), Durand et al. (2012) hypothesized a gap of knowledge of urgency existed between the patient and health professional and sought to determine how ED professionals perceived non-urgency. Although the patient

population perceived urgency based on pain which was considered as an emergency (35.6%) and health care needs warranting the ED over other resources (17%), health professionals perceived urgency based on acuity and urgency of medical needs.

The sample population in Durand et al. (2012) study, *n*=34, consisted of 25 (73.5%) ED physicians, and nine (26.5%) ED nurses. More than 75% had over five years of ED experience, with categorization of urgency included in professional training. Two common themes emerged: A problem in defining non-urgency; and explanations by professionals as to why patients with non-urgent conditions utilize the ED for care. Definitions of non-urgent visits by health professionals included: "anything that is not life-threatening"; "a condition is non-urgent if it can be treated in two-three days"; and "consultations are non-urgent if the chief complaint is a non-serious illness that can be treated by a PCP" (p. 6). Offering factors influencing patient utilization of EDs for non-urgent conditions, health professionals reported: "PCPs are not available evenings and weekends"; "the use of care is similar to that of products: fast and easy"; "some patients come to EDs for financial reasons"; and "there is a perception that the hospital is free, but it is not" (p. 6).

A second focus in the quantitative descriptive study conducted by Nelson (2011) (part one reviewed under influential factors including seriousness of condition) was to examine any existing gap in knowledge of urgency between the participant and health professional. The Manchester Triage System, a standard for determining acuity levels in the United Kingdom connected to the length of time patients can wait for evaluation and treatment during a crowded event, was used for measurement of acuity by triage nurses. While 100% of the sample population of *n*=27 were triaged as non-urgent, 48% advised

they thought their illness or injury was urgent; and 22% perceived their condition as worsening. Only 52% considered their condition as non-urgent; a discrepancy in perception of urgency was determined (Nelson, 2011).

Ruud et al. (2016) conducted a qualitative descriptive research design study at a general emergency outpatient clinic in Oslo, Norway where differences in urgency between the patient and health professional were examined. The outpatient clinic handled approximately 80,000 visits annually and was available and equipped to treat patients in need of emergency care. Hypothesizing a difference, research confirmed a gap in knowledge of urgency did, indeed, exist with the patient's perception of urgency related to their region of origin. Forty-three percent of the sample population were either immigrants, or citizens of surrounding countries (Ruud et al., 2016).

The sample population of n=1821, representative of a diverse sample in Norway, participated in a written 15 item multilingual questionnaire administered by the researchers. Of the 64% (1165) triaged by physicians as non-urgent, 76% (885) perceived urgency as higher; and 24% (280) agreed with the physician. Of those classified by the physician as non-urgent, 17% were admitted to the hospital for treatment. Eleven percent of the patients admitted perceived their condition as non-urgent (Ruud et al., 2016).

Ekwall (2013) conducted a prospective cross-sectional survey design using a consecutive sample comparing the patient's self-assessment of urgency with the triage nurse's assessment. Method of data collection was a written questionnaire provided to patients presenting to a metropolitan teaching hospital ED in Sweden and triaged as non-urgent. Of the 220 qualified patients who received the written survey, 37.7% or n=72

completed the questionnaire; 54% were women with a median age of 55.9 years. Collected data was analyzed with testing for significance using the Mann-Whitney *U* test for nonparametric comparisons. Weighted k analysis was used to assess differences in perception (Ekwall, 2013).

Measurement of urgency was based on time limits for urgency of treatment according to the Australasian College of Emergency Medicine: to be seen immediately; within one hour; within three hours; and need help but not in an ED (Ekwall, 2013). As shown in Figure 2, the k analysis confirmed a gap in knowledge. Opined by Ekwall (2013), discrepancies could have consequences for patient safety with both underrating and overrating urgency of need.

