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Assessment and Re-assessment of Psychiatric Patients Boarded in the Emergency Department: The Impact of Compliance with Best Practice Standards on Patient Outcomes

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Assessment and Re-assessment of Psychiatric Patients Boarded in the
Emergency Department:
The Impact of Compliance with Best Practice Standards on Patient Outcomes

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Approval Date: 12/11/14

PSYCHIATRIC PATIENTS

Dedication

I dedicate my scholarly project work to my family, friends and my nursing colleagues. A special feeling of gratitude to my children, Desiree' and Christiaan, my daughter-in-law, Valerie and my grandchildren Brandon, Ashton Kristofer, AJ and Mylik whose words of encouragement lifted me when I was down and push for tenacity kept me going. I also dedicate this work to my many friends and colleagues who have supported me throughout the process. I will always appreciate all they have done. I dedicate and give special thanks to Pamela S. Hoppie for being there for me throughout the entire doctorate program, she has been one of my best cheerleaders.

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Table of Contents

List of Tables..... vi

List of
 Figures.....
 vii

Abstract.....vi
 ii

Chapter 1.....1

 Introduction.....1

 Background of the Problem.....3

 Statement of the Problem.....5

 Purpose of the Study.....6

 Clinical Questions.....6

 Significance of the Problem.....7

 Theoretical Framework.....9

 Summary.....11

Chapter 2.....12

 Literature Review.....12

 Databases, Search Terms, and Documents.....12

 Boarding.....13

 Characteristics of Psychiatric Patients.....14

 Consequences of Boarding Psychiatric Patients.....15

 Care for Psychiatric Patients Boarded in the ED.....17

 Donabedian’s Model for Quality Assessment.....21

 Summary.....**Er**
 ror! Bookmark not defined.

Chapter 3.....23

 Methodology.....23

 Design.....23

 Setting.....23

 Sample.....24

 Data Collection.....24

 Clinical Questions and Analysis Plan.....26

 Summary.....28

Chapter 4.....29

 Results.....29

Sample Description.....29
 Analysis Results.....30
 Summary.....32

Chapter 5.....34

 Discussion.....34
 Discussion of the Results.....34
 Limitations of the Study.....38
 Implications for Practice.....39
 Future Research.....39
 Conclusions.....40

References.....41

List of Tables

Table 1: Patient Demographics	55
Table 2: Summary of Presenting Complaints of Psychiatric and Non-psychiatric Patients.....	56
Table 3: Summary of Comorbid Disease Processes for Psychiatric and Non-psychiatric Patients	57
Table 4: Initial Assessment.....	58
Table 5: Hourly Reassessment.....	59
Table 6: Length of Stay in Hours for Psychiatric and Non-psychiatric Patients	60
Table 7: Psychiatric and Non-psychiatric Patient Discharges, Transfers, and Admissions	61
Table 8: Impact of Initial Assessment on Length of Stay of Psychiatric and Non-psychiatric Patients	62
Table 9: Impact of Hourly Reassessment on Length of Stay of Psychiatric and Non-psychiatric Patients	63
Table 10: Impact of Hourly Reassessment on Length of Stay Prior to Discharge, Transfer to ERF, or Admittance to Inpatient Facility Bed.....	64

List of Figures

Figure 1: Donabedian model for assessing quality care65

Figure 2: Application of the Donabedian model in assessing and reassessing patients66

Abstract

Psychiatric patients have been “deinstitutionalized” over recent decades with their care shifting from the inpatient to outpatient setting. As a result of the closing of more than 13,500 in-patient psychiatric beds between 2005 and 2010, emergency departments (ED) across the nation have become both safe havens and holding areas for psychiatric patients seeking care in the ED. The boarding of psychiatric patients in the ED impacts the timeliness of care provide to psychiatric and non-psychiatric patients alike lengthening door to discharge time for all patients. The purpose of this study is to assess the nursing staff’s compliance with departmental standards for the assessment and re-assessment of psychiatric patients boarded in the ED and to assess the impact of compliance with the standards on patient outcomes. Using a retrospective randomized chart audit, this study examined nursing compliance with the established department standard for the assessment and re-assessment of Level 2 psychiatric and non-psychiatric patients presenting to the ED between May 1, 2013 and April 30, 2014. Descriptive statistics was used to analyze the data. The study revealed that there was no impact on the length of stay of the patient when compliance with standards for assessment and reassessment was met. The study revealed an unexpected finding in that patient who were not reassessed based on the standard had shorter lengths of stay.

Keywords: emergency department, boarding of patients in the emergency department, outcomes, assessment, reassessment, best practices, standards of care

Chapter 1

Introduction

Emergency departments (EDs) have a vital role in society; the word *emergency* in the term underscores the expectation of people who seek care in the department. For most individuals, a visit to the ED is not a common occurrence; however, when people do visit the ED, they expect to receive timely, efficient, and safe care (Lateef, 2011). Over the past two decades, the demand for emergency services in the nation has increased whereas the number of EDs, and therefore beds, has decreased (Institute of Medicine [IOM], 2006a). The decreased number of available beds is preventing health care professionals from meeting the demand for timely, quality care for patients in the ED (American Hospital Association, 2012; IOM, 2006a). Researchers characterize this situation as a crisis because ED overcrowding is associated with increased morbidity, mortality, and sentinel events (Chalfin, Treciak, Likourezos, Baumann, & Dellinger, 2007; McHugh, Van Dyke, McClelland, & Moss, 2011; The Joint Commission, 2012).

Likewise, the number of community resources and inpatient beds for psychiatric patients has declined sharply, thus increasing the need to provide care for psychiatric patients in emergency care settings (Torrey, Fuller, Geller, Jacobs, & Ragosta, 2012). Since 2005, the number of inpatient psychiatric beds has decreased by 14% (Koyanagi, 2007). The deinstitutionalization of the nation's psychiatric facilities in the 1960s caused an exodus of psychiatric patients from these facilities into communities with little or no resources to help or house these individuals. Further, from 2005 to 2009, more than 7,000 inpatient psychiatric beds were eliminated; an additional 3,500 beds have been eliminated since 2010. As a result, EDs across the nation have become both safe havens and holding (boarding) areas for psychiatric

patients (Torrey et al., 2012). The holding of a psychiatric patient occurs when a patient with a mental health illness remains in a hospital ED, awaiting an inpatient psychiatric bed or transfer to an emergency receiving facility (ERF) (Weithorn, 2005). For psychiatric patients, the unavailability of inpatient psychiatric beds means that time in the ED can stretch from hours to days (Bender, Pande, & Ludwig, 2009). The boarding of psychiatric patients in the ED affects the timeliness of care provided to psychiatric and non-psychiatric patients alike, lengthens all patients' time until discharge, and imposes a financial burden on health care facilities (Pines, Bratt, Hilton, & Terwiesch, 2011; Torrey et al., 2012).

Psychiatric patients boarded in the ED lie on stretchers or sometimes sit in chairs or recliners in a room or a hallway (Asplin et al., 2008). While awaiting transfer to inpatient beds or evaluation by psychiatrists or other members of the psychiatric assessment team, psychiatric patients occupy a significant number of available ED beds (Torrey et al., 2012). In many cases, psychiatric patients boarded in the ED are not transferred as long as they remain quiet and are not too demanding or disruptive; staff watch over the patients, allow them to sleep, and provide meals (Jayarman & Triplett, 2008). Many of these patients receive few if any therapeutic interventions.

If psychiatric services are not available at the facility, then an ED resident, an ED attending physician, and a member of the psychiatric assessment team evaluate the patient. The primary role of the psychiatric assessment team member is to determine whether the patient can be seen in an outpatient setting or if the patient needs to be admitted to an ERF inpatient bed (Jayarman & Triplett, 2008). If needed for the patient's safety, the physician will place a restraint and seclusion order. The patient will then be monitored, and his or her behavioral status will be assessed in accordance with established policy. Often, the ongoing care of the patient

does not include a reassessment of the presenting complaint, a primary system assessment (cardio, pulmonary, and neurological), or a vital-signs or pain assessment in accordance with departmental protocols. Nor does ongoing care typically address management of any comorbidities the patient has (Jayarman & Triplett, 2008).

The Joint Commission's (2013) provision of care, treatment, and services standards (PC.01.01.01) and leadership standards (LD.04.03.11) provide guidelines regarding the care of psychiatric patients boarded in the ED. These standards address the challenges of providing care for patients who visit the ED with a psychiatric emergency. The service standards indicate that psychiatric patients should receive the same quality of care as do other patients in the ED (Joint Commission, 2013). The leadership standards require that facility leaders ensure staff are trained to assess and reassess this vulnerable segment of the ED population (Joint Commission, 2013).

Background of the Problem

In 2008, leaders of the U.S. Department of Health and Human Services identified three reasons for the increasing number of patients seeking psychiatric care in EDs (Bender, Pande, & Ludwig, 2008). The first reason is that the availability of psychiatric services has decreased. The decrease is the result of deinstitutionalization, which began in the late 1950s. Deinstitutionalization involves placing psychiatric patients in outpatient and community-based treatment facilities. Because of deinstitutionalization, from 2005 to 2010 the number of available inpatient psychiatric beds decreased from 17.1 beds per 100,000 individuals to 14.1 beds per 100,000 individuals. The reduction in inpatient and residential psychiatric beds is a direct cause of the increased boarding of psychiatric patients in the ED (Torrey et al., 2012).

The second reason is that the demand for psychiatric services has increased (Bender et al., 2009). Research indicates 20% of American adults experienced psychiatric-related illnesses

in 2009 (U.S. Department of Health and Human Services (HHS), 2010). Many of these individuals are underinsured or uninsured, are homeless, and do not have family or friends who can help ensure the individuals receive quality health care (Bender et al., 2009). Further, many communities have few, if any, mental health services. Consequently, individuals in need of psychiatric care often turn to the ED for assistance (Torrey et al., 2012).

The third reason is that funding for psychiatric services is insufficient. The individuals who planned deinstitutionalization did not foresee the magnitude of the problem that eliminating local and state psychiatric beds would create; therefore, they did not allocate sufficient funds (Koyanagi, 2007). The original plan was to shift the allocation of funds from inpatient facilities to community-based psychiatric agencies. In the 1960s and 1970s, Presidents Kennedy and Carter signed into law various programs to provide federal funding for community-based psychiatric care (Koyanagi, 2007). Federal funding for the program provided for the construction of community mental health facilities and allocated funds to staff the centers. Laws were amended in the late 60's to extend federal support of the programs for eight years and beyond (Koyagani, 2007). In the 1980s, President Reagan removed the federal programs, which placed the burden of funding on local and state agencies. The Mental Health Systems Act was repealed, and funds for community mental health shifted into a block grant to states. Federal funding was also cut by 25 percent (Koyagani, 2007). It was not until 2000 that the mental health community and policymakers began to undertake and put into place measures to address the issue of funding for community-based psychiatric care (Koyanagi, 2007).

ED nurses have reported that providing care for psychiatric patients boarded in the ED places a burden on department staff and increases delays in providing care to all patients in the ED (Manton, 2013; White, 2010). ED nurses have also stated that their lack of training in caring

for and managing psychiatric patients increases the risk of exacerbating symptoms and eloping patients with psychiatric issues (Nicks & Manthey, 2012). Johnson and Winkelman (2011) reviewed the literature on patient outcomes related to the boarding of patients in the ED. The researchers found that boarding patients in the ED is associated with delays in treatment (administering medication, managing pain, providing cardiac interventions, etc.), a decrease inpatient and family satisfaction with the quality of care, and increased morbidity and mortality (Johnson & Winkelman, 2011).

