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BOARDING PATIENTS WHO REQUIRE INVOLUNTARY MENTAL HEALTH EXAMINATIONS IN FLORIDA

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BY

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DISSERTATION

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DEDICATION

I dedicate this manuscript to my husband, Mark Brennaman. It was only through your confidence and perpetual support that I was able to begin and complete this academic journey. Good fortune and adversity have both appeared in our lives together over the past 36 years, but achieving this goal was only possible because you made it so.

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ABSTRACT

This study addressed the gaps in knowledge about psychiatric boarding with the aims of (a) determining the extent of psychiatric boarding in Florida hospitals for individuals meeting criteria for involuntary psychiatric examination and (b) explaining what health services system resources and individual patient determinants contribute to psychiatric boarding.

Individuals who go to general hospital emergency departments (EDs) in need of involuntary mental health examinations sometimes must wait in EDs for admission to inpatient units because of the critical shortage of inpatient or crisis mental health services. The process of keeping patients in the ED who are waiting 4 hours or longer for admission to inpatient psychiatric facilities is called *psychiatric boarding.* Average boarding times in the limited studies about psychiatric boarding range from 24 hours to several days. These time frames all exceed the statutory maximum of 12 hours allowed by the Florida Mental Health Act. None of the published research about psychiatric

boarding focused on individuals needing care under an involuntary status. The conceptual framework for this study was the health services utilization model.

The first stage of the study identified hospitals for study site recruitment by examining a statewide individual visit level data set to identify hospitals in Florida with EDs that routinely have high numbers of patients who are transferred to psychiatric hospitals. Following a pilot of data collection procedures, in the second stage of the study, data collectors at the two study sites retrospectively reviewed the electronic health records (EHRs) of 85 randomly selected participants (total participants $N = 170$) who were ED patients requiring involuntary mental health examinations. Data collectors submitted deidentified participant clinical and demographic information to the primary investigator. Ninety percent of the participants in this study experienced psychiatric boarding. Nearly one-half of participants boarded longer than the 12-hour maximum allowed by Florida law. Two of every 11 participants waited longer than 24 hours before gaining access to a receiving facility authorized to perform the involuntary mental health examination. The study identified that some health services system factors contributed to the problem, but the specific factors remain unclear. The individual determinants found to be significantly associated with frequent and longer boarding were being male, increased age, being a Medicare beneficiary, not requiring medical treatments to stabilize an emergency medical condition, and being intoxicated. The information this study presented can assist state mental health policy makers in Florida to direct future research to enable the most appropriate allocation of limited mental health resources to provide appropriate receiving facility services across Florida.

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Introduction to the Problem and Overview of the Study

Background of the Problem

When individuals experience mental health crises, they often rely on hospital emergency departments (EDs) to initiate their mental health care (Cunningham, McKenzie, & Taylor, 2006). These crises sometimes are mental health emergencies that require specialized inpatient mental health intervention to maintain the individual's safety and promote his or her recovery (Brennaman, 2012). If individuals experiencing such a situation may harm themselves or others, and/or they are self-neglectful and unable or unwilling to voluntarily consent to treatment, and/or they are not competent to consent to treatment, they may require short-term involuntary evaluation or hospitalization (Appelbaum, 1992). In this instance, the ED must arrange the involuntary evaluation in an appropriate setting.

In 1971, the Florida legislature originally enacted the Florida Mental Health Act, also known as the Baker Act, with the intent of ensuring justice and protecting individuals' civil rights; the legislature has amended the Baker Act frequently. It currently allows only facilities designated by the state to perform short-term involuntary examinations. These settings, termed *receiving facilities*, may be crisis stabilization units (CSUs) in community mental health centers, specialty psychiatric hospitals, or general hospitals that provide psychiatric services (Florida Mental Health Act, 2009a). There are 117 designated receiving facilities in Florida. Nearly half (n = 55, or 47%) are located in six counties that account for 45.6% of Florida's population: Broward, Dade, Duval, Hillsborough, Palm Beach, and Pinellas (DCF, 2014a). There are 220 acute care

hospitals with emergency departments; 51 of these hospitals have Florida Department of Children and Families (DCF)-designated Baker Act receiving facilities (Florida Agency for Health Care Administration, 2011).