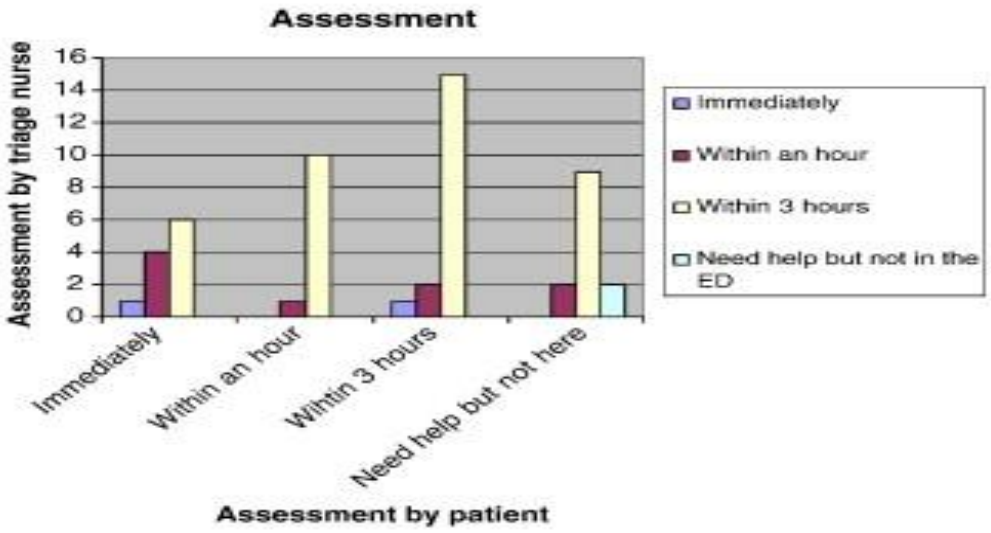

Figure 2: Assessment Differences by Triage Nurse and Patient

Toloo et al. (2016) conducted a cross-sectional analysis of a previously published report of patients seeking care in eight public hospital EDs in Queensland, Australia to understand the extent of a gap in knowledge between the patient's perceived level of urgency and actual triage category with associated factors. Interviewers in this study

approached 85% of the original sample population of n = 1,608. Survey questionnaires included questions related to perception priority as well as additional sociodemographic factors. Of the 911 valid surveys collected, 417 participants provided consent to have their medical records accessed for comparison of acuity levels. As six patients had not rated their level of urgency, they were not included in the sample population of n=406. Descriptive and multinomial logistic regression analyses were used (Toloo et al., 2016).

The Australasian Triage Scale was used by health professionals as a tool of measurement of acuity (Table 3). When compared with responses from the self-assessed survey, 48% of participants reported they had expected a higher acuity level; 31% matched the actual level given; and 20% expected a lower priority level. Respondents who perceived a higher level of urgency were more likely to perceive their condition as serious (mean = 7.1 ± 2.1, $p \leq 0.01$) and painful (mean = 7.4 ± 2.2, $p \leq 0.01$ (Toloo et al., 2016).

Table 3

Actual Acuity Assigned Using Australasian Triage Scale

Acuity Level	Explanation of Level	Population Assigned
1	to be seen immediately	1 (0.01%)
2	to be seen within 10 minutes	27 (0.06%)
3	to be seen within 30 minutes	134 (0.3%)
4	to be seen within 60 minutes	213 (0.52%)
5	to be seen within 2 hours	31 (0.08%)
Total	*406 (100%)*	*406 (100%)*

Sadillioglu et al. (2013) conducted a quantitative descriptive research design study of patients triaged as non-urgent at Istanbul Emergency and Research Hospital over a seven-day period to determine patient perception of seriousness of their condition. Patient perception was then compared to actual levels provided by the ED physician. Comparison was conducted using chi-square and *t* statistical testing. Data was collected using a cross-sectional self-administered study questionnaire with patients rating seriousness of condition using a 5-point Likert scale ranging from: *not very serious; not serious; normal; serious;* and *very serious*. Based on the same Likert scale, ED physicians provided their assessment of acuity and, as seen in Table 4, findings determined a discrepancy in knowledge of urgency. While 18.3% of patients perceived their condition as serious and/or very serious; actual levels were 2.8%. Further, whereas the physician rated 38.5% of patient conditions as not very serious, patient perception of non-urgency was 14.1% (Sadillioglu et al., 2013):

Table 4

Perception of Seriousness of Condition Comparison

Likert Level of Seriousness	Patient Evaluation	Physician Evaluation
Not very serious	121 (14.1%)	330 (38.5%)
Not serious	340 (39.7%)	280 (32.7%)
Normal	239 (27.9%)	223 (26.0%)
Serious	136 (15.8%)	23 (2.7%)
Very serious	21 (2.5%)	1 (0.1%)
Total	*857 (100%)*	*857 (100%)*

Literature Related to Theoretical/Conceptual Framework

The conceptual framework that guided this research study was based on Andersen's Behavioral Model of Health Services Use. Andersen (1995) conceptually explained utilization of health services was a function of three dynamic sets of factors: predisposition to utilize services; enabling factors allowing or hindering use; and actual or perceived need for services.

Babitsch et al. (2012) conducted a systematic literature review examining 328 articles in which the Andersen's model had been applied in studies examining utilization in various departments in the health system. In 13 articles, Andersen's model had been utilized "extensively" (p. 1) from 1998 to 2011, with the 1995 or 4th adaptation the version most frequently applied. All reviewed studies had employed quantitative analysis methods with multiple logistic regression analysis as the primary approach (Babitsch et al., 2012).

Healthcare utilization was dependent on supply and structures of the healthcare system, and was also strongly related to need factors. With a focus of review on Andersen's need determinant, the conceptual framework differentiated between perceived and evaluated need. Babitsch et al. (2012) found a significant association between health beliefs with individuals who perceived their health as poor or fair and healthcare utilization. Perception of need was a primary reason provided by patients triaged, as 22% respondents believed their condition warranted emergency care (Babitsch et al., 2012).