Currently, minimal information is available regarding how the boarding of psychiatric patients affects ED nurses' practice and the outcomes for psychiatric and non-psychiatric patients seen and boarded in the ED. However, research is available on how boarding psychiatric patients in the ED affects physicians' practice and the finances of the health care facility (Bender et al., 2008). In 2008, members of the American College of Emergency Physicians (ACEP) reported that 90% of ED facilities board psychiatric patients on a weekly basis. The length of stay ranged from 4 hours to more than 72 hours. Tuttle (2008) stated that the increasing number of psychiatric patients boarded in the ED creates a backlog of patients and negatively affects access to emergency medical care for all patients. Tuttle also noted that the risk of underdiagnosing and undertreating this group of patients places these patients, other patients, and ED staff at a high risk of injury. Despite the increasing number of psychiatric patients seeking care and the associated risks, the training and resources needed to care for this patient population have not increased (Nicks & Manthey, 2012).

Statement of the Problem

Studies indicate that boarding psychiatric patients in the ED contributes to ED overcrowding (Asplin et al., 2008; Nicks & Manthey, 2012; Nolan, Fee, Cooper, Rankin, &

Blegen, in press; Torrey et al., 2012). Many researchers have studied how boarding psychiatric patients in the ED affects patient's length of stay, staff members' medical practice, and health care facilities' costs. However, little research exists regarding the nursing care that psychiatric patients need when boarded in the ED (Manton, 2010; Zun, 2012). Existing standards indicate that all patients deserve safe, high-quality care; nevertheless, patients who have behavioral health emergencies and are boarded for extended periods often receive care that does not meet the standards (The Joint Commission, 2012).

Purpose of the Study

The purpose of this project was to examine nursing staff members' compliance with ED standards for assessing and reassessing psychiatric patients boarded in the ED. Another goal of the project was to determine whether applying the same assessment and reassessment standards to psychiatric patients as applied to other patients affects patients' length of stay in the ED. The standards of care for all patients in the ED are designed to address the needs of the patient, regardless of the presenting complaint (The Joint Commission, 2012). These standards indicate what is acceptable practice and are to be adhered to in all emergency-care settings. Patient assessment and reassessment are integral parts of the nursing process. In emergency-care settings, the initial patient assessment should involve using a systematic approach in identifying actual and potential threats to the patient's well-being. Reassessment is critical in determining a patient's response to the care (Macphail, 2012).

Clinical Questions

To address the purpose of this study, the following clinical questions were explored:

1. How does the percentage of psychiatric patients assessed upon arriving at the ED compare to the percentage of non-psychiatric patients who are assessed upon arriving at the ED?
2. How does the percentage of psychiatric patients who are reassessed every hour during their stay in the ED compare to the percentage of non-psychiatric patients who are reassessed every hour during their stay in the ED?
3. How does the length of stay of psychiatric patients boarded in the ED compare to the length of stay of non-psychiatric patients boarded in the ED?
4. What impact does the initial assessment have on a patient's length of stay in the ED?
5. What impact does hourly reassessment have on a patient's length of stay in the ED?

Significance of the Problem

Mental disorders are the fourth leading cause of disability in the United States and other developed countries (Centers for Disease Control & Prevention, 2011). In 2003, members of the Subcommittee on Acute Care, part of the federal government's New Freedom Commission, stated that community EDs were being overwhelmed with patients in psychiatric distress who had nowhere else to go. The overcrowding has continued; reports over the past few years indicate patients continue to have long ED wait times, sometimes even dying before they are treated (Hogan, 2003). Often, psychiatric patients who are boarded in the ED do not receive care beyond having their vital signs checked each day; receiving meals; and, if they become uncooperative or aggressive, receiving medication to control their behavior. If they receive

additional care, typically only the presenting symptoms are treated; rarely are any comorbidities addressed.

The environment in the ED is loud and hectic, contributing to the patients feeling uncomfortable and frightened, emotions that may exacerbate their current state (Hogan, 2003). Many ED nurses view psychiatric patient as frustrating, puzzling, and even dangerous; these views lead some ED nurses to be disrespectful and hostile to psychiatric patients (Bender et al., 2008). In addition, these perspectives may lead to instances in which the nurses do not adhere to standards for assessing and reassessing patients in the ED (Bender et al., 2008).

Members of the IOM (2001) identified the following six aspects of high-quality health care:

- Safe: The care does not injure the patient.
- Effective: Health care professionals provide services, based on scientific knowledge, to all individuals who are likely benefit the services. Health care professionals refrain from providing services to those who are not likely to benefit.
- Patient centeredness: Health care professionals provide care that is respectful of and responsive to the patient's preferences, needs, and values; the patient's values guide all clinical decisions.
- Timeliness: Medical staff reduce delays in providing care; delays can be harmful to the patient and to staff.
- Efficiency: Staff members avoid wasting resources, including equipment, supplies, ideas, and energy.

- Equity: Health care professionals provide equal-quality care to all patients, regardless of patients' personal characteristics, such as gender, ethnicity, geographic location, and socioeconomic status.

Although these aims were originally developed to improve the quality of physical care, they are also applicable for improving the quality of mental health care. The concepts of effectiveness, timeliness, efficiency, and equity are straightforward in their application to most patient populations; in contrast, safety and patient centeredness are more involved when considering patients with psychiatric complaints (Joint Commission, 2012).

To care for a patient's needs, to ensure the continued safety of the patient, and to prevent the patient's condition from deteriorating, the initial assessment of the patient must be extensive enough to identify actual and potential threats to the patient's well-being (Emergency Nurses Association [ENA], 2010). The initial assessment must involve identifying and addressing any comorbidities that exist for the patient. Nursing staff should then design a plan of care that will stabilize the presenting psychiatric complaint and also manage any identified comorbidities. During reassessments, nursing staff should focus on the changes—whether positive or negative—regarding the presenting complaint. The reassessment should be ongoing and may be triggered by key decision points related to the patient's presenting signs and symptoms and at intervals based on the acuity of the patient and changes in the patient's condition (ENA, 2010).

Theoretical Framework

The Donabedian (1988) model for quality assessment was the framework for this study. The model is the result of Donabedian's examination of ways to assess the quality of health care based on structure, processes, and outcomes. Donabedian defined *structure* as the environment in which health care is provided. The term *process* regards a method for providing health care.

The process results in various outcomes in the patient (Castaneda-Mendez, 1999). The Donabedian model for quality assessment can be applied at the system, institution, or individual level to assess whether specific actions improve system processes. Evaluating outcomes is valuable in gaining an understanding of the relationships that exist between structure and processes. This understanding is valuable in determining which variables within the structure or process may be manipulated to achieve desired outcomes (Newhouse, Hoffman, Sufliks, & Harrison, 2007). The variables in Donabedian's theory—structure, process, and outcome—are standard terms researchers, and clinicians use to advance knowledge about system changes (Castaneda-Mendez, 1999).

As shown in Figure 1, Donabedian's (1988) model indicates that each component has an effect on the next component. Characteristics of the health care setting, the health care provider, and the health care encounter can influence both the process and the outcome. The Donabedian model provides a way of understanding the encounter between an ED registered nurse (RN) and a patient during the initial assessment. The model is also a framework for comprehending the impact of patient reassessment in accordance with established departmental guidelines (Donabedian, 1988).

Figure 2 shows the application of Donabedian's (1988) model in this study. The structure of care in this study comprises the department standards for providing care to patients in the ED. Extrinsic factors that affect the setting include patient volume, including the number of patients boarded in the ED. In the acute care setting, process includes the actions that occur on the patient's behalf and the interactions between the RN and the patient. Process encompasses two variables: (a) Agency for Healthcare Research and Quality (AHRQ)

Emergency Severity Index guidelines for assigning acuity levels and (b) department guidelines for the triage, initial assessment, and ongoing reassessment of the patient (AHRQ, 2011).

In Donabedian's (1988) model, the outcome is the result of structure and process. Outcomes in most quality-assurance programs are described in terms of better survival rates, lower infection rates, higher quality of life, and greater benefits to the recipient of care. In the current study, the outcome (or measure of benefit) was defined as a decrease in the length of stay of psychiatric patients boarded in the ED when the patients are assessed and reassessed according to department standards.

Summary

Over the past five decades the number in-patient psychiatric beds and the availability of outpatient psychiatric service have drastically decreased. As a result, EDs across the nation have become both haven and holding areas for psychiatric patients. Existing standards of care indicate that all patients seen in the emergency care setting should receive safe, high quality care. Often the psychiatric patient boarded in the ED does not receive care that meets the established standard. The purpose of this project was to examine the compliance of the nursing staff with ED standards of practice for the assessment and re-assessment of psychiatric patients boarded in the ED and to determine the impact of compliance with the standards on the outcomes for psychiatric patients boarded in the ED.

Chapter 2

Literature Review

A literature review is an expression of an individual's interest in a subject and involves scrutiny of research, policies, and other relevant documents. The sources of information can include books, journals, and Internet sites. Using these sources can lead to a greater understanding of the views of experts on the chosen subject (Randolph, 2009). The objective of the present literature review is to examine and assess the literature on (a) how boarding psychiatric patients in the ED affects patient outcomes, (b) the compliance of nursing staff regarding assessing and reassessing psychiatric patients boarded in the ED, (c) the impact of compliance on patient outcomes, and (d) the Donabedian model for quality assessment.

Databases, Search Terms, and Documents

To obtain documents for this review of the literature, the following databases were searched: Cochrane, ProQuest, CINAHL, PubMed, MedlinePlus, PsychoINFO, and Ovid SP. The keywords used include *emergency department*, *boarding of patients in the emergency department*, *outcomes*, *assessment*, *reassessment*, *best practice*, and *standards of care*. The searches resulted in a variety of relevant documents. The documents included in this review were published from 1988 to 2014.

Many of the documents include recommendations for addressing the problem of overcrowding. These recommendations include creating psychiatric observation and crisis stabilization units in the ED (Brown, 2007; Epling, 2008; Winokur & Senteno, 2009; Woo, Chan, Ghobrial, & Sevilla, 2007; Zeller, Calma, & Stone, 2013), establishing community-based crisis stabilization units (Lewis, Sierzega, & Haines 2005; Wolff, 2008), developing facility transfer agreements (Zeller et al., 2013), and revising current programs for the management of

psychiatric patients in the emergency care setting (Wright, Linde, Rau, Gayman, & Viggiano, 2003). The suggested solutions may result in an overall improvement in ED operations, but the suggestions do not adequately address the quality of care that medical staff provide to psychiatric patients boarded in the ED. Likewise, the suggestions lack patient-centered methods of for improving patient outcomes (Asplin et al., 2008).

Boarding

Many scholars have defined *boarding*. Weithorn (2005) defined *psychiatric boarding* as a patient remaining in the ED while waiting for an inpatient psychiatric bed or evaluation by a mental health professional. In 2008, members of ACEP defined *boarded patient* as a patient who remains in the ED after being admitted to the facility; the patient has not been transferred to an inpatient unit. According to members of ACEP, the boarding of a psychiatric patient occurs at any time that the patient remains in the ED for four or more hours after a physician's evaluation and is not transferred to an ERF or discharged. The commonality in all of the definitions is that the patient remains in the ED.

Koyanagi (2007) and Torrey et.al (2012) provided global overviews of the consequences of the deinstitutionalization of psychiatric patients, particularly the impact on the ability of ED staff to provide care for individuals with mental illnesses. Torrey et al. (2012) reported that the number of public psychiatric beds decreased from 50 beds per 100,000 individuals in 1955 to 17.1 beds per 100,000 individuals in 2005. Both Koyanagi and Torrey et al. asserted policymakers have failed to foresee the effects of deinstitutionalization. Inadequate funding and the inability of community mental health facilities to provide care for individuals with mental health problems results in many of these individuals being boarding in EDs, awaiting care (Koyanagi, 2007; Torrey et al., 2012).