Individuals who go to the ED and who need involuntary mental health examinations must wait in EDs for admission to inpatient units because of the critical shortage of inpatient or crisis mental health services. When hospital personnel cannot locate available psychiatry services, in some cases hospitals may choose to admit these individuals to inpatient medical services. Prolonged individual suffering, lessened opportunities for positive long-term outcomes, and deprivation of liberty are direct results of delayed inpatient mental health care for individuals in acute need (Kelly, Dunbar, Gray, & O'Reilly, 2002). A delay in psychiatric service is associated with a significant increase in the duration of the subsequent hospitalization (Kishi, Meller, Kathol, & Swigart, 2004).

Extended length of stay visits for ED patients with psychiatric illnesses have been a well-documented phenomenon. The process of holding patients who have been directed for admission by a practitioner in the ED for extended periods of time is commonly called *boarding,* a term frequently used in acute care hospitals (American College of Emergency Physicians [ACEP], n.d.; The Joint Commission [TJC], 2011; Welch et al., n.d.). This phenomenon occurs with patients of all ages presenting with all types of illnesses. People who are admitted for mental health disorders and who wait 4 or more hours for appropriate psychiatric inpatient services are termed *psychiatric boarders* when they wait in the ED or on a medical inpatient unit (Mansbach, Wharff, Austin, Ginnis, & Woods, 2003).

Statement of the Research Problem

Anecdotal reports indicate that many individuals who seek mental health services in EDs are often not evaluated in a receiving facility within the maximum time period required by the Baker Act (Christy, 2008), or they may be kept longer than the allowed time period either in the ED or on a medical unit. The purpose of this study was to provide data related to boarding practices of individuals who require involuntary mental health examinations in the state of Florida. Collection and analysis of such data are foundational to identifying the need for potential changes in policies that affect individuals requiring emergency mental health services.

Context for the Study

There are 220 hospitals with EDs in Florida that the federal government mandates by the Emergency Medical Treatment and Active Labor Act (EMTALA) to provide medical screening evaluations for all people coming to the hospital with possible emergency medical conditions. Only 58 of these acute care hospitals offer inpatient psychiatric services. The DCF is the state-designated agency that administers mental health programs. DCF currently designates 51 of these hospitals with inpatient psychiatric units as Baker Act receiving facilities. The remaining seven hospitals in Florida that provide inpatient psychiatric services are not Baker Act receiving facilities. This study focused on the 77% (n = 169) of Florida acute care hospitals that do not have designated receiving facilities and that are at risk for delaying transfer of people needing involuntary examination to designated receiving facilities due to boarding. It is beyond the scope of this study to explore reasons why receiving facilities are unable to accept transfer requests from acute care hospitals. It is worth noting, however, that receiving

facilities may not turn away anyone brought by a law enforcement officer to a receiving facility for an involuntary examination, regardless of the current occupancy or facility's capacity. This requirement does not extend to mandating that receiving facilities accept patients already at a health care facility, such as hospital EDs (Florida Mental Health Act, 2009a). Table 1 displays types of facilities where individuals needing involuntary examinations may be present and the facilities' obligations under the Florida Mental Health Act and federal EMTALA. The current statewide capacity for CSU beds is at 64% (n = 1,252) of the targeted capacity of 10 beds per 100,000 residents, or 1,955 beds ("Public Mental Health Crisis Stabilization Units," 2012; Florida Agency for Health Care Administration, 2014). This deficit may contribute to psychiatric boarding.

EDs are ill equipped to provide mental health services beyond medication for the prolonged periods of boarding reported (Bender, Pande, & Ludwig, 2009). Average boarding times in the limited studies of psychiatric boarding range from 24 hours to several days (Alakeson, Pande, & Ludwig, 2010; Mansbach et al., 2003; Tuttle, 2008). These time frames all exceed the Baker Act's statutory maximum of 12 hours for transfer to a designated receiving facility (Florida Mental Health Act, 2009b). This leads to questions about the existence of boarding delays for those awaiting involuntary examination who do not meet statutory criteria. Extended delays to appropriate services also raise questions about potential injustices and inequities in mental health service access (Kelly et al., 2002).