Behr and Diaz (2016) conducted a descriptive research study using a representative randomized sample of adult individuals presenting to an urban level 1

trauma center ED and assigned ESI acuity levels of non-urgency: 4 and 5. The purpose of the study was to determine any significance in ED usage based on the Andersen-Aday framework that predisposing, enabling, and/or need factors played a role in healthcare utilization. Sampling occurred over an eight-week period and returned an 89% response rate. Using logistic regression analysis with $n = 1443$, Behr and Diaz (2016) found predisposing factors were significant as patients with poor mental health were 90% ($p=.000$) more likely to use the ED for non-urgent care. Enabling factors also played a role in ED utilization as 38.3% of participants were uninsured; 10.9% were on Medicaid or Medicare; 25.9% consulted with a medical professional before presenting to the ED; and 24% attempted to make an appointment with a PCP, albeit unsuccessfully (Behr & Diaz 2016).

Multiple need factors inclusive of the patient's perception their condition warranted care in an ED were associated with utilization as well. Using a Likert scale from 1 to 10 where 10 = very serious and 1 = not serious at all, over 63% identified their presenting condition as "very serious"; 27% viewed their condition as "somewhat serious"; and 10% reported their condition as "not serious at all" (p. 8). Of the three dynamic factors examined using the Andersen-Aday Behavioral Model of Health, need was the closest dynamic in a patient's utilization of EDs for non-urgent care (Behr et al., 2016).

Searching multiple databases and relevant journals, He et al. (2011) conducted a literature review of previous national and international research studies that had examined emergency department utilization and factors contributing to ED demand for care. While the search returned 602 articles, a significant number were excluded as they

pertained to pediatric use, psychiatric emergency utilization, and languages outside of English. Andersen and Newman's Health Utilization Model was the basis for the review of the 100 articles used in this study.

Health need factors appeared to be primary predictors in ED utilization as, in a large study of 28 US hospitals, 95% of those presenting for care reported medical necessity as their primary reason. Perceived severity of condition was frequently identified as a primary factor of use. Factors such as age, type of insurance coverage, and socioeconomic disadvantages influenced ED demand and utilization. While older individuals (>65) utilized the ED for more urgent conditions, younger individuals used the ED more for non-urgent care. While many studies reported socioeconomically disadvantaged individuals (homeless, lower incomes) were more likely to utilize the ED for care, previous research found the majority of users were Caucasian with middle or high incomes who used an ED because of convenience and preference. Enabling factors, or as termed in this study policy factors, have been influential in ED utilization. There is a strong association between primary care accessibility and health policy as health policy defines how health care is delivered, the location and number of hospitals, and availability of alternative resources. (He et al., 2011).

Significant differences were identified between the health professional's measured level of acuity and patient's perceived level of urgency, with patients overrating their level (statistical data not provided). Although causal relationships were not explored, He et al. (2011) hypothesized ED utilization was driven by healthcare needs and perception of illness with societal factors influencing need and perception (He et al., 2011).

CHAPTER III

Methodology

Demand for ED services and patient volumes, nationwide, have increased significantly over the past three decades, inclusive of those presenting with conditions triaged by ED professionals as non-urgent. With high patient volumes, demand for care often exceeded the available supply of treatment areas placing a strain on emergency services and undermining the ability for ED professionals to provide safe quality healthcare. Attempts by health leaders to reduce volumes of those with non-urgent needs by promoting and encouraging the use of alternative resources for care was difficult to achieve as there is no standard definition of urgency.

Multiple factors influencing the decision to utilize an ED for care have been determined through research with studies identifying serious of condition as a reason for ED utilization by patients with actual non-urgent acuity; however, literature was lacking on examining perception of urgency of conditions from the patient's perspective. While ED professionals measure urgency objectively using a standardized evidenced-based tool, perceived levels of urgency are measured subjectively by the patient. The purpose of this study was to identify primary factors influential in the decision to choose the ED with a focus on seriousness of condition as a primary reason; and explored perception of urgency of medical conditions from the participant's perspective using the Emergency Severity Index (ESI) algorithm and timeframes as a basis of reference.

Study Design

A quantitative descriptive design was used for this study. Descriptive information was obtained from the sample survey questionnaire inclusive of primary reasons for

seeking care in an ED, as well as rating scales of a patient's perception of urgency of conditions when seeking care in the ED. The conceptual framework was supported by Andersen's revised 1995 Model of Health Services Use.

Setting and Sample

After receiving permission from a leader of the community to conduct the survey on their premises, the research study was completed at a non-denominational Church in a large metropolitan area in North Carolina. Members of the community represented a non-biased socioeconomically and multi-cultural sample population.

The target population were adult members of the Church community who were over the age of majority of 18, able to read and understands the survey process and questionnaire as written in English, and had sought medical care in an ED at least once over the past 12 months. A convenience sample of $n = 52$ was obtained.

Design for Data Collection

The researcher traveled to the community meeting site on two different Sundays, arriving at 12:00 noon and concluding at 2:00 p.m. Sequential steps of the design for data collection were as follows:

1. At the beginning and end of the service the community leader announced the researcher's presence and reason for attendance inviting those interested in participating to meet with the researcher in the front reception hall following services. Light refreshments were provided and the researcher met casually with members of the group which represented a non-biased socioeconomically and multicultural sample population.