Many governmental reports on the status of mental health care in the United States do not address the care that mental health patients need (Hogan, 2003; IOM, 2005). For example, the New Freedom Commission report contains a single mention of emergency care, only noting the training that health care providers, including ED staff, need (Hogan, 2003). The IOM (2005) report on mental health care indicates that despite increasing knowledge about the development of mental health disorders and how to treat them, little of this knowledge is being applied in emergency-care settings. The report further indicates that in many instances, individuals with mental illnesses are not receiving care or that the care they receive is unsafe (IOM, 2005).

Another report from the IOM (2006b) indicates the need to improve care for pediatric psychiatric patients, to implement plans to decrease ED overcrowding, and to improve the response time and skill of on-call specialists. However, the authors did not address measures to improve care for the growing number of psychiatric patients seeking services in the ED. As in the IOM's 2005 report, the 2006b report indicates that care of psychiatric patients in the ED is "sometimes less than optimal." Both reports have a focus on offering recommendations for improving efficiency and flow within EDs. The IOM's 2006b report does include discussion of the need (a) to reduce the use of seclusion and restraints when managing patients and (b) to improve coordination of care between the ED and ERF and community-based outpatient services.

Characteristics of Psychiatric Patients

Psychiatric patients in EDs often have different problems and comorbidities than do other patients. Individuals with mental health issues typically seek ED care because they are no longer able to cope with their current situations. The patients also visit the ED because the resources available in the community are limited or nonexistent; in either case, the ED becomes a haven

for care (Koganagi, 2011). These individuals may walk in to the ED or may be transported via emergency services vehicles. The patient may present with an acute psychotic break, having lost touch with reality, in which case it is essential to protect the patient from harming himself or herself (Chang et al., 2012; Hazlett, McCarthy, Londner, & Onyike, 2004; Hennenman et al., 2010). The patient may be in a depressive state, having attempted suicide or having thought about committing suicide. The patient may be homicidal, desiring to harm someone else. The patient may be experiencing hallucinations or may be delusional. Patients may also come to the ED requesting assistance with alcohol and substance detoxification (Chang et al., 2012). The patient may request care on his or her behalf or may be brought in as an involuntary registration.

The majority of psychiatric patients are young to middle-age adult males; a large segment of the psychiatric population is unemployed and homeless, residing in community shelters (Hazlett et al., 2004). Female psychiatric patients tend to be middle aged and to reside in shelters. The majority of psychiatric patients enter the ED on a regular basis with the same complaint or related psychiatric complaints (Slade, Dixon, & Semmel, 2010). Many of these patients also have medical comorbidities that are only minimally managed and often contribute to or are the underlying reason for the patient returning to the ED (Manton, 2013; Scpakpawicz & Herd, 2007; Zeller, 2010).

Consequences of Boarding Psychiatric Patients

The ED is charged with providing care to all individuals who seek services in the ED (ENA, 2010; U.S. National Archives and Record Administration, 2003). As a result, patients with complaints related to mental health cannot be discharged until they have received a medical screening examination. The examination and the need to conduct diagnostic studies add to the time that psychiatric patients are boarded in the ED (ACEP, 2008; Chang et al., 2012; Luken et

al., 2006; Misek, DeBarba, & Brill, 2014; Weiss et al., 2012). Increases in the length of stay of both psychiatric and non-psychiatric patients have been attributed to overcrowding and the increased boarding of patients (Nicks & Manthey, 2012). Boarding psychiatric patients increases the risk of harm to psychiatric patients, other patients, visitors, and ED staff (Boone & Garrett, 2009). Clark and Normile (2002), Singer et al. (2011), and Sun et al. (2012) stated that not only does overcrowding affect the care of patients boarded in the ED but boarding also has detrimental effects on the care of other patient waiting to be seen in the ED and those waiting to be admitted to inpatient beds.

Some of these harms result because boarding patients can delay the implementation of patient care protocols and adequate pain management (Carter, Pouch, & Larson, 2014). Bernstein et al. (2008); Fee et al. (2007); Hodgins, Moore, and Legere (2011); Johnson and Winkelman (2011); Pines, Hollander, Localio, and Metlay (2006); and Pines, Localio, et al. (2007) reported there is a direct relationship between increased patient volume and delay in administering antibiotics to ED patients diagnosed with pneumonia. Johnson and Winkelman (2011), Pines, Pollack, et al. (2009), and Schull et al. (2004) reported a relationship between ED overcrowding and failure to administer thrombolytic therapy to patients with ST-segment elevation myocardial infarctions within the standard time frame of 60 minutes. Pines, Pollack, et al. (2009) reported that in addition to delays in administering thrombolytic agents, overcrowding also affected other measures of cardiac care. In contrast to the findings above, Pines, Hollander, et al. (2006) reported ED overcrowding is not associated with a delay in percutaneous intervention for myocardial infarction.

Pain management is one of the primary reasons individuals seek care in the ED (Moto & Khan, 2009). Hwang, Richardson, Livote, et al. (2008); Hwang, Richardson, Sonuyi, and

Morrison (2006); Mills, Shofer, Chen, Hollander, and Pines (2009); Pines and Hollander (2008); and Pines, Shofer, Isserman, Abbuhl, and Mill (2010) found that ED overcrowding correlates with poor-quality analgesic care. The researchers reported that patients may wait for 1–3 hours before receiving a room assignment and placement in order to obtain analgesic treatment.

Hwang, Richardson, Sonuyi, et al. reported that patients receive high-quality pain care when the ED has lower patient volume. Further, during periods of high volume, fewer patients received any form of analgesic care (Hwang, Richardson, Sonuyi, et al., 2006). However, Hwang, Richardson, Sonuyi, et al. reported that the boarder burden (the number of boarders divided by the ED census) does affect the outcomes for patients requiring pain management.

Boarding patients in the ED is associated with an increase in morbidity and mortality (Bernstein et al., 2008; Carter, Pouch, & Larson, 2014; Chalfin et al., 2007; Donatelli, Gregorowicz, & Somes, 2013; Geelhoed & DeKlerk, 2012; Huang, Thind, Dreyer, & Zaric, 2012; Liu, Thomas, Gordon, Hamedani, & Weissman, 2009; Richardson, 2006; Singer, Thode, Viccellio, & Pines., 2011; Sprivulis, DaSilva, Jacobs, Frazer, & Jelinek, 2006). The common themes in the literature are that (a) the longer the stay in the ED, the greater the likelihood of a stay in intensive care units and in floor beds, (b) ED boarding delays the implementation of time-sensitive care, and (c) ED boarding increases patient mortality rates

Care for Psychiatric Patients Boarded in the ED

Over the past ten years, researchers and scholars have published several reports regarding care for psychiatric patients who are assessed and boarded in the ED. The authors of an ENA (2013) report addressed ED staff members' attitudes toward and concerns about psychiatric patients, patient attitudes and concerns regarding staff, the ED environment, the lack of privacy and long waits, and the ability of staff members to deescalate psychotic outbursts. Strategies for

treating psychiatric patient boarded in the ED including employing a psychiatry consultant/treatment team (Walker & Schenkel, 2006), implementing standardized treatment protocols (ENA, 2010; Stefan, 2005), and including a psychiatric nurse as part of the ED staff (Buckman, 2011; Clarke, Hughes, Brown, & Motluk, 2005; Walker-Cillo, Jones, & McCoy, 2008).

Members of the Illinois Hospital Association published a best-practices report in which they recommended improving the triage process, medical assessment, medication management, psychiatric evaluation, and throughput. The authors also suggested hiring psychiatric staff or providing ED staff training, as well as implementing patient-focused improvements, such as enhancing physical space, patient safety, and patient comfort (Slade et al., 2007). Bender et al. (2008), who reviewed the literature on psychiatric boarding and presented the results in a report for the Department of Health and Human Services, identified deficiencies in the quality of care and the “crisis in treatment of psychiatric patients” (p. 3). Some of the deficiencies include environmental problems, inadequate assessment, inadequate services, and the iatrogenic effects of ED boarding. Bender et al. proposed addressing these problems by creating separate treatment areas for psychiatric patients, establishing guidelines for seclusion and restraint, improving the coordination of care, increasing inpatient capacity, and providing mental health training to ED staff and law enforcement personnel. In a follow-up report, Bender et al. (2009) summarized the findings from nine hospitals across the United States, exploring responses to questions regarding the causes and the extent of psychiatric boarding suggest that lack of inpatient hospital capacity, liability related to the discharge of the patient back into the community, insurance plans the need prior admission approval for psychiatric care, placement and transfer issues, insufficient or lack of outpatient/community resources, insufficient ED/Psychiatric Ward

staffing, the need for medical clearance prior to transfer/in-patient admission, compliance with EMTALA guidelines for stabilization of the patient and inadequate housing alternative for the psychiatric patient.

Alakeson, Pande, and Ludwig (2010) proposed a seven-point action plan that involves implementing system and process improvements; the plan also outlines ways to improve the care of individual patients. The plan proposed by Alakeson, Pande and Ludwig (2010) includes starts with quantifying the extent of boarding, developing plans to improve the care that patients receive in the ED, expanding capacity in the inpatient setting, increase training for law enforcement officer in situation de-escalation, a more comprehensive approach to community mental health services and outlining plans for providing continuity of care through effective, accessible community mental health services. Similar to the previous comment, consider explaining the points/suggestions. Walker-Cillo, Jones, and McCoy (2008) noted that the most promising initiatives are those with a focus on the delivery of care rather than on the gatekeeping of managed care. Zun (2004) identified three reasons to treat psychiatric patients in the ED: to improve patient cooperation, to reduce patient agitation, and to begin the treatment process quickly. Zeller (2010) proposed goals for treating psychiatric patients in the ED. The goals include using patient-focused strategies, such as avoiding coercion, treating patients in the least restrictive setting, and forming a therapeutic alliance. In 2011, Zeller expanded the original goals to include rapid crisis stabilization and appropriate disposition and aftercare planning. Zeller (2011) also asserted that a medical reason for the crisis should not be required. Stefan (2006) explored ways to reduce the number of psychiatric patients who are transferred from the ED to inpatient beds. One of the strategies is to reduce iatrogenic crises by creating a more appropriate environment of care for patients experiencing mental health crises (Stefan, 2006).

Though extensive literature is available on the ED overcrowding and its effects, limited information exists regarding the quality of care that mentally ill patients receive in the ED. The few published works on the topic do not directly address how ED nurses' compliance with nursing care standards affects patients' outcomes. The limited literature includes a study by Heslop, Elsom, and Parker (2000), a summary article by Bender et al. (2009), and summary article by Jayarman and Triplett (2008). Heslop et al. addressed ED nurses' concerns about providing appropriate and coordinated care for patients seeking mental health services. Heslop et al.'s research shows that the complexities of providing care to mental health patients do not align well with current disease-specific practices and guidelines. The investigators concluded that for ED staff to provide coordinated care to mental health patients, a paradigm shift regarding care must occur (Heslop et al., 2000).

Bender et al. (2008) proposed that the care that psychiatric patients receive while in the ED should not only include addressing their immediate needs but should also include evaluating any comorbidities. These comorbidities should be addressed with initial therapy, such as scheduled psychotropic drugs (Bender et al., 2009). Jayarman and Triplett (2008) identified various challenges in providing psychiatric patients with high-quality care. Factors relating to quality include timelines of care, absence of therapeutic relationships, delays in care, patient safety, and patient satisfaction. Jayarman and Triplett reported that the longer a psychiatric patient remains in the ED; the less likely the quality factors will be adequately addressed.