This study addressed the gaps in knowledge about the process known as *boarding* (ACEP, n.d.; Welch et al., n.d.), which delays access to involuntary examination for

Table 1
Facilities' Obligations to Care for Individuals Who Require Involuntary Examinations for Mental Illnesses

	Receiving facility		
	Non–acute care (*n* = 66)	Acute care (*n* = 51)	Non–receiving facility: acute care (*n* = 169)
Florida Mental Health Act obligation to accept people requiring involuntary examination	Must accept all people requiring involuntary examination brought by law enforcement	Must accept all people requiring involuntary examination	May provide medical care for EMC, prior to transfer to designated receiving facility
EMTALA obligation to accept people requiring involuntary examination	Specialty hospital that participates in Medicare program has an obligation to accept transfer from non–receiving facility for person with EMC if has capacity to treat	Must accept all people requiring MSE for possible EMC	Must accept all people requiring MSE for possible EMC

Note. Six receiving facilities are Veterans Administration hospitals that accept eligible veterans for involuntary examination. They are not included in this table. EMC = emergency medical condition; EMTALA = Emergency Medical Treatment and Active Labor Act; MSE = Medical Screening Examination.

people in the 169 acute care hospital EDs in Florida that are not receiving facilities. The Florida Mental Health Act (2006) allows 72 hours from initiation of the Baker Act for a designated receiving facility to complete an involuntary examination. If the hospital staff is treating the person for an emergency medical condition, however, the 72-hour period ceases when a physician documents that the patient has an emergency medical condition and begins again when the emergency medical condition is stable. When the hospital attending physician documents that a patient's medical condition is stable, the hospital must notify a designated receiving facility within 2 hours of the patient's need for transfer and involuntary examination. The transfer to a designated receiving facility must occur within 12 hours of stabilization of the emergency medical condition (Florida Mental Health Act, 2009b).

In summary, there are three critical time frames, as depicted in Figure 1, related to the requirements of the Baker Act. The hospital must notify a Baker Act receiving facility of the need for services within 2 hours of patient arrival at the hospital. The hospital has 12 hours to transfer and facilitate the patient examination at a Baker Act receiving facility. The 2-hour and 12-hour periods begin at the time the patient becomes medically stable for transfer to the receiving facility. The receiving facility has 72 hours to complete the emergency mental health examination following initiation of the Baker Act, excluding the time the patient is receiving medical care to stabilize a medical emergency. See Figure 2 for a detailed diagram of this process.

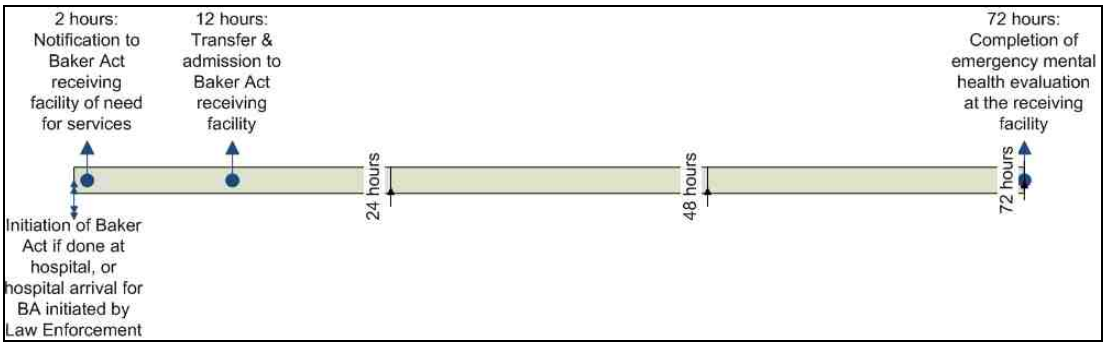

Figure 1. Baker Act timeline.