2. Members were approached by the researcher in an unbiased manner regardless of observed age, gender, or cultural/ethnicity.
3. Upon agreeing to participate, community members were directed to a private room off the reception hallway designated for the study. The room was well lit and well ventilated with comfortable seating and plenty of space between seats at the numerous tables set up. Writing instruments were provided for convenience.
4. Qualifications for the study were determined as participants were asked: Were they 18 years of age or older? And had they sought care in an ED at least once over the past year? While all participants spoke English, the researcher asked participants to come to the front of the room if they did not understand a question. Asking the participant to come to the researcher with questions respectfully addressed any literacy issues. None were determined. Those not qualifying were thanked for their interest in participating and exited the room. The researcher answered any and/or all questions pertaining to the research study, verbally notified the group members of participant rights including the right to withdraw from the study at any time prior to placing the completed study related documents in the designated folder, and instructed participants to notify the researcher should they experience any discomfort during the research study process. Arrangements had been made with the community leader for counseling should any participant express and/or experience any discomfort in the research process. None was reported and/or witnessed.

5. Participants were provided with the Informed Consent Form for Research Study for review and execution and a blank copy of the survey questionnaire. Participants were also provided with a non-executed copy of the Informed Consent Form to retain. Pens were provided and participants asked not to discuss the research questions with other participants. Instructions were given to return all completed survey documents to a folder labeled "completed forms" located at the exit door of the room rather than handing them directly to the researcher.
6. Available for questions during the research process and to discourage any discussion among participants for study validity, the researcher remained in the designated research study room at all times until 2:00 p.m.

Measurement Methods

The study survey instrument was adapted from the questionnaire: "Community-Based Research to Reduce Non-Urgent Use of the Emergency Department Caregiver Survey" used in the 2012 published study: A profile of non-urgent emergency department usage in an urban pediatric hospital (Kubicek et al., 2012). Values giving validity and/or reliability of the survey instrument were not provided. Written permission to use and adapt the questionnaire was provided.

Written in English only, the eight-question survey used in this study asked participants the above-referenced qualifying questions in addition to yes/no and multiple choice questions regarding status of a PCP, if contact had been made prior to utilizing an ED, and presenting medical conditions at the time of ED utilization. Factors influencing the decision to utilize an ED were identified and ranked for importance using a 5-point

Likert scale with 1 being “my main reason” to 5 being “not a reason at all”. Perception of urgency of medical conditions was identified using a second 5-point Likert scale which used the five-acuity level with recommended timeframes for evaluation standardized by the ESI objective tool of measurement as a basis of reference. Levels ranged from the highest level of acuity: level 1 or extremely urgent where patients should be seen immediately; to the lowest level: 5 or non-urgent where two to 24 hours is an acceptable timeframe to be seen by an ED provider without compromise of condition.

Data Collection Procedure

At 2:00 p.m. on the study dates, the “completed forms” folder was collected solely by the researcher. Study documentation remained in the researcher’s possession to maintain integrity of the study while outside of the researcher’s private home office.

Protection of Human Subjects

This study was conducted following review of research materials and procedures by the Institutional Review Board of the University where approval was granted. While participants executed the Informed Consent Form for Research Study, no names or identifying markers were used in the reporting of data with all remaining anonymous. In the researcher’s secure private office setting, each survey instrument in the sample of n = 52 was assigned an individual sequential number code not associated with the study itself or provided in answers beginning with 001 and ending with 052.

All information was stored on a password-protected computer.

No more than a minimal risk was posed to each participant. However, the community leader remained available for counseling during the designated times for the

study should any member report or experience any discomfort during the research process.

Data Analysis

Characteristic in quantitative research, a questionnaire designed to convert an individual's perceptive beliefs and thoughts into empirical or numerical data for statistical data analysis was used. Assumptions of statistical analysis included the probability the sample was representative of the population. The collected data was transcribed into the IBM SPSS statistical program and, using a univariate analysis, statistically analyzed with frequency counts and percentages used to describe the categorical variables. Measures of central tendency were used to examine patient perception of urgency of listed medical conditions.

CHAPTER IV

Results

ED utilization by those presenting with conditions triaged as non-urgent has increased nationwide with multiple factors identified as influential in the patient's decision to use an ED for healthcare needs. While seriousness of condition has been cited in numerous studies as directly influential in an individual's decision to utilize the ED, a gap in knowledge of urgency exists between the actual level objectively measured by ED professionals, and the perceived level subjectively measured by patients. Promoting utilization of alternative resources for non-urgent care has been difficult to achieve as there is no standard definition of urgency in healthcare.

In this MSN thesis research study entitled: Utilization of Emergency Departments: Examining Patient Perception of Urgency, the purpose of this study was to identify primary factors influential in the decision to choose the ED with a focus on seriousness of condition as a primary reason. The study also explored perception of urgency of medical conditions from the participant's perspective using the Emergency Severity Index (ESI) algorithm and timeframes as a basis of reference.