Donabedian's Model for Quality Assessment

Donabedian (1988) developed a model for assessing the quality of health care. This structure-process-outcome framework combines the information needed to explore the aspects of high-quality care. The Donabedian model is flexible enough for use in many contexts in health

care, particularly nursing, as well as in disciplines other than health care. Many health care scholars use the model as the framework for research (Agency for Healthcare Research and Quality, 2007; Glickman, Baggett, Krubert, Peterson, & Schulman, 2007; Hearld, Alexander, Fraser, & Jiang, 2008). Mitchell, Ferketich, and Jennings (1998) proposed that using the Donabedian model is appropriate for testing variables in nursing interventions and that the results can be used to improve the quality of care for patients. Kee et al. (2005) used Donabedian's model to examine how the organizational structure and process of nursing affect patient outcomes.

Other researchers have used the Donabedian model to assess patients' perceptions of the quality of nursing care they receive (Kobayashi & Takemura, 2010; Kramer & Schmalenberg, 2005). Gardner, Gardner, and O'Connell (2013) used the model to examine the quality and safety of a framework for nurse-practitioners to use when delivering health services. Liu, Singer, Sun, and Camargo (2011) used the Donabedian model to assess the quality of care provided to patients boarded in the ED. The investigators concluded that the structure-process-outcome model is a practical framework for assessing the quality of care provided to patients boarded in the ED. Wilson and Blegen (2010) used the Donabedian model to measure the influence of staffing and the mix of skill sets on obstetrical outcomes. In 2012, Elverson and Samra summarized research in which the Donabedian model was the framework for selecting patient care indicators and metrics appropriate for the neonatal population.

Summary

The literature review contained discussion of the research pertaining to the boarding of psychiatric patients in the ED and how boarding affects patient outcomes. The review also contained literature on nursing staff's assessment and reassessment of psychiatric patients

boarded in the ED, as well as the impact of compliance on patient outcomes. The literature review also included information on the Donabedian model for quality assessment and its use in research on health care topics.

Chapter 3

Methodology

The purpose of this project was to assess nursing staff members' compliance with ED standards for assessing and reassessing psychiatric patients boarded in the ED. Another goal of the study was to determine whether applying the same assessment and reassessment standards to all patients (psychiatric and non-psychiatric) boarded in the ED affects the patients' length of stay in the ED.

Design

The design for this project was a descriptive clinical audit. The descriptive design is appropriate for describing data regarding the characteristics of the study population. The intent of the descriptive design is to acquire accurate, systematic data and then describe the data in a way that presents a picture of the data set (Kellar & Kelvin, 2013). The clinical audit is a formal process for improving patient care and outcomes through systematically comparing the (a) structure, processes, and outcomes of care with (b) explicit criteria. The findings are used as the basis for implementing change. Aspects of the structure, processes, and outcomes of care are selected and systematically evaluated against explicit criteria (National Institute of Clinical Excellence, 2002).

Setting

This study was conducted in the ED at an acute care teaching facility and full-service hospital located in Midtown Atlanta. The 511-bed, community-based hospital offers a full range of services for adults ages 18–70; the services include general medicine, maternal and infant care, orthopedics, and surgery. Care is also available for pediatric, geriatric, trauma, and burn patients. The hospital is a certified bariatric center, chest pain center, and primary stroke center.

The hospital's ED has an eight-bed triage area, a 29-bed acute care area, and an eight-bed clinical decision unit. The hospital is one of the four facilities in Emory Healthcare system. The facility has 3,300 staff, 1,850 of whom are nurses.

Sample

Using data mining, level 2 (emergent) charts from May 1, 2013, to April 30, 2014, were selected. Once the charts were identified, 100 psychiatric charts and 100 non-psychiatric charts were randomly selected for the study sample. Random selection was accomplished through systematic sampling. The original study population of level 2 patients contained 487 patients with a psychiatric complaint and 15,487 patients with a non-psychiatric complaint.

To determine which patients from the data pool were selected, the k th element was used; k is defined as the number of elements in the population that were skipped between selections. The k th element must remain constant during the sample selection process (Terry, 2012). For both subgroups of patients, the financial number assigned to each visit episode was used as the patient identifier. For the psychiatric patients, every fourth patient (as identified by the financial number) was selected. For the non-psychiatric patients, every 154th number was selected. The main advantages of using systematic sampling are that it is simple to use and that the population can be sampled evenly (Terry, 2012). The biggest disadvantage of systematic sampling is that the selection process can interact with a hidden periodic trait in the population. This interaction prevents the sample from being random, which compromises the representativeness of the sample (Terry, 2012).

Data Collection

After obtaining approval from the appropriate Institutional Review Boards, the researcher, and the ED's management engineer collected patient data. Charts from May 2013 to

April 2014 were reviewed to extract data from the medical records. Charts of psychiatric and non-psychiatric patients categorized as level 2 (emergent) acuity were identified. The patients' acuity levels were assigned at the time of the patients' initial assessments and were based on using the Emergency Severity Assessment (ESI) Tool (AHRQ, 2011). The ESI is a comprehensive triage system that includes five levels (resuscitation, emergent, urgent, semiurgent, and nonurgent). Level 2 category is appropriate for a patients whose presenting complaints, and symptoms are of a severity that if they wait to receive care, their medical condition could deteriorate. Included in the level 2 category are patients presenting in high-risk situations, patients who are confused and lethargic, and patients who are in severe pain or distress. A psychiatric patient is considered a high-risk patient who may also be confused (AHRQ, 2011).

A spreadsheet was developed to organize each sample member's data regarding demographics, diagnosis, admit or discharge status, completion of the initial assessment, hourly reassessment, documentation of care provided based on the existing comorbidities, and length of stay in the ED. The categories of extracted data are defined as follows:

- *Demographic information:* Demographic information consists of the age and gender of the sample.
- *Diagnosis:* Under usual circumstances, the diagnosis is the identification of the nature of an illness or another problem; the diagnosis is identified by examining the symptoms. For the purpose of this study, the diagnosis regards the human body system in which the patient's complaint or symptoms were categorized in the facility documentation system.

- *System assessment/reassessment:* An initial examination is performed to gather physiological and psychosocial information about the patient, for the purpose of identifying and managing any life-threatening conditions. A reassessment is a continuation of the primary assessment and involves examining any changes in the patient's condition in response to the care provided.
- *Acuity-based reassessment:* The parameters for the reassessment timeframe are based on established department guidelines. Patients with level 2 acuity should be reassessed every hour.
- *Care initiated:* The care initiated is the care a patient receives while in the ED; this care addresses not only the presenting complaint, but also the care required to treat or stabilize any comorbidities.
- *Length of stay:* The length of stay is timeframe of a single ED encounter; the length is measured from the time documented in the patient's medical record as the first medical contact to the time documented in the medical record as the patient's discharge from the ED or admittance to an inpatient bed.
- *Comorbidity:* A comorbidity is the simultaneous presence of two or more chronic diseases or conditions in a patient.

Clinical Questions and Analysis Plan

The data analysis for this project was designed to answer the clinical questions below. One goal was to assess nursing staff members' compliance with assessment and reassessment standards in the ED. An additional goal was to examine the impact of compliance on patients' length of stay in the ED.

- Clinical question 1: How does the percentage of psychiatric patients assessed upon arriving at the ED compare to the percentage of non-psychiatric patients who are assessed upon arriving at the ED? Clinical question 1 was answered using data extracted from the medical records. Descriptive statistics was used to analyze the data.
- Clinical question 2: How does the percentage of psychiatric patients who are reassessed every hour during their stay in the ED compare to the percentage of non-psychiatric patients who are reassessed every hour during their stay in the ED? Clinical question 2 was answered using assessment and reassessment data extracted from the medical records. The recommended timeframe for assessing and reassessing patients was based on the ESI acuity level. Descriptive statistics was used to analyze the data.
- Clinical question 3: How does the length of stay of psychiatric patients boarded in the ED compare to the length of stay of non-psychiatric patients boarded in the ED? Clinical questions 3 was answered using data extracted from the patients' medical records. Descriptive statistics was used to analyze the data.
- Clinical question 4: What impact does timely initial assessment have on a patient's length of stay in the ED? Clinical question 4 was answered using data extracted from the patients' medical record. Descriptive statistics was used to analyze the data.
- Clinical question 5: What impact does hourly reassessment have on a patient's length of stay in the ED? Clinical question 5 was answered using the data

extracted from the patients' medical records. Descriptive statistics was used to analyze the data.

Summary

The purpose of this project was to assess nursing staff members' compliance with ED standards for assessing and reassessing psychiatric patients boarded in the ED. Another goal of the project was to determine whether applying the same assessment and reassessment standards for all patients in the ED affected patients' length of stay.

Chapter 4

Results

This chapter contains a discussion of the outcomes of the project. One goal of the project was to assess nursing staff members' compliance with ED standards for assessing and reassessing psychiatric patients boarded in the ED. Another goal was to determine whether applying the same assessment and reassessment standards for all patients in the ED affected patients' length of stay. The findings relate to the descriptive information obtained from reviewing retrospective charts, which contained patient demographics, length of stay in the ED, and notes regarding assessment and reassessment.

Sample Description

The original data pool of level 2 patients contained 487 psychiatric patients and 15,487 non-psychiatric patients. From this population, 100 charts of psychiatric patients and 100 charts of non-psychiatric patients were randomly sampled. The sample of psychiatric patients consisted of 27 females (27%) and 73 males (73%); the sample of non-psychiatric patients consisted of 60 females (60%) and 40 males (40%). The mean age of the psychiatric sample was 41.69 years (*SD* 13.3); the majority of the patients were 18–59 years old. The mean age of the non-psychiatric sample was 53.98 years (*SD* 17.47); the majority of the patients were 18–79 years old. The demographics of both groups are summarized in Table 1.

Almost one-quarter (24%) of the patients in the psychiatric sample were categorized as suicidal, presenting with suicidal ideations or thoughts, behaviors, and intents. Another 9% of the psychiatric patients in the sample were categorized as having homicidal ideations or thought. Approximately two-thirds (67%) of the psychiatric patients in the sample were categorized as having “psych—other” diagnoses. This category includes patients presenting with anxiety, aural

and visual hallucinations, and depression, as well as patients requesting assistance with alcohol and drug detoxification. Non-psychiatric patients' presenting complaints included cardiac, neurologic, respiratory, gastrointestinal, genitourinary, gynecological, renal, endocrine, and musculoskeletal problems. Of these patients, 41% presented with cardiovascular complaints and 17% presented with respiratory complaints. Table 2 contains a summary of the complaints of the psychiatric patients and non-psychiatric patients.

The patients in the psychiatric sample presented with various comorbid conditions. The psychiatric patients' co-morbidities included cardiovascular, respiratory, endocrine, genitourinary, gynecological, and renal problems. Many of the non-psychiatric patients also had multiple comorbidities that exacerbated their primary medical complaints. Table 3 includes a summary of the comorbid diseases of the psychiatric and non-psychiatric patients in the sample.

Analysis Results

Clinical question 1: How does the percentage of psychiatric patients assessed upon arriving at the ED compare to the percentage of non-psychiatric patients who are assessed upon arriving at the ED? ED staff complete an initial patient assessment to gather physiological and psychosocial information in order to identify and manage immediate life-threatening conditions. Analysis of the project data indicates 93% of the psychiatric patients received an initial assessment; 94% of the patients presenting with non-psychiatric complaints received an initial assessment. Table 4 contains a summary of the data regarding initial assessment.

Clinical question 2: How does the percentage of psychiatric patients who are reassessed every hour during their stay in the ED compare to the percentage of non-psychiatric patients who are reassessed every hour during their stay in the ED? The

reassessment of the patient is a continuation of the primary assessment and involves assessing any changes in the patient's condition in response to the care the patient is receiving. Based on ED guidelines, patients with level 2 acuity are to be reassessed every hour. Analysis of the sample data indicates 67% of the psychiatric patients were reassessed every hour as per the departmental guideline, whereas only 43% of the non-psychiatric patients were reassessed every hour. Three percent of the non-psychiatric patients left the ED contrary to medical advice after the initial assessment. Regarding the psychiatric patients, no reassessment data were available for 6% of the patients. The reassessment data is presented in Table 5.