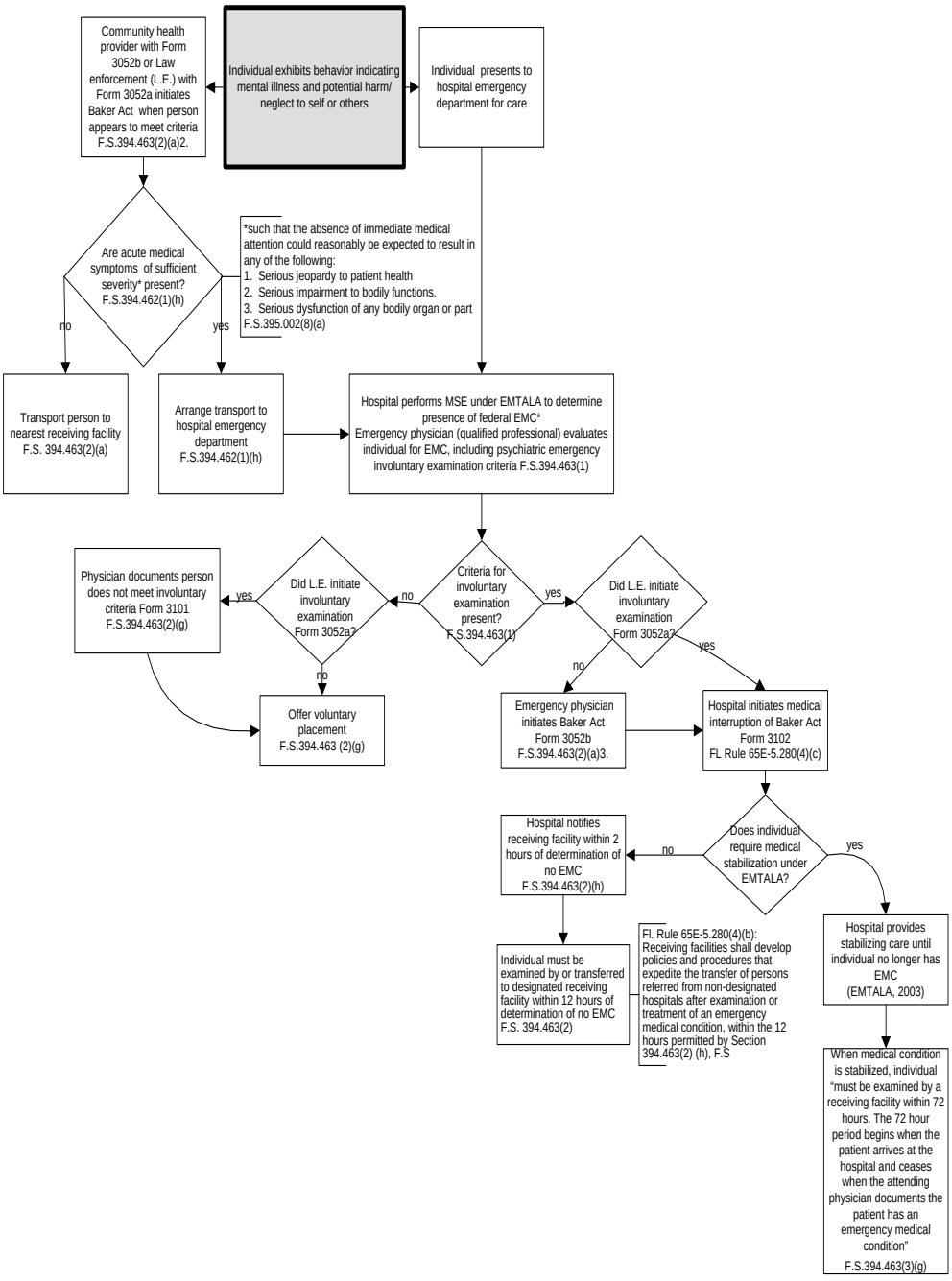

Figure 2. Process for individuals requiring involuntary examinations who present to hospital EDs requiring stabilization of an emergency medical condition (Florida Mental Health Act, 2009b; Mental Health Regulation—Involuntary Examination, 2007).

Purpose and Aims of the Study

The purpose of this observational, exploratory research study was to determine the extent of psychiatric boarding occurrences in Florida hospitals for people meeting criteria for involuntary psychiatric examination. Psychiatric boarding occurs when practitioners in EDs cannot locate an inpatient facility with capacity to admit the patient in a timely manner. Florida allows short-term involuntary examinations to take place only at state-designated receiving facilities. It is therefore important to understand the frequency of boarding and disparities of delayed access and psychiatric boarding associated with this requirement.

This study also aimed to describe how hospital EDs, community resources, and patient characteristics relate to longer waits for transfer to Baker Act receiving facilities in Florida. Having identified the scope of psychiatric boarding, discussion can begin to create policy solutions to reduce or eliminate the occurrences. Identification of specific health service system factors and patient factors that contribute to the likelihood of extended patient boarding will enable state and county mental health policy makers to allocate resources and institute interventions, thus reducing occurrences of boarding for members of this vulnerable patient population.

Research Questions

To address the aims, this study asked the following research questions:

1. To what extent does psychiatric boarding in acute care hospitals for individuals needing involuntary examinations occur in Florida?

2. What individual, societal, and structural factors influence occurrences of ED boarding for individuals requiring involuntary mental health examinations in Florida?