Sample Characteristics

The study was conducted at the site of fellowship for the Church community. There were approximately 250 members at the time of the study, with adults and children of various ethnic origins represented. Participants in the sample population were adults over the age of 18 capable of reading and understanding the survey questions as written in English, and had utilized an ED for care at least once over the past 12 months (Table 5).

On the first data collection date, 26 community members agreed to participate; however, seven were disqualified as they had not utilized an ED at least once in the past year. On the second data collection date, 35 community members agreed to participation, with two failing to qualify from lack of ED utilization. There were no withdrawals or losses of survey data and 100% of the sample population (*n*=52) responded to all questions and returned the survey questionnaire. Survey responses from 52 community members were used for this study.

Table 5

Frequency Counts for Selected Variables

Variable	Category	*n*	%
Over the age of majority of 18 years of age	Yes	52	100
	No	0	0
Utilization of ED for health care at least once over the past 12 months	Yes	52	85
	No	9	15
Capable of reading and understanding survey questions as written in English	Yes	52	100
	No	0	0

n=52 with approximately 15% (9) of those interested in participating disqualified

Major Findings

Seeking to understand primary factors influential in the decision-making process to utilize the ED, the questions were asked: What are the top three factors selected as influential in the decision to seek medical care in an ED; and how often does the population group select “my condition was serious” as the main reason for seeking care in an ED. Exploring perception of urgency from the patient’s perspective, the researcher

asked: How did the sample population perceive and rate urgency of the listed medical conditions?

Research Question One

The first question asked: "What are the top three factors selected as influential in the decision to seek medical care in an ED?" Displayed in Table 6 and chosen by 92% (48) of the sample population (*n=52)*, the top three factors included: *my condition was serious* (53.8%); *someone told me to go to the ED* (23.1%); and *my physician couldn't see me* (15.4%). Appendix A provides the remaining factors reported by the sample population as influential in ED utilization.

Table 6

Frequency Counts of Top Three Factors Influential in the Decision Process (n=48)

Variable	Category	*n*	%
My condition was serious	My main reason	28	53.8
My physician couldn't see me	My main reason	8	15.4
Someone told me to go to the ED	My main reason	12	23.1

Research Question Two

The second research question asked: "How often does the population group select "my condition was serious" as the main reason for seeking care in an ED. Summarized in Table 7, over fifty-three percent (53.8%) or 28 group members chose this as the primary influential factor. Shown in Figure 3, 15.4% also chose other factors as a main reason for utilizing the ED for medical care. Even excluding the 15.4% choosing multiple factors as the main reason, frequencies would have remained as the primary factor chosen in the study (38.5%).

Table 7

Seriousness of Condition as Main Reason in ED Utilization

Variable	Total		Sole Factor as Main Reason		Chose Other factors as well as Main Reason	
	n	%	*n*	%	*n*	%
My condition was serious	28	53.8	20	38.5	8	15.4