Clinical question 3: How does the length of stay of psychiatric patients boarded in the ED compare to the length of stay of non-psychiatric patients boarded in the ED? The length of stay is the timeframe of a single ED encounter, measured from the time of the patient's first medical contact (as documented in the patient's medical record) to the time of the patient's discharge from the ED or admittance to an inpatient bed. The mean length of stay for psychiatric patients boarded in the ED was 12.4 hours (748.3 minutes), whereas the mean length of stay for psychiatric patients boarded in the ED was 6.7 hours (406.5 minutes). Table 6 contains a summary of the lengths of stay for psychiatric and non-psychiatric patients. Of the 100 psychiatric charts reviewed, 76 patients were discharged to home care, 16 were transferred to public or private ERFs, and eight were admitted to facility inpatient beds. Of the non-psychiatric charts reviewed, 46 patients were discharged to home care, and 54 were admitted to facility inpatient beds. Table 7 shows the data regarding psychiatric and non-psychiatric patients' discharges, transfers, and admissions.

Clinical question 4: What impact does timely initial assessment have on a patient's length of stay in the ED? The mean length of stay for psychiatric patients boarded in the ED

was 12.4 hours (748.3 minutes), compared to 6.7 hours (406.5 minutes) for non-psychiatric patients. Most (93%) of the psychiatric patients received an initial assessment upon presentation to the ED; almost the same percentage (94%) of the non-psychiatric patients received an initial assessment upon presentation to the ED. Twelve patients did not receive an initial system assessment upon presentation to the ED, and one additional patient signed out (against medical advice) after triage but prior to completion of the initial assessment. Table 8 includes a summary of the impact of the initial assessment on patients' length of stay.

Clinical question 5: What impact does hourly reassessment have on a patient's length of stay in the ED? The analysis indicates 67% of the psychiatric patients and 43% of the non-psychiatric patients were reassessed every hour. The mean length of stay for psychiatric patients boarded in the ED was 12.4 hours (748.3 minutes), compared to 6.7 hours (406.5 minutes) for non-psychiatric patients. Table 9 contains a summary of the data related to the impact of hourly reassessment on patients' length of stay.

The mean length of stay for psychiatric patients who were reassessed every hour and discharged to home care was 11.3 hours; for psychiatric patients transferred to an ERF, the mean length of stay was 27.4 hours. For psychiatric patients who were reassessed every hour and then admitted to an inpatient facility bed, the mean length of stay in the ED was 6.2 hours. The mean length of stay for non-psychiatric patients who were reassessed every hour and then discharged or admitted to an inpatient facility bed was 6.2 hours. Table 10 includes a summary of the data concerning hourly reassessment and length of stay of psychiatric and non-psychiatric patients.

Summary

Five clinical questions were examined (a) to determine nursing staff members' compliance with department standards for assessing and reassessing psychiatric and

non-psychiatric patients in the ED and (b) to identify whether compliance with assessment and reassessment standards affects patients' length of stay in the ED. The analysis results show there is a difference in the length of stay of psychiatric and non-psychiatric patients even when the standards for assessment and reassessment are applied similarly for both patient populations. In addition, there are differences in the length of stay of psychiatric and non-psychiatric patients discharged to home care when the standards are met. However, there is only a minimal difference between the length of stay when the patients are admitted to inpatient facility beds. The next section contains a discussion of the importance of these results; implications for practice, policy, and research; and the limitation of this study.

Chapter 5

Discussion

The boarding of patients is a factor commonly associated with an increased length of stay in the ED (Asplin et al., 2008; Bellow & Gillespie, 2013; Bender, Ludwig, & Pande, 2008). A patient is considered to be boarding in the ED when he or she remains in the ED for 4 or more hours after initial evaluation (Weithorn, 2005). Many researchers have studied how boarding psychiatric patient in the ED affects the length of stay, the timeliness of care provided to all patients, medical practice, and facility finances (Chalfin et al., 2007; Fee, Weber, Maak, Bacchetti, 2007; Hwang et al., 2008; Johnson & Winkelman, 2011). However, limited research is available regarding the nursing care that is necessary for psychiatric patients boarded in the ED (Manton, 2010; Pines, Batt, et al., 2011; Torrey et al., 2012; Zun, 2012).

The purpose of this project was to determine (a) nursing staff members' compliance with ED standards for assessing and reassessing psychiatric patients boarded in the ED and (b) the impact on the length of stay of patients boarded in the ED. In this descriptive study, data were collected from the medical charts of level 2 psychiatric and non-psychiatric patients presenting to the ED between May 1, 2013, and April 30, 2014. While the data analysis yielded many expected results, some of the findings were unanticipated. Highlights of the results are discussed below.

Discussion of the Results

Sample. The study sample consisted of 200 level 2 patient presenting to the ED for care between May 1, 2013, and April 30, 2014. Charts from 100 psychiatric patients and 100 non-psychiatric patients were randomly selected for the sample. The psychiatric patient sample consisted of 27 females and 73 males ages 15–81 (mean age 41.69 years, *SD* 13.3). The

non-psychiatric patient sample consisted of 60 females and 40 males ages 18–75 (mean age 53.9 years, *SD* 17.47). The sample groups were similar in age, but more males were in the psychiatric group than in the non-psychiatric group. These demographics are similar to the population demographics in studies by Chang et al. (2012); Hazlett, McCarthy, Loudner, and Oiyike (2004); and Slade, Dixon, and Semmel (2010). The presenting complaints of the psychiatric patients were suicide ideations, thoughts, and attempts; homicidal threats; and other psychiatric complaints, such as auditory and visual hallucinations, anxiety, depression, and near panic episodes. The primary presenting complaints of the non-psychiatric patients were cardiovascular and respiratory. Approximately one-third (34%) of the psychiatric and non-psychiatric patients presented with multiple complaints. Manton (2013), Scpakpwich and Herd (2007), and Zeller (2010) described similar findings in their studies.

Clinical question 1: How does the percentage of psychiatric patients assessed upon arriving at the ED compare to the percentage of non-psychiatric patients who are assessed upon arriving at the ED? There was not a significant difference between the percentage of psychiatric patients (93%) and non-psychiatric patients (94%) who received an initial assessment upon presentation to the ED. Nursing staff members' compliance with this standard of care was expected. The triage and initial assessment of a patient allow for the identification of life-threatening conditions. Using established triage guidelines, the nurse assigns an ESI acuity level for the patient. The nursing staff using the initial assessment as the basis for all emergent interventions the staff use in caring for the patient.

Twelve patients did not receive an initial assessment upon presentation to the ED. A review of the medical records shows that one non-psychiatric patient left the ED without completion of the initial assessment. Reasons for the why patients did not receive an initial

assessment may include but are not limited to missing data in the medical record, the patient left without notifying the staff or patient activity occurred during computer downtime (hybrid paper charting). Further investigation is needed to determine why the patients did not receive an initial assessment and to determine the assigned nurse's understanding of the purpose of the initial assessment.

Clinical question 2: How does the percentage of psychiatric patients who are reassessed every hour during their stay in the ED compare to the percentage of non-psychiatric patients who are reassessed every hour during their stay in the ED? In the study sample, 67% of the psychiatric patients were reassessed every hour, compared to 43% of the non-psychiatric patients. The greater compliance regarding reassessing psychiatric patients may be attributed to the fact that psychiatric patients are placed on a safety hold, per ED policy. A safety hold initiates several department activities. For example, the physician implements a behavioral restraints and seclusion order. This order requires hourly evaluation of all level 2 psychiatric patients.

The study results indicate that 33% of the psychiatric patient and 57% of the non-psychiatric patients did not receive an hourly reassessment during their stay in the ED. Reassessment is critical because it involves evaluating any changes in the patient's condition in response to the care he or she is receiving. When nursing staff do not reassess the patient on a regular basis, the staff may overlook improvements or deteriorations in the patient's condition. Bender et al. (2008) reported that ED nurses may perceive psychiatric patients to be frustrating, puzzling, and even frightening. These perspectives may contribute to disrespect and hostility toward psychiatric patients. Ultimately, these perceptions may result in nurses not adhering to standards for reassessing psychiatric patients. Further investigation is needed to identify other

barriers that prevent compliance with the standards for reassessing patients in the emergency care setting..

Clinical question 3: How does the length of stay of psychiatric patients boarded in the ED compare to the length of stay of non-psychiatric patients boarded in the ED? The mean length of stay for psychiatric patients boarded in the ED (12.4 hours) is almost twice as long as for non-psychiatric patients (6.7 hours). Weithorn (2005) reported that boarding occurs when a patient remains in the ED, awaiting an inpatient bed or transfer to an ERF. A 2008 ACEP report indicates that lengths of stay for psychiatric patients range from 4 hours to more than 72 hours. Reasons that lengthen the stay of psychiatric patients include the unavailability of inpatient psychiatric beds in ERFs (Koyanagi, 2007; Torrey et al. 2012); the inability of mobile assessment teams to complete timely initial assessments (IOM, 2006); delays in obtaining the results of medical-clearance laboratory tests, including drug and pregnancy tests (Scpakpawicz & Herd, 2007); and failure to address and stabilize patients' comorbid disease processes (Jayarman & Triplett, 2008).

Clinical question 4: What impact does timely initial assessment have on a patient's length of stay in the ED? The mean length of stay for psychiatric patients was 12.4 hours, whereas the mean length of stay for non-psychiatric patients was 6.7 hours. The mean length of stay for the 93% of psychiatric patients who were assessed upon admission to the ED was 12.3 hours; the mean length of stay for the 94% of non-psychiatric patients who were assessed upon admission to the ED was 6.9 hours. Compliance with the assessment standard does not appear to have an impact on the length of stay of psychiatric patients and non-psychiatric patients boarded in the ED. The results of the analysis also indicate that the length of stay of psychiatric patients who were not initially assessed was an average of 3.9 hours shorter than the length of stay for

those who were initially assessed. Among non-psychiatric patients, those who were not initially assessed had lengths of stay that were an average of 2.8 hours shorter than for other non-psychiatric patients. These unexpected findings indicate the need for further investigation.

Clinical question 5: What impact does hourly reassessment have on a patient's length of stay in the ED? The mean length of stay for psychiatric patients boarded in the ED was 12.4 hours, compared to 6.7 hours for non-psychiatric patients. The stay of the psychiatric patient who were reassessed every hour during their stay in the ED and then discharged was an average of 5.1 hours longer than for non-psychiatric patients who were reassessed every hour and then discharged. The length of stay for psychiatric patients who were reassessed on an hourly basis and then admitted to facility inpatient beds was 6.2 hours, which is 1.8 hours less than psychiatric patients who were not reassessed. There was no significant difference in the lengths of stay for non-psychiatric patients who received and did not receive an hourly reassessment (7.2 hours vs. 7.3 hours).

The analysis indicates that psychiatric patients who did not receive an hourly reassessment were discharged 3.8 hours earlier than patients who were reassessed every hour. The length of stay for psychiatric patients who were not reassessed every hour and then transferred to an ERF was 8.6 hours shorter than for psychiatric patients who were reassessed every hour. Psychiatric patients admitted to facility inpatient beds had a shorter length of stay in the ED (6.2 hours) than non-psychiatric patients (7.2 hours). These unexpected findings of the study bear further investigation.