Significance of the Study

The literature demonstrates that psychiatric boarding is a significant and growing problem. The number of available beds in Florida Baker Act receiving facilities is generally less than the number of patients needing beds. One type of facility that may be designated as a receiving facility is a CSU as a part of a community mental health center. The Florida Administrative Code ("Public Mental Health Crisis Stabilization Units," 2012) recommends CSU bed capacity rates at 10 per 100,000 people. Based on this target ratio, the 2014 CSU bed capacity of 1,252 beds renders the state short 703 CSU beds in designated receiving facilities (Florida Agency for Health Care Administration, 2014). Patients requiring emergency psychiatric examination under the Baker Act may wait as boarders in the ED, or the hospital may admit them to medical units in the hospital where staff may be unprepared or inexperienced in caring for people with mental illnesses (Mansbach et al., 2003).

Boarding patients with psychiatric needs in the ED for an extended time negatively affects patient safety and increases liability risk. Patients who board in the ED with mental illness generally wait anywhere there is space available in the ED, frequently on stretchers in hallways that are frenzied and disquieting (Bender et al., 2009). Extended length of stay in chaotic ED environments for patients with a mental health crisis compromises their safety and the safety of other patients and staff through

increased risks of patient anxiety, distress, and hyperarousal (Hickey, Hawton, Fagg, & Weitzel, 2001; Nicks & Manthey, 2012; Park et al., 2009).

Florida currently has the second highest proportion of nonelderly adults without health insurance in the United States, at 29% (Kaiser Health News, 2014). The alignment of statutory requirements for transferring patients for involuntary psychiatric examination with the high proportion of uninsured people in Florida creates a risk of boarding occurring at higher rates and for longer periods in Florida than in other states without these requirements and circumstances. The study fills this gap by documenting and quantifying that psychiatric boarding occurs in Florida. Furthermore, it identified characteristics of regions in the state where patients may be at higher risk of experiencing boarding because of varying health service system resources, such as proximities of receiving facilities to EDs. This study also examined the influence of individual determinants of psychiatric boarding.

Definition of Terms

This study used the following definitions:

acute care hospital. Facility that treats inpatients for illnesses, for injuries, or following surgery, with an average length of stay of 25 days or less (Stanberry, 2012).

boarding. When a person requiring specific health care services waits in the ED until appropriate inpatient resources are available; in the case of psychiatric boarding, the person might also wait on an inpatient medical unit until appropriate mental health facilities are available. According to TJC (2011), “boarding is the practice of holding patients in the emergency

department or a temporary location for four hours or more after the decision to admit or transfer has been made" (p. 1).

circuits. The DCF divides the state into 20 circuits that align with the state's 20 judicial circuits to administer Florida's mental health services programs (Department of Children and Families [DCF], 2014).

Department of Children and Families (DCF). The Florida agency designated as the state mental health agency (Florida Mental Health Act, 2011).

emergency department (ED). Any facility that is held out to the public (by name, posted signs, advertising, or other means) as a place that provides care for emergency medical conditions on an urgent basis without requiring a previously scheduled appointment (Emergency Medical Treatment and Active Labor Act [EMTALA], 2004, section g).

emergency medical condition. A medical condition manifesting itself by acute symptoms of sufficient severity (including severe pain, psychiatric disturbances, and/or substance abuse) that the absence of immediate medical attention may place the health of the person in serious jeopardy (EMTALA, 2004, section g).

Emergency Medical Treatment and Active Labor Act of 1986 (EMTALA). The federal regulation that requires all EDs that receive Medicare or Medicaid funding to provide medical screening evaluations to anyone who comes to the ED (EMTALA, 2004, section g).

ex parte orders. An order issued by the court stating that a person appears to meet the criteria for involuntary examination (Florida Mental Health Act, 2006).

extended length of stay. Any ED visit longer than 24 hours.

Florida Mental Health Act (Baker Act). The Florida statute governing the treatment of people with mental illness (Florida Mental Health Act, 2006).

honest broker. Site coordinator who deidentified data at study sites prior to submitting the data to the principal investigator to promote data confidentiality and integrity.

intoxication. Blood alcohol level of 80 mg/dl or greater and/or urine drug screen positive for opiates, stimulants, or benzodiazepines.

involuntary examination. Short-term inpatient stay authorized by state statute to assess a person with mental illness for potential for self-harm, self-neglect, or harm to others. This occurs when the person refuses care or lacks capacity to consent for examination (Florida Mental Health Act, 2006).

medical screening evaluation (MSE). Under EMTALA standards, examination performed by hospital-credentialed providers to determine the presence of an emergency medical condition, including any required stabilizing treatment for the condition or any patient transfer required to stabilize the emergency condition (EMTALA, 2004, section g).

receiving facilities. Florida mental health institutions designated by the DCF to perform all involuntary examinations in the state. Some receiving facilities receive public funding. They may be community mental health

centers (crisis stabilization units [CSUs]), specialty psychiatric hospitals, or general hospitals that provide psychiatric services (Florida Mental Health Act, 2006).

state mental health agency (SMHA). The agency designated by the state to administer state general revenue funds for the provision of public mental health services (Florida Mental Health Act, 2011).