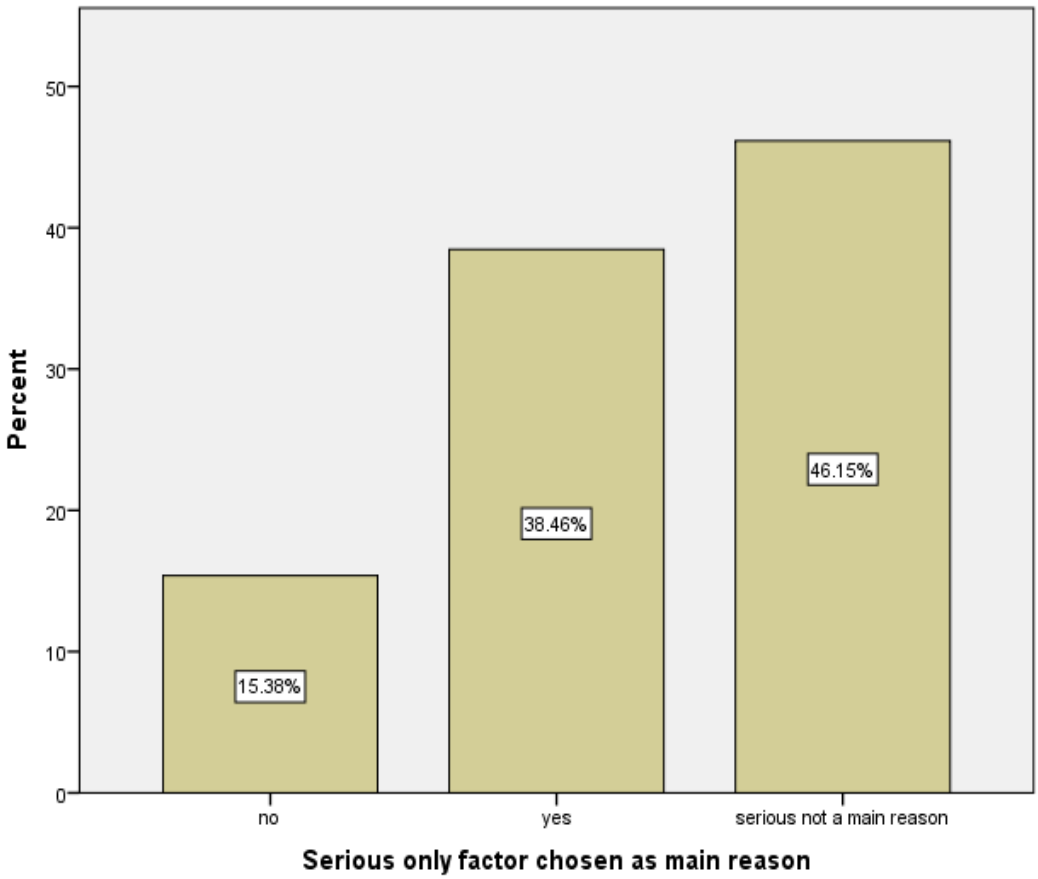

Figure 3: Seriousness of Condition as a Primary Factor in ED Utilization

Research Question Three

The final research question in this MSN thesis asked: "How did the sample population perceive and rate urgency of the listed medical conditions?" Ratings were based on a 5-point Likert scale ranging from 1 (extremely urgent/need to be seen immediately, to 5 (non-urgent/should be seen within 2 to 24 hours). As shown in Table 8, 14% (2) of the medical conditions were perceived as having the highest acuity level; nine (64%) were rated as emergent level 2; eleven (79%) rated as urgent level 3; eight (73%) as level 4 or semi-urgent; and 14% (two) of the listed medical conditions were rated as having the lowest non-urgent acuity level.

Table 8

Frequency Counts for Perception of Urgency of Medical Conditions

	Level 1 Extremely Urgent Immediately		Level 2 Emergent 1 to 14 minutes		Level 3 Urgent 15 to 60 minutes		Level 4 Semi-Urgent >1 to 2 hours		Level 5 Non-Urgent >2 to 24 hours	
Variable	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Abdominal pain			46	88.5	6	11.5				
Back pain			2	3.8	48	92.3	2	3.8		
Chest pain	36	69.2	16	30.8						
Cold/Flu-like symptoms					21	40.3	31	59.6		
Dental pain					43	82.7	8	15.4	1	1.9
Ear/Eye complaints					25	48.1	27	51.9		
Female/Male issues			1	1.9	37	71.2	14	26.9		
GI or stomach complaints			27	51.9	24	46.2	1	1.9		
Headache			30	57.7	22	42.3				
Laceration	14	26.9	38	73.1						
Musculoskeletal injury/complaint			2	3.8	50	96.2				
Prescription refill							34	65.4	18	34.6
Rash					22	42.3	30	57.7		
Urinary problems			6	11.5	46	88.5				

Note: Levels and Timeframes based on ESI Acuity Algorithm

Table 9 displays mean ratings of the sample group's perception of urgency of medical conditions. The total mean was 2.89 with Standard Deviation (SD) =.438. Conditions perceived as having higher acuity levels (1 and 2) were chest pain (Mean=1.31); laceration (Mean=1.73); and abdominal pain (Mean=2.12). Illnesses and/or injuries perceived as having lower acuity levels (3, 4 and 5) included: ear and/or eye complaints (Mean=3.52); rash (Mean=3.58); cold and/or flu-like symptoms (Mean=3.60); and prescription refill (Mean=4.35).

Table 9

Descriptive Statistics for Perception of Urgency of Medical Conditions (n = 52)

Scale Score	Mean	SD
Abdominal pain	2.12	.323
Back pain	3.00	.280
Chest pain	1.31	.466
Cold or flu-like symptoms	3.60	.495
Dental pain	3.19	.445
Ear or eye complaints	3.52	.505
Female or male issues	3.25	.480
Gastrointestinal or stomach complaints	2.50	.542
Headache	2.42	.499
Laceration	1.73	.448
Musculoskeletal injury or complaint	2.96	.194
Prescription refill	4.35	.480
Rash	3.58	.499
Urinary problems	2.88	.323
Overall	2.89	.438

Note: Ratings were based on a 5-point scale: 1 = *Extremely Urgent*/seen immediately; 2 = *Emergent*/seen within 1 to 14 minutes; 3 = *Urgent*/seen within 15 to 60 minutes; 4 = *Semi-Urgent*/seen within >1 to 2 hours; 5 = *Non-Urgent*/seen within >2 to 24 hours

Summary

The primary factor selected by the sample population (n=52) as influential in utilization of an ED for health care was seriousness of condition (53.8%). While still having the largest percentage selected, 15.4% of the 53.8% chose other factors as well for their main reason in ED utilization. The second largest factor influential in the decision to seek care in the ED was referral by "someone" (23.1%). Of the 51.9% of n=52 having a PCP, 26.9% contacted their physician, 13.5% did not, and 11.5% sometimes contacted their PCP before seeking care in the ED. The third most frequently chosen influential factor was the inability to see their PCP for needed care (15.4%).

Additional reported access barriers included "my MD office was not open" (11.5%), and "other places were not open" (96%). Further reported factors included: "convenience" (7.7%); "the ED is always open" (7.7%); and "it's less expensive" (1.9%). None of the sample population selected factors: "I know and trust the doctors"; "I get better quality care"; and "I don't know where else to go".