Limitations of the Study

Lack of similar studies examining the impact of reassessment of psychiatric patients boarded in the ED and the study design are identified as limitations of the study. The majority of

the studies addressing the boarding of psychiatric patients in the ED relate to the impact on overall length of stay in the ED, delay in care of other patients boarded in the ED and the cost of boarding. The lack of research in this area does not allow for comparison of the findings of this study. The study's retrospective design is another limitation. The researcher had no control over the data. The information in the medical records varied depending on which ED staff member entered the information, and some information was missing. Another limitation was the systematic sampling method. A hidden periodic trait may have produced a sample that was not representative of the general population.

Implications for Practice

Based on the findings of this study, the following recommendations for practice are offered:

- Review the standards for assessing and reassessing patients in the ED.
- Ensure that all nurses attend the ED's triage course.
- Develop an educational program on how to manage psychiatric patients in the ED.
- Review and educate staff about medical clearance standards.

Future Research

The findings of this study have implications for nursing research. The study includes evidence that complying with the standards for assessing and reassessing patients does not affect patients' length of stay. Little information is available in the literature regarding the impact of nursing care on the outcomes of psychiatric patients boarded in the ED. As boarding is a common practice in EDs across the United States, more research is needed on this topic. In particular, researchers are encouraged to evaluate how various plans of care for psychiatric

patients affect patients' satisfaction, frequency of aggressive behavior, development of coping skills, and health outcomes.

Conclusions

The goals of this study were to determine (a) nursing staff members' compliance with ED standards for assessing and reassessing psychiatric patients boarded in the ED and (b) the impact on the length of stay of patients boarded in the ED. The results of the study show that nursing staff adhere to the standards for assessing and reassessing patients in the ED. The findings also indicate that compliance does not decrease the length of stay; in fact, patients who were not assessed and reassessed had shorter lengths of stay in the ED. The study results indicate the need for investigation of other factors that may affect the length of stay of patients in the ED.

References

- Agency for Healthcare Research and Quality. (2007a). *Emergency Severity Index (ESI): A triage tool for emergency department*. Retrieved from <http://www.ahrq.gov/professionals/systems/hospital/esi/index.html>
- Agency for Healthcare Research and Quality. (2007b). Closing the quality gap: A critical analysis of quality improvement strategies. Rockville, MD: Author. Retrieved from <http://www.ahrq.gov/clinic/tp/caregapt.htm>
- Alakeson, V., Pande, N., & Ludwig, M. (2010). A plan to reduce emergency room “boarding” of psychiatric patients. *Health Affairs*, 29, 1637–1642. Retrieved from <http://www.content.healthaffairs.org>
- American College of Emergency Physicians (2008). ACEP psychiatric and substance abuse survey 2008. Retrieved from <http://newsroom.acep.org/download/ACEP+Psychiatric+and+Substance+Abuse+Survey+-+April+2008.pdf>
- Asplin, B., Blum, F. C., Brovida, W. R., Bukata, W. R., Hill, M. B., Hoffenberg, S. R., . . . & Welch, S. J. (2008). Emergency department crowding: High-impact solutions. Retrieved from American College of Emergency Physicians website: <http://www.acep.org/workarea/DownloadAsset.aspx?id=50026>
- Bellow, A. A., & Gillespie, G. L. (2013). The evolution of ED crowding. *Journal of Emergency Nursing*, 39(5), 428. doi:10.1016/j.jen.2013.01.013
- Bender, D., Pande, N., & Ludwig, M. (2008). A literature review: Psychiatric boarding. Washington, DC: U.S. Department of Health and Human Services. Retrieved from <http://aspe.hhs.gov/daltpl/reports2008/psyBdLR.pdf>

- Bender, D., Pande, N., & Ludwig, M. (2009). Psychiatric boarding interview summary. Washington, DC: U.S. Department of Health and Human Services. Retrieved from <http://aspe.hhs.gov/daltcp/reports/2009/PsyBdInt.pdf>
- Bernstein, S. L., Arnosky, D., Duseja, R., Epstein, S., Handel, D., Hwang, U., . . . Asplin, B. R., (2008). The effect of emergency department crowding on clinically oriented outcomes. *Academic Emergency Medicine, 16*, 1–10. doi:10.1111/j.1553.2712.2008.00295.x
- Boone, B., & Garrett, M. E. (2009). Psychiatric patients and the emergency department: Accidents waiting to happen? *ProAssurance, 2*. Retrieved from <http://www.proassurance.com/riskmanagement.news.aspx>
- Brown, J. F. (2007). A survey of emergency department psychiatric services. *General Hospital Psychiatry, 29*, 475-480. doi:10.1016/j.genhosppsy.2007.05.003
- Buckman, M. (2011). Community solutions to the surge of psychiatric patients in emergency departments. *Journal of Emergency Nursing, 37*, 266–268. Retrieved from <http://www.jenonline.org>
- Carter, E. J., Pouch, S. M., & Larson, E. L. (2014). The relationship between emergency department crowding and patient outcomes: A systematic review. *Journal of Nursing Scholarship, 46*, 106–115. doi:10.1111/jnu.12055
- Castaneda-Mendez, K. (1999). Performance measurement in health care. *Quality Digest*. Retrieved from http://www.qualitydigest.com/may99/html/body_health.html
- Centers for Disease Control and Prevention, Morbidity, and Mortality Weekly Report. (2011). Mental illness surveillance among adults in the United States. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/su6003a1.htm?s_cid

- Chalfin, D. B., Treciak, S., Likourezos, A., Baumann, B. M., & Dellinger, R. P. (2007). Impact of delayed transfer of critically ill patients for the emergency department to the intensive care unit. *Critical Care Medicine, 35*, 1477–1483.
doi:10.1097/01.CCM.0000266585.74905.5A
- Chang, G., Weiss, A., Kosowsky, J. M., Orav, E. J., Smallwood, J. A., & Rauch, S. L. (2012). Characteristics of adult psychiatric patients with stay of 24 hours or more in the emergency department. *Psychiatric Services, 63*, 283–286. Retrieved from <http://ps.psychiatryonline.org>
- Clarke, D. E., Hughes, L., Brown, A-M., & Motluk, L. (2005). Psychiatric emergency nurses in the emergency department: The success of thee Winnipeg, Canada, experience. *Journal of Emergency Nursing, 31*, 351–356. doi:10.1016/j.jen.2005.03.008
- Clark, K., & Normile, L. B. (2002). Delays in implementing admission orders for critical case patients associated with lengths of stay in emergency department in six mid-Atlantic states. *Journal of Emergency Nursing, 28*, 489–495. doi:10.1067/men.2002.128714
- Donabedian, A. (1988). The quality of care: How can it be assessed? *Journal of American Medical Association, 260*, 1743–1748. Retrieved from <http://jama.jamanetwork.com>
- Donatelli, N. S., Gregorowicz, J., & Somes, J. (2013). Extended stay of older adults results in poor patient outcomes. *Journal of Emergency Nursing, 39*, 268–272. Retrieved from <http://dx.doi.org/10.1016/j.jen.2013.02.005>
- Elverson, C.A., & Samra, H. A. (2012). Overview of structure, process and outcome indicators of quality in neonatal care. *Newborn and Infant Nursing Reviews, 12*, 154–161.
doi:10.1053/j.nainr.2012.06.002

Emergency Nurses Association. (2010). Emergency care psychiatric clinical framework.

Retrieved from <http://www.ena.org>

Emergency Nurses Association. (2014). Holding, crowding, and patient flow. Retrieved from

<http://www.ena.org>

Epling, J. (2008). First encounter: A psychiatric emergency program. *Journal of Emergency Nursing, 34*, 211–217. Retrieved from <http://www.jen.org>

Fee, C., Weber, E. J., Maak, C. A., & Bacchetti, P. (2007). Effects of emergency department crowding on time to antibiotics on patient admitted with community-acquired pneumonia. *Annals of Emergency Medicine, 50*, 501–509.

doi:10.1016/j.annemergmed.2007.08.003

Gardner, G., Gardner, A., & O'Connell, J. (2013). Using the Donabedian framework to examine the quality of safety of nursing service innovation. *Journal of Clinical Nursing, 23*, 145–155. doi:10.1111/jocn.12146

Geelhoed, G. C., & de Klerk, N. H. (2012). Emergency department overcrowding, mortality and the 4-hour rule in Western Australia. *Medical Journal of Australia, 196*, 122–126
doi:10.5694/mja11.11159

Glickman, S. W., Baggett, K. A., Krubert, C. G., Peterson, E. D., Schulman, K. A. (2007).

Promoting quality: The health-care organization from a management perspective.

International Journal of Quality Health Care, 19, 341–348. doi:10.1093/intghc/mzm047

Hazlett, S. B., McCarthy, M. L., Londner, M. S., & Onyike, C. U., (2004). Epidemiology of adult psychiatric visits to U.S. emergency departments. *Academic Emergency Medicine, 11*. 193–195. Retrieved from <http://www.aemj.org>

Hearld, L. R., Alexander, J. A., Fraser, I., & Jiang, H. J. (2008). How do hospital organizational structure and processes affect quality of care?: A critical review of research methods.

Medical Care Research Review, *65*, 259–299.

Heslop, L., Elsom, S., & Parker, N. (2000). Improving continuity of care across psychiatric and emergency services: Combining patient data within a participatory framework. *Journal of Advanced Nursing*, *31*, 135–143. Retrieved from <http://www.jadvnurs.org>

Hodgins, M. J., Moore, N., & Legere, L. (2011). Who is sleeping in our beds? Factors predicting the ED boarding of admitted patients for more than 2 hours. *Journal of Emergency Nursing*, *37*, 225–230. doi:10.1016/j.jen.2012.02.020

Hogan, M. F. (2003). The president's new Freedom Commission: Recommendations to transform mental health care in America. *Psychiatric Services*, *54*, 1467–1474. Retrieved from <http://ps.psychiatryonline.org>

Huang, Q., Thind, A., Dreyer, J. F., & Zaric, G. S. (2010). The impact of delays to admission from the emergency department on inpatient outcomes. *BMC Emergency Medicine*, *10*(16). doi:10.1186/1471-227X-10-16

Hwang, U., Richardson, L. D., Livote, E., Harris, B., Spencer, N., & Morrison, R. S. (2008). Emergency department crowding and decreased quality of pain care. *Academic Emergency Medicine*, *15*, 1248–1255. doi:10.1111/j1553-2712.2008.00267.x

Hwang, U., Richardson, L. D., Sonuyi, T. O., & Morrison, R. S. (2006). The effect of emergency department crowding on the management of pain in older adults with hip fractures. *Journal of American Geriatric Society*, *54*, 270–275.

doi:10.1111/j.1532.5415.2005.00587.x

Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: National Academy Press. Retrieved from

<http://www.nap.edu/book/0309072808/html>

Institute of Medicine. (2005). Institute of Medicine (US) committee on crossing the quality chasm: Improving the quality of health care for mental and substance-use conditions.

Retrieved from <http://www.ncbi.nlm.nih.gov/books/NBK19823?report=printable>

Institute of Medicine. (2006a). *Future of emergency care: Hospital-based emergency care at the breaking point*. Washington, DC: National Academies Press. Retrieved from National

Center for Biotechnology Information website: <http://www.nap.edu/catalog/11621.html>

Institute of Medicine. (2006b). *Hospital-based emergency care: At the breaking point*. Retrieved from National Academies Press website: <http://www.nap.edu/catalog/11621.html>

Jayarman, G., & Triplett, P. (2008). Quality improvement of psychiatric care: Challenges in emergency psychiatry. *American Journal of Psychiatry*, *165*, 1256–1260.

doi:10.1176/appi.ajp.2008.08040556

Johnson, K. D., & Winkelman, C. (2011). The effects of emergency department crowding on patient outcomes: A literature review. *Advances Emergency Nursing Journal*, *33*, 39–54.

doi:10.1097/TME.0b013e318207e86a

Kee, C. C., Foley, B. J., Dudley, W. N., Jennings, B. M., Minick, P., & Harvey, S. S. (2005). Nursing structure, processes and patient outcomes in army medical centers. *Western Journal of Nursing Research*, *27*, 1040–1058. Retrieved from

<http://www.wjn.sagepub.com>

Kellar, S. P., & Kelvin, E. A., (2013). *Munor's statistical methods for healthcare research* (6th ed.). Philadelphia, PA: Lippincott.