Assumptions of the Study

This study made the following assumptions:

1. Hospital data submitted to the Florida HealthFinder database (FL Center for Health Information, 2013) were complete and accurately reflected historic patient utilization of emergency mental health services for appropriate site selection.
2. Hospitals accurately recorded the required Baker Act intake data for study participants.

Delimitations of the Study

The delimitations of the study and the investigator's plan to address these were as follows.

Site selection was stratified by DCF-defined circuits in Florida by Baker Act receiving facility bed resources in relation to population totals for adults. Each circuit in Florida may have unique characteristics not accounted for in the site selection; hence the results may not be generalizable to other areas of the state.

Hospitals purposively selected because they saw more patients with mental health diagnoses than other hospitals provided the data for this study. The higher rate of patient

encounters requiring specialized psychiatric care may indicate that these hospitals have developed transfer protocols or treatment that is more efficient than hospitals that rarely have patients with mental health needs. Conversely, EDs that see higher patient populations requiring mental health services may demonstrate that they are located in communities that lack outpatient mental health resources that aid in preventing mental health crises or that the existing Baker Act receiving facilities are overwhelmed.

Study site selection excluded hospitals within the Veterans Health Administration (VA) system. The findings will not be applicable to services provided through the VA system.

Limitations of the Study

Unknown factors were likely to affect the ability to interpret findings from this study. Some of these factors and the investigator's strategies employed to address them are as follows:

1. There may have been institutional differences in processes at participating study sites for arranging transfers to receiving facilities.
2. Manual data recording from the study may have been unreliable. To minimize this, the investigator made biweekly phone calls to each study site to answer questions and provide reminders to site coordinators at each facility responsible for data recording and submission. Additionally, the investigator was available by phone or e-mail for questions between scheduled calls and visits. The investigator reviewed the data during the collection phase to ensure the entries were complete and coherent.

3. Other confounding variables that could affect the generalizability of the findings may have existed. These included the presence or absence of homeless shelters, crisis intervention training for law enforcement, or quantity of voluntary inpatient resources in the region.
4. Economic cycles may have had an effect on rates of involuntary hospital admission; the recent downturn in the Florida economy may have exacerbated the boarding rates.

Overview of Remaining Chapters

The second chapter in this dissertation presents the conceptual framework through which the investigator viewed contributory and modifying factors surrounding boarding of patients requiring mental health services. Also presented in chapter 2 is the literature review, which describes the current state of knowledge regarding boarding patients with mental health needs in hospital EDs. Chapter 3 presents the study method and processes, including specific criteria for study and site participants and data collection, analysis, and storage. Chapter 4 presents the statistical results of all the data analyses. Discussion of study findings and limitations, implications for Florida mental health policy, and recommendations for future research on the topic are in chapter 5.

Chapter 2

Conceptual Framework and Review of the Literature

Organization of the Chapter

This chapter presents a background and rationale for the selection of the conceptual framework, followed by a review of literature within the context of the conceptual framework.

Background and Rationale of the Conceptual Framework

The conceptual framework for this study was the health services utilization model (Andersen & Newman, 1973/2005), which focuses on the "output" component of an ED visit. Asplin et al. (2003) described this component by dividing ED visits into three segments: (a) input, (b) throughput, and (c) output. All the studies of ED boarding have consistently clarified that ED boarding is an output problem (Asaro, Lewis, & Boxerman, 2007; Beniuk, Boyle, & Clarkson, 2011; Chang et al., 2011; Nicks & Manthey, 2012; Nolan, 2011; Weiss et al., 2012; White et al., 2012). Output refers to any factor relating to a patient physically leaving the ED, and may encompass patients experiencing any of three output possibilities: (a) discharged to home, (b) admitted to the hospital, or (c) transferred to another facility (Asplin et al., 2003). Barriers that impede efficient output exist for patients in all three scenarios. In the case of psychiatric boarding for patients requiring involuntary examination under the Baker Act, the output scenario is generally the patient transferring to another facility. Previous research has identified the lack of availability of mental health system resources as the barrier that creates a boarding situation when transferring patients who require inpatient psychiatric care (Bender et al., 2009; Chang et al., 2011; Chang, Weiss, Kosowsky et al., 2012; Chang, Weiss, Orav et

al., 2012; Jayaram & Triplett, 2008; Nicks & Manthey, 2012; Park et al., 2009; Slade, Dixon, & Semmel, 2010; Weiss et al., 2012; Wharff, Ginnis, Ross, & Blood, 2011). This study therefore used a framework of health services utilization to identify factors affecting this specific output problem.