Examining urgency, two (14%) of the medical conditions were rated at the highest level of acuity (need immediate treatment); and two (14%) rated at the lowest (level 5). Perception of urgency ratings for the remaining acuity levels were more evenly distributed with 69% (9) of conditions perceived as level 2 (need for treatment in 1 to 14 minutes); 79% (8) as urgent (level 3); and 73% (8) perceived as semi-urgent (level 4).

CHAPTER V

Discussion

While populations rely on the traditional mission of hospital-based EDs to meet healthcare needs associated with life-threatening, emergent, and urgent conditions, reliance on emergency services for the care of conditions triaged as non-urgent is stronger than ever. This has contributed to a significant increase in patient volumes which, in turn, hinders the department's ability to function efficiently and allowing ED professionals to provide safe quality care when demand exceeds supply. Use of the ED to treat lower acuity needs has been viewed as inappropriate with health leaders attempting to promote the use of alternative resources, albeit with minimal success. While multiple factors have been identified as influential in the patient's decision to utilize the ED for care, seriousness of condition has a direct influence in the decision-making process. As there is no standard definition of urgency in healthcare, a gap in knowledge exists between the actual level objectively measured by ED professionals and the perceived level subjectively measured by patients.

The purpose of this study was to identify primary factors influential in the decision to choose the ED with a focus on seriousness of condition as a primary reason. The study also explored perception of urgency of medical conditions from the participant's perspective using the Emergency Severity Index (ESI) algorithm and timeframes as a basis of reference.

Implication of Findings

Data analysis found seriousness of condition, referral, and the inability to obtain an appointment with a primary care provider (PCP) as the top three factors in the

decision-making process with seriousness of condition a primary factor. There was a gap in knowledge of urgency between the actual and perceived acuity levels with the sample group overrating acuity of many of the listed conditions commonly measured by health professionals as non-urgent.

Research Question One

The first question asked: "What are the top three factors selected as influential in the decision to seek medical care in an ED?" Displayed in Table 6 and chosen by 92% (48) of the sample population (*n=52),* the top three factors included: "my condition was serious" (53.8%); "someone told me to go to the ED" (23.1%); and "my physician couldn't see me" (15.4%) (Table 6). While additional factors were found as a main reason for choosing the ED, data was widely distributed. Findings of the top influential factors were comparable to previous research studies. While analysis of data in this study agrees multiple factors have influenced the patient's decision-making process, findings could have important implications in future studies as populations appear to continue choosing seriousness of condition as a primary reason for ED utilization.

Research Question Two

Hypothesizing a primary factor influential in choosing an ED is seriousness of condition, the question was asked: "How often does the population group select seriousness of condition as the main reason for seeking care in an ED? Table 7 summarized 53.8% of the sample population chose this as their main reason for ED utilization. Of note, and shown in Figure 3, 15.4% of this group also chose other factors as their main reason. However, the percentage of those choosing "my condition was serious" (38.5%) would have remained as the primary factor influential in the decision to

use an ED over alternative resources. Previous research studies found high percentages of participants who chose seriousness of condition as the main reason in ED utilization.

Research Question Three

Previous research studies have concluded, while seriousness of condition has been found as a primary factor in the decision to use an ED, a gap in knowledge exists between the actual acuity level measured by health professionals and the level perceived by the patient. While the gap has been acknowledged, studies specifically examining medical conditions from the patient's perspective were lacking. Accordingly, the final question in this MSN thesis study was: "How did the sample population perceive and rate urgency of the listed medical conditions?" Ratings were based on a 5-point Likert scale using the ESI algorithm as a basis of reference. Findings as shown in Table 8 suggested the gap remains with the sample population frequently overrating acuity.

Supported in literature, pain has been viewed by participants in prior studies as an emergency (Durand et al., 2012). Findings in this study were consistent with this view as all conditions having an element of pain were perceived as having a higher acuity. Over 69% of the sample population perceived "chest pain" as the highest level of acuity, and the remaining 30.8% rated chest pain as an emergent need. "Abdominal pain" was rated by 88.5% as an emergent need (level 2), with the remaining population (11.5) perceiving this condition as urgent. "Back pain" and "dental pain" are supported through ESI as lower acuity levels (Gilboy et al., 2011); however, 92.3% and 82.7%, respectively, perceived these conditions as urgent.

Findings suggested other conditions were overrated as, while actual acuity is based on clinical findings, 26.9% perceived laceration as level 1 requiring life-saving

interventions, and the remaining 73.1 rated the injury as emergent. Based on this researcher's years of experience as a skilled triage and ED nurse, outside of a traumatic injury threatening life and/or limb, ESI measured levels are typically lower than perceived levels depending on resources required for care.

Based on study findings, it is understandable why populations perceive the ED as the only resource for care of a "serious condition". Whether presenting with a life-threatening illness and/or injury, or a non-urgent condition, it is the patient determining the need for health care, and emergency services are there to meet the needs of the population.