- Kobayashi, H., & Takemura, Y. (2010). Patient perception of nursing service quality: An applied model of Donabedian's structure-process-outcome approach theory. *Scandinavian Journal of Caring Science*, 25, 419–425. doi:10.1111/j.1471-6712.2010.00836x
- Koyanagi, C. (2007). Learning from history: Deinstitutionalization of people with mental illness as precursor to long-term care reform. Retrieved from the Henry J. Kaiser Family Foundation website: <http://www.kff.org>
- Kramer, M., & Schmalenberg, C. E. (2005). Best quality patient care: A historical perspective on magnet hospitals. *Nursing Administration Quarterly*, 29, 275–287.
- Lateef, F. (2011). Patient expectations and the paradigm shift of care in emergency medicine. *Journal of Emergencies, Trauma, and Shock*, 4, 163–167. doi:10.4103/0974-2700.82199
- Lewis, C., & Sierzega, G., & Haines, D. (2005). The creation of a behavioral health unit part of the emergency department: One community hospital's two-year experience. *Journal of Emergency Nursing*, 3, 548–554. doi:10.1016/j.jen.2005.09.021
- Liu, S. W., Singer, S. J., Sun, B. C., & Camargo, C.A. (2011). A conceptual model for assessing quality of care for patients boarding in the emergency department: Structure-process-outcome. *Academic Emergency Medicine*, 18, 430-435. doi:10.1111/j.1553-2712.2011.01033.x
- Liu, S. W., Chang, Y., Camargo, C. A., Weissman, J. S., Walsh, K., Schuur, J. D., . . . Singer, S. J. (2014). A mixed-methods study of the quality of care provided to patients boarding in the emergency department: Comparing emergency department and inpatient responsibility models. *Medical Care Research and Review*, 69, 679–698. Retrieved from <http://www.sagepub.com/journalsPermissions.nav>

Luken, T. W., Wolf, S. J., Edlow, J. A., Shahabuddin, S., Allen, M. H., Currier, G. W., &

Jagoda, A. S. (2006). Clinical policy: Critical issues in the diagnosis and management of the adult psychiatric patient in the emergency department. *Annals of Emergency Medicine, 47*, 79–99. doi:10.1016/j.annemergmed.2005.10.002

Manton, A. (2010). Psychiatric patients in the emergency department: The dilemma of extended lengths of stay. Retrieved from American Psychiatric Nurses Association website: <http://www.apna.org/i4a/pages/index.cfm?pageid=4282>

Manton, A. (2013). Care of the psychiatric patient in the emergency department. Retrieved from Emergency Nurses Association website: <http://ena.org/practice-research/Document/WhitePaperCareorPsych.pdf>

McHugh, M., Van Dyke, K., McClelland, M., & Moss, D. (2011). *Improving patient flow and reducing emergency department crowding: A guide for hospitals*. Washington, DC: Government Printing Office. Retrieved from Agency for Healthcare Research and Quality website: <http://www.ahrq.gov>

Mills, A. M., Shofer, F. S., Chen, E. H., Hollander, J. E., & Pines, J. M. (2009). The association between emergency department crowding and analgesia administration in acute abdominal pain. *Academic Emergency Medicine, 15*, 603–608. doi:10.1111/j.1553-2712.2009.00441.x

Misek, R., DeBarba, A., & Brill, A. (2014). *Predictors of psychiatric boarding in the emergency department* (Unpublished graduate paper). Midwestern University, Downers Grove, IL.

Mitchell, P. H., Ferketich, S., & Jennings, B. M. (1998). Quality health outcomes model. *Journal of Nursing Scholarship, 30*, 43–46. Retrieved from <http://www.jnsch.org>

National Institute of Clinical Excellence. (2002). Principles for best practice in clinical audit.

Retrieved from http://www.uhbristol.nhs.uk/...best_practice_clinical_audit/html

Nicks, A., & Manthey, D. M. (2012). The impact of psychiatric patient boarding in emergency departments. *Emergency Medicine International*, 2012, 1–5. doi:10.1155/2012/360308

Nolan, J. M., Fee, C., Cooper, B. A., Rankin, S. H., & Blegen, M. A. (in press). Psychiatric boarding incidence, duration, and associated factors in United States emergency departments. *Journal of Emergency Nursing*. doi:10.1016/j.jen.2014.05.004

Pines, J. M., Batt, R. J., Hilton, J. A., & Terwiesch, C. (2011). The financial consequences of lost demand and reducing boarding in hospital emergency departments. *Annals of Emergency Medicine*, 58, 331–340. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/21514004>

Pines, J. M., & Hollander, J. E. (2008). Emergency department crowding is associated with poor care of patients with severe pain. *Annals of Emergency Medicine*, 51, 1–5. doi:10.1016/j.annemergmed.2007.07.008

Pines, J. M., Hollander, J. E., Localio, R., & Metlay, J. P. (2006). The association between emergency department crowding and hospital performance on antibiotic timing for pneumonia and percutaneous intervention for myocardial infarction. *Academic Emergency Medicine*, 13, 873–878. doi:10.1197/j.aem.2006.03.568

Pines, J. M., Localio, A. R., Hollander, J. E., Baxt, W. G., Lee, H., Phillips, C., & Metlay, J. P. (2007). The impact of emergency department crowding measures on time to antibiotic for patients with community-acquired pneumonia. *Annals of Emergency Medicine*, 50, 510–516. doi:10.1016/j.annemergmed.2007.07.021

Pines, J. M., Pollack, C. V., Diercks, D. B., Change, A. M., Shofer, F. S. & Hollander, J. E. (2009). The association between emergency department crowding and adverse

- cardiovascular outcomes in patients with chest pain. *Academic Emergency Medicine*, *16*, 617–625. doi:10.1111/j.1553-2712.2009.00456.x
- Pines, J. M., Shofer, F. S., Isserman, J. A., Abbuhl, S. B., & Mills, A. M. (2010). The effect of emergency department crowding on analgesia in patients with back pain in two hospitals. *Academic Emergency Medicine*, *17*, 276–283. doi:10.1111/j.1553-2712.2009.00676.x
- Randolph, J. J. (2009). A guide to writing the dissertation literature review. *Practical Assessment, Research, and Evaluation*, *14*(13), 1–13. Retrieved from <http://www.pareonline.net>
- Richardson, D. B. (2006). Increase in patient mortality at 10 days associated with emergency department overcrowding. *Medical Journal of Australia*, *184*, 213–216. Retrieved from <http://www.mja.au>
- Singer, A. J., Thode, H. C., Viccellio, P., & Pines, J. M. (2011). The association between length of emergency department boarding and mortality. *Academic Emergency Medicine*, *18*, 1324–1329. doi:10.1111/j.1553.2712.2011.01236.x
- Shull, M. J., Vermeulen, M., Slaughter, G., Morrison, L., & Daly, P. (2004). Emergency department crowding and thrombolysis delays in acute myocardial infarction. *Annals of Emergency Medicine*, *44*, 577–586. doi:10.1016/j.annemergmed.2004.05.004
- Slade, E. P., Dixon, L. B., & Semmel, S. (2010). Trends in the duration of emergency department visits, 2001–2006. *Psychiatric Services*, *61*, 878–884. Retrieved from <http://www.ps.psychiatryonline.org>
- Slade, M., Taber, D., Johnson, C., Kapoor, D., Leikin, J. B., Naylor, M., . . . Clark, M. M. (2007). Best practices for the treatment of mental health and substance use illness in the

emergency department. *Disease-a-Month*, 53, 536–580.

doi:10.1016/j.disamonth.2007.10.001

Sprivulis, P. C., DaSilva, J.-A., Jacobs, I. G., Frazer, A. R. L., & Jelinek, G. A. (2006). The association between hospital overcrowding and mortality among patients admitted via Western Australian emergency department. *Medical Journal of Australia*, 184, 208–212. Retrieved from <http://www.mja.au>

Stefan, S. (2005). Standards for emergency department treatment of individuals with psychiatric disabilities. Retrieved from American College of Emergency Physicians website: <http://www.lawv.net>

Sun, B. C., Hsia, R. Y., Weiss, R. E., Zingmond, D., Liang, L.-J., Han, W., . . . Asch, S. M. (2012). Effects of emergency department crowding on outcomes of admitted patients. *Annals of Emergency Medicine*, 61(6), 605–611. doi:10.1016/j.annemergmed.2012.10.026

Scpakpawicz, M., & Herd, A. (2007). “Medically cleared”: How well are patients with psychiatric presentations examined by emergency physicians. *The Journal of Emergency Medicine*, 35, 369–372. doi:10.1016/j.jemermed.2007.11082

Terry, A. J. (2012). *Clinical research for the Doctor of Nursing practice*. Sudbury, MA: Jones & Bartlett Learning.

The Joint Commission. (2012). New and revised requirements for patient flow through the ED. *Joint Commission Perspective*, 32. Retrieved from <http://www.joint commission.org>

The Joint Commission. (2013). The “patient flow standard” and the 4-hour recommendation. *Joint Commission Perspective*, 33. Retrieved from <http://www.joint commission.org>

- Torrey, E. F., Fuller, D. A., Geller, J., Jacobs, C., & Ragosta, K. (2012). No room at the inn: Trends and consequences of closing public psychiatric hospitals. Retrieved from <http://www.TACReports.org/bedstudy>
- Tuttle, G. A. (2008). Access to psychiatric beds and impact on emergency medicine. Retrieved from AMA Division of Socioeconomic Policy Development website: <http://aspe.hhs.gov/daltp/reports2008>
- U.S. Department of Health and Human Services. (2010). Report from 2010 national survey on drug use and mental health: Mental health findings. Retrieved from Substance Abuse and Mental Health Services Administration website: <http://www.samba.gov/data/nsduh/2k8nsdy=uh/2k8results.pdf>
- U.S. National Archives and Record Administration. (2003). Medicare program: Clarifying policies related to the responsibilities of Medicare-participating hospitals treating individuals with emergency medical conditions (EMTALA). *Federal Register*, 68(174). Retrieved from <http://www.federalregister.gov>
- U.S. Department of Health and Human Services. (2011). *National healthcare disparities report 2011*. (AHRQ Publication No. 12-0006). Retrieved from Agency for Healthcare Research website: <http://www.ahrq.gov/qual/qrd11.htm>
- Walker-Cillo, G., Jones, C., & McCoy, E. (2008). Psychiatric nurse: A role in overcrowding. *Journal of Emergency Nursing*, 34, 455–457. doi:10.1016/j.jen.2008.05.007
- Walker, Z., & Schenkel, S. (2006). Strategies for handling the psychiatric patient population. Maryland Office of Public Safety. Retrieved from <http://www.md.gov>
- Weiss, A. P., Chang, G., Rauch, S. L., Smallwood, J. A., Schechter, M., Kosowsky, J., . . . Orav, E. J. (2012). Patient-and practice related determinants of emergency department lengths