Health Services Utilization Model

Elucidating the contributing factors to and potential solutions for psychiatric boarding required that investigators examine the phenomenon from the perspective of the community mental health system. Boarding for patients in Florida who require transfer out of a hospital to a Baker Act receiving facility in the community requires consideration of community health services within a conceptual model that identifies contributing factors of the problem. The *health services utilization model* (Figure 3) developed by Andersen and Newman (1973/2005) provides a framework within which to examine the phenomenon of psychiatric boarding in EDs within the context of social, economic, structural, and policy components. The health services utilization framework applies societal and individual determinants to explain service utilization. Andersen and Newman (1973/2005) called for identification of the service unit, which in this instance is an episodic visit of involuntary psychiatric examination. The goal of understanding delays in care for people needing involuntary examination and referral patterns of the physicians and hospitals where patients are boarded renders the episodic visit an appropriate unit for study.

Resources and organization. Resources and organization are two factors of the health service system dimensions of this framework (Andersen & Newman, 1973/2005). Two types of institutional resources are involved for each unit of service in this study:

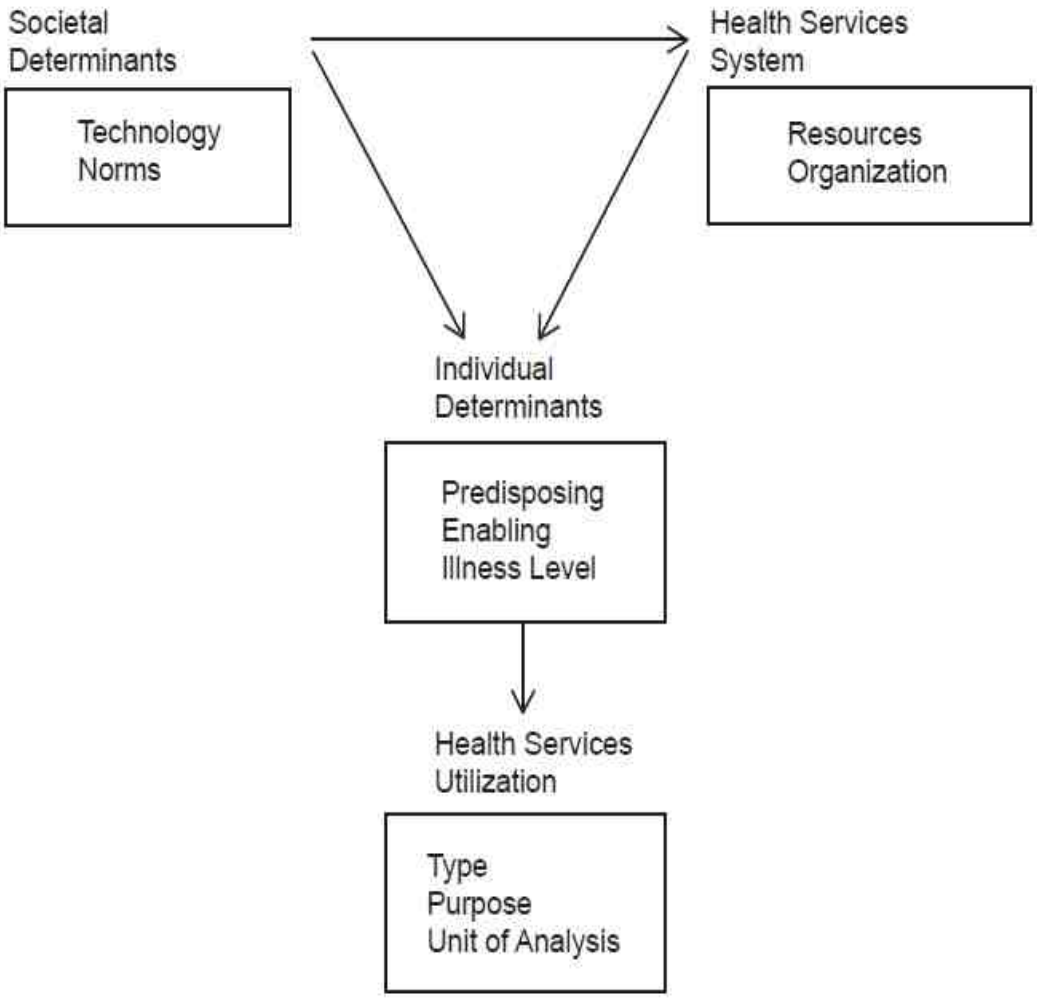

Figure 3. Health services utilization model. Developed by Andersen and Newman (1973/2005, p. 4).