Application to Theoretical/Conceptual Framework

Andersen's Behavioral Model of Health Services Use (Figure 1) was appropriate as findings agreed with the conceptualized framework. Specifically, data findings determined ED utilization occurred because of predisposing, enabling, and/or need factors.

Seriousness of condition was the main influential factor chosen by the sample population (53.8%) for ED utilization. Supported in prior research, this perception or belief has "predisposed" individuals to utilize emergency services for care. Patients perceive a need to use health services which could be explained by health beliefs, a predisposing factor. Perceptual need is subjectively measured with no standard definition of urgency in healthcare as a basis of reference. Performed in triage, actual need is achieved by health professionals' objective measurement of findings.

The two other primary reasons influential in ED utilization reported in this study, referral and access barriers, are, as conceptualized by Andersen (1995), enabling factors.

These factors have the most variability as evidenced through Health Reform Policy. Yet, although health insurance has been provided to millions of Americans through The Affordable Care Act, patient volumes in the ED have continued to increase.

Limitations

Limitations to this study included sample size as a larger sample could have provided a more accurate result. While perception of urgency from the patient's perspective was examined, the sample population's actual acuity level at the time of presentation to an ED for medical care was unknown. The survey instrument was written in English only with a qualification that the sample population could understand the questions. Limiting the sample might not be representative of large populations in the United States as millions of undocumented immigrants, too, depend on the ED for healthcare. The study questionnaire may need to be revised to provide more accurate results. The factor: "someone told me to go to the ED" in question eight did not distinguish who "someone" was. Previous studies distinguished referrals between PCP and/or family/friend. Finally, the survey questionnaire did not ask the participant to select only one factor as the main reason influential in the decision to utilize the ED for care.

Implications for Nursing

Clearly, there is a need to reexamine why patients continue to utilize ED services for care. Overcrowding has continued and is predicted to increase in the future. Yet the increase in patient volumes has not been simply because of those seeking care for non-urgent needs. Nationwide, baby boomers, the largest population group, are aging and have more complex health needs. With technological innovations and advancement in medical sciences, patients with comorbidities are living longer. These groups depend on

the ED to continue in its traditional role of providing emergency services for the treatment of acute life-threatening, emergent, and urgent conditions. The population of patients with non-urgent conditions is understandably the group who could receive care outside of the ED thereby reducing patient volumes. While access barriers have continued to exist, the primary reason found in this and previous research studies was patients believe the ED is the only choice for care as their condition is perceived as serious.

Determining acuity takes skill and training with the ESI triage algorithm confirmed in literature as a valid and reliable method of measurement. However, even the most seasoned professionals are unable to clearly define urgency. With the existing gap in knowledge between perceived and actual measured acuity continued, this researcher asks the question: Does the unskilled patient have the ability to self-assess and decide if, when, and where to seek care without unintended negative consequences? This researcher opines they do not.

Nurses are leaders and, rather than attempting to encourage use of alternative resources for care through patient education, could collectively provide interventions to assure patients are receiving safe quality care. ED overcrowding delays treatment and timeliness of care is often essential to positive patient outcomes. Complaint specific protocols, a State regulated nursing scope of practice standing order set designed by the medical and nursing leadership boards, allows the nurse to initiate treatment in triage when a room is unavailable (electrocardiograms, specified radiological testing, and specified medications: inclusive of oral pain medications) (Castner et al., 2013). While wait times for the medical screening examination many not reduce for the non-urgent

population, beginning treatment in triage would at least shorten the visit and allow for more timely health care.

Nursing stems from the professional's genuine desire to help people. Yet ED overcrowding is a frustrating time for both the patient and nurse. Nurses are working in understaffed overstressed conditions and overcrowding often leads to what might appear as a lack of compassion. Understanding the patient's perception of urgency could not only allow the nurse and patient to connect on a level of caring, but also improve on patient satisfaction, an indicator measuring quality of care.

Recommendations

Based on findings from this research study, revisions on the questionnaire could include distinguishing who made the referral to an ED, as well as allowing only one answer as the main reason for ED utilization. Further studies could include questionnaires and sample populations with languages other than English to better represent the population as a whole.

Conclusion

Findings in this study align with results provided in previous research studies. While other factors such as access barriers to a PCP and referral to the ED for care were influential, seriousness of condition has remained as a primary factor directly influencing ED utilization. Findings in this study suggested the gap in knowledge between the patient's perceived level of acuity and health professional's actual measured level remains, potentially offering an explanation as to why populations continue to use the ED for non-urgent care.

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Appendix A

Remaining Factors Influential in ED Utilization

Frequency Counts of the Remaining Factors Influential in the Decision Process

Variable	Category	*n*	%
It's less expensive	My main reason	1	1.9
I know and trust the doctors	My main reason	0	0
I get better quality care	My main reason	0	0
It's convenient	My main reason	4	7.7
My physician's office is not open	My main reason	6	11.5
Other medical places are not open	My main reason	5	9.6
The ED is always open	My main reason	4	7.7
I don't know where else to go	My main reason	0	0