- of stay for patients with psychiatric illness. *Annals of Emergency Medicine*, 60, 162–171e5. doi:10.1016/j.emergmed.2012.01.1037
- Weithorn, L. A. (2005). Envisioning second-order change in America's responses to troubled and troublesome youth. *Hofstra Law Review*, 33, 1307–1505. Retrieved from <http://heinonline.org>
- White, A. (2010). An evidenced-based clinical guidelines for initial management of behavioral Emergencies. *Journal of Emergency Nursing*, 5, 450-454. doi:10/1016/j.jen.2008.12.012
- Wilson, B. L., & Blegen, M. (2010). Labor and delivery nurse staffing as a cost-effective safety intervention. *Journal of Perinatal and Neonatal Nursing*, 24, 312–319. Retrieved from <http://www.jpnn/wkh.html>
- Winokur, E. J., & Senteno, J. M. (2009). Guesting area: An alternative for boarding mental health patients seen in emergency department. *Journal of Emergency Nursing*, 35, 429–433. Retrieved from <http://www.jen.org>
- Wolff, A. (2008). Development of psychiatric stabilization unit. *Journal of Emergency Nursing*, 34, 458–459. doi:10.1016/j.jen.2008.05.008
- Woo, B. K. P., Chan, V. T., Ghobrial, N., & Sevilla, C. C. (2007). Comparison of two models for delivery of services in psychiatric emergencies. *General Hospital Psychiatry*, 29, 489–491. doi:10.1016/j.genhosppsy.2007.07.004
- Wright, E. R., Linde, B., Rau, L., Gayman, M., & Viggiano, T. (2003). The effect of organizational climate on the clinical care of patients with mental health problems. *Journal of Emergency Nursing*, 29, 314–329. doi:10.1067/men.2003.103

- Zeller, S. L. (2010). Treatment of psychiatric patients in emergency settings. *Primary Psychiatry*, *17*, 35–41. Retrieved from <http://www.primarypsychiatry.com/asp/articleDetail.aspx?articleid=2675>
- Zeller, S. L. (2011, January 17). Emergency treatment of acute psychiatric symptoms. *Psychiatry Weekly*, *6*, 1–4. Retrieved from <http://www.psychweekly.com>
- Zeller, S., Calma, N., & Stone, A. (2013). Effects of a dedicated regional psychiatric emergency service on boarding of psychiatric patient in area emergency departments. *Western Journal of Emergency Medicine*, *15*(1), 1–6. doi: 10.5811/westjem.2013.6.17848
- Zun, L. S. (2004). Evidenced-based treatment of psychiatric patient. *Journal of Emergency Medicine*, *28*, 277–283. doi:10.1016/j.jemermed.2004.05.011
- Zun, L. S. (2012). Pitfalls in the care of the psychiatric patient in the emergency department. *Journal of Emergency Medicine*, *43*, 829–835. Retrieved from <http://www.medscape.com>

Table 1

Patient Demographics

Demographic	Psychiatric patients		Non-psychiatric patients	
	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)
Age		41.69 (13.3)		53.98 (17.5)
15–17	1 (1%)		0 (0%)	
18–39	43 (43%)		25 (25%)	
40–59	49 (49%)		35 (35%)	
60–79	5 (5%)		33 (33%)	
80+	1 (1%)		7 (7%)	
Gender				
Female	27 (27%)		60 (60%)	
Male	73 (73%)		40 (40%)	

Table 2

Summary of Presenting Complaints of Psychiatric and Non-psychiatric Patients

Presenting complaint	Psychiatric patients		Non-psychiatric patients		Totals	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Suicidal	24	12.0%	0	0.0%	24	12.0%
Homicidal	9	4.5%	0	0.0%	9	4.5%
Psychiatric–other	67	33.5%	0	0.0%	67	33.5%
Cardiac	0	0.0%	41	20.5%	41	20.5%
Endocrinal	0	0.0%	4	2.0%	4	2.0%
Respiratory	0	0.0%	17	8.5%	17	8.5%
Renal	0	0.0%	3	1.5%	3	1.5%
Genitourinary/gynecological	0	0.0%	1	0.5%	1	0.5%
Neurological	0	0.0%	15	7.5%	15	7.5%
Musculoskeletal	0	0.0%	19	9.5%	19	9.5%
Total	100	50.0%	100	50.0%	200	100.0%

Table 3

Summary of Comorbid Disease Processes for Psychiatric and Non-psychiatric Patients

Comorbidities	Psychiatric patients		Non-psychiatric patients		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Cardiac	0	3.0%	10	5.0%	16	8.0%
Endocrine	0	0.5%	0	8.0%	1	0.5%
Respiratory	0	1.5%	8	0.5%	11	5.5%
Renal	0	0.0%	1	0.5%	1	0.0%
Genitourinary/gynecological	0	0.5%	1	0.5%	2	1.0%
Neurological	0	2.5%	6	3.0%	11	5.5%
Musculoskeletal	0	0.0%	5	2.5%	5	2.5%
Multiple comorbidities	28	14.0%	41	20.5%	69	34.5%
Psychological	21	10.5%	0	0.0%	21	10.5%
None	35	17.5%	28	14.0%	63	31.5%
Total	100	50.0%	100	50.0%	200	100.0%

Table 4

Initial Assessment

Assessment	Psychiatric patients		Non-psychiatric patients		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Yes	93	46.5%	94	47.0%	187	93.5%
No	7	3.5%	5	2.5%	12	6.0%
N/A	0	0.0%	1	1.0%	1	0.5%
Total	100	50.0%	100	50.0%	200	100.0%

Table 5

Hourly Reassessment

Hourly reassessment	Psychiatric patients		Non-psychiatric patients		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Yes	67	33.5%	43	21.5%	110	55.0%
No	27	13.5%	54	27.0%	81	41.8%
N/A	6	3.0%	3	1.5%	9	1.5%
Total	100	50.0%	100	50.0%	200	100.0%

Table 6

Length of Stay in Hours for Psychiatric and Non-psychiatric Patients

Patient type	<i>N</i>	<i>M</i>	<i>SD</i>
Psychiatric patients	100	12.3	14.3
Non-psychiatric patients	100	6.7	5.1

Table 7

Psychiatric and Non-psychiatric Patient Discharges, Transfers, and Admissions

Action	Psychiatric patients		Non-psychiatric patients		Totals	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Discharged to home care	76	76.0%	46	46.0%	122	61.0%
Transferred to ERF	16	16.0%	0	0.0%	16	8.0%
Admitted to inpatient bed	8	8.0%	54	54.0%	62	31.0%
Total	100	100.0%	100	100.0%	200	100.0%

Table 8

Impact of Initial Assessment on Length of Stay of Psychiatric and Non-psychiatric Patients

Patient type	System assessment is documented	Hours of stay		
		<i>n</i>	<i>M</i>	<i>SD</i>
Psychiatric patients	Yes	93	12.3	14.6
	No	7	8.4	12.5
	N/A	0	0.0	0.0
	Total	100	12.4	14.5
Non-psychiatric patients	Yes	94	6.9	5.1
	No	5	4.1	3.3
	N/A	1	2.0	0.0
	Total	100	6.7	5.1
Total	Yes	187	9.8	11.3
	No	12	9.9	9.8
	N/A	1	2.0	0.0
	Total	200	9.6	11.2

Table 9

Impact of Hourly Reassessment on Length of Stay of Psychiatric and Non-psychiatric Patients

Patient type	Hourly reassessment	Hours of stay		
		<i>n</i>	<i>M</i>	<i>SD</i>
Psychiatric patients	Yes	67	14.3	16.6
	No	27	9.7	7.8
	N/A	0 ^a	0.0	0.0
	Total	94	13.0	14.7
Non-psychiatric patients	Yes	43	6.9	5.0
	No	54	6.9	6.2
	N/A	3 ^b	1.1	0.7
	Total	100	6.7	5.1
Total	Yes	110	11.4	13.8
	No	81	7.8	6.2
	N/A	3 ^b	1.1	0.7
	Total	194	9.8	11.3

Note. ^aOne psychiatric patient left the department prior to the assessment. ^aData for an additional five patients are missing. ^bThree non-psychiatric patients signed out against medical recommendation after initial assessment.

Table 10

Impact of Hourly Reassessment on Length of Stay Prior to Discharge, Transfer to ERF or Admittance to Inpatient Facility Bed

Outcome location	Patient type	Hourly reassessment	<i>M</i>	<i>n</i>	<i>SD</i>
Discharge to home	Psychiatric patients	Yes	11.3	47	14.0
		No	7.5	22	3.5
		N/A	0.0	0	0.0
		Total	10.2	69	11.4
	Non-psychiatric patients	Yes	6.2	20	2.4
		No	6.1	23	5.6
		N/A	1.0	3	0.4
		Total	5.5	46	4.1
Transfer to ERF	Psychiatric patients	Yes	27.0	14	21.5
		No	18.4	3	15.4
		N/A	0.0	0	0.0
		Total	25.3	17	20.4
Admitted inpatient facility bed	Psychiatric patients	Yes	6.2	6	2.3
		No	8.0	1	---
		N/A	0.0	0	0.0
		Total	6.4	7	2.2
	Non-psychiatric patients	Yes	7.2	22	6.3
		No	7.3	31	5.5
		Total	7.3	53	5.4
		Missing data	Psychiatric patients	No	1.3
Total	1.3			1	---
Total	Psychiatric patients	Yes	14.2	67	16.3
		No	8.4	27	6.2
		N/A	0.0	0	0.0
		Total	12.4	94	14.3
	Non-psychiatric patients	Yes	6.5	42	5.0
		No	6.5	54	5.1
		N/A	1.0	3	0.4
		Total	6.4	99	5.0

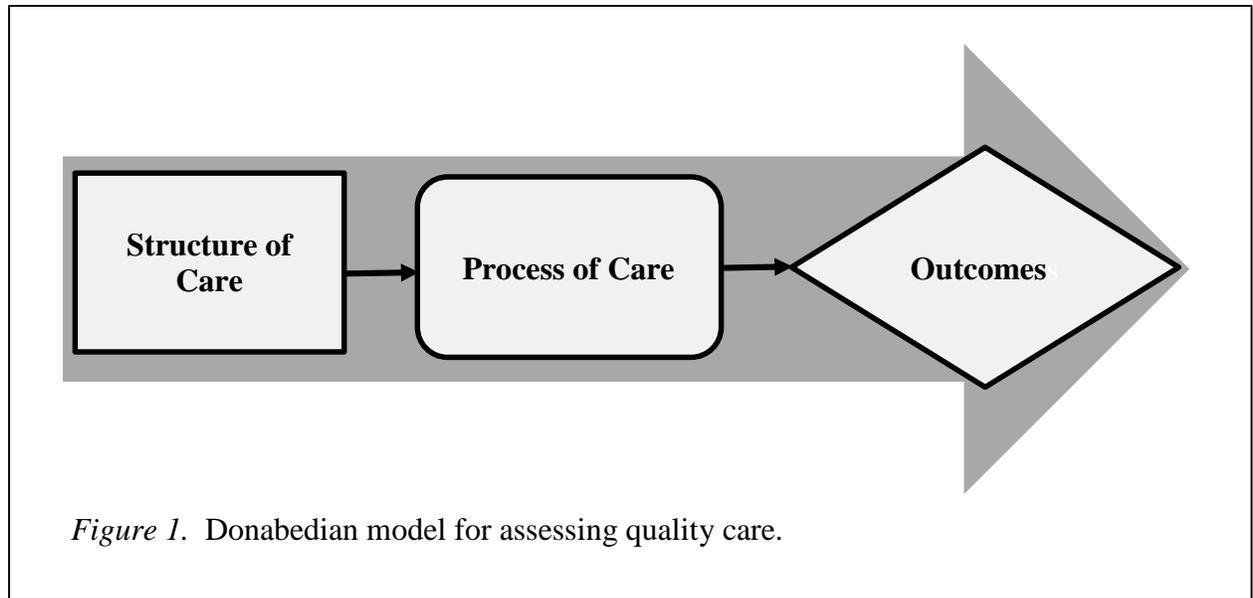


Figure 1. Donabedian model for assessing quality care.