First are the designated Baker Act receiving facility beds; second are the acute care hospitals where boarding occurs. Distribution of designated receiving facilities is uneven throughout Florida and may not be commensurate with regional population needs. Six counties that account for 45.6% of the state population and that comprise the major population centers of south Florida (Dade, Broward and Palm Beach), Tampa Bay (Hillsborough and Pinellas), and Jacksonville (Duval) account for 47% (n = 55 of 117) of all designated receiving facilities, leaving just more than half the involuntary examination resources spread throughout the remaining 61 counties. More than half (n = 34) of the 67 counties in Florida have no designated receiving facilities (DCF, 2014a).

The organizational dimension refers to how people access resources. Related to boarding for psychiatric involuntary examinations, initial access occurs when people self-report to EDs in mental health crisis or when law enforcement officers, under the provisions of the Baker Act, escort or direct them to an ED (Florida Mental Health Act, 2009a). Access to the required involuntary emergency mental health examination must occur within a Baker Act receiving facility. Hence the Baker Act defines the organizational structure through which individuals may access this health care service (Florida Mental Health Act, 2006). Research must clarify how the mental health care delivery system facilitates transfers to designated receiving facilities.

Societal norms. Anderson and Newman (1973/2005) defined *societal norms* as the social control through which social systems encourage conforming behavior among members of society. Formal laws, traditional customs, and organizational standards make up the types of controls that compose societal norms. Using this definition helps to explain societal norms as they apply to the provision of involuntary psychiatric

examination in Florida, including (a) the preference of outpatient care for mental illness, (b) protection of patients' rights through the Florida Mental Health Act, and (c) federal requirements that EDs provide screening and stabilization of emergency conditions through EMTALA.

Individual determinants. Individual determinants take into account race, ethnicity, socioeconomic status, age, geography, previous illness, experiencing homelessness, insured status, and personal health beliefs (Andersen & Newman, 1973/2005). Previous research has demonstrated that these determinants affect the rate of involuntary hospitalizations and psychiatric boarding across the United States (Bruckner, Yoon, Brown, & Adams, 2010; Craw & Compton, 2006; Larkin, Claassen, Emond, Pelletier, & Camargo, 2005; Mansbach et al., 2003; McKenna, 2011; McNiel & Binder, 2005; Muroff, Edelsohn, Joe, & Ford, 2008; Pasic, Russo, & Roy-Byrne, 2005). Further classification of the individual determinants divides them into predisposing factors, enabling factors, and illness level factors.

Predisposing factors exist prior to the onset of the situation placing the patient in need of care; they are the variables that influence peoples' tendencies to require involuntary psychiatric evaluations, including demographic characteristics and the presence of previous mental illnesses. Enabling factors are those variables that help or hinder patients' timely access to emergency involuntary mental health examinations, including insurance type, experiencing homelessness, and place of residence. Diagnostic categories, intoxication, dangerous violent behaviors, and patients' needs for medical stabilization prior to admission to a Baker Act receiving facility determined the level of illness in the context of this study.

The hospitals where patients board are part of the overall health delivery system, as are the state-designated Baker Act receiving facilities. Despite that boarding occurs only within the confines of the acute care hospital, it is a symptom of a health system mismatch between needs and resources (Catalano, McConnell, Forster, McFarland, & Thornton, 2003; Park et al., 2009). Using a health system lens to identify factors that contribute to ED boarding of patients requiring involuntary examination under the Florida Baker Act will allow policy makers at the state and county levels to enact policy changes that promote efficient, effective, and just access to mental health examinations for this vulnerable population.

Overview of the Related Literature

Using the perspective of the health services utilization framework, this literature review reports on the problem of boarding patients with psychiatric needs. First presented is a national overview of mental health services resources as they relate to emergency mental health needs. The resources for emergency mental health care are structured according to applicable federal and Florida state statutes that constitute societal norms of involuntary emergency mental health services. A national perspective on involuntary hospitalization and the specific requirements of the Florida Mental Health Act and the federal EMTALA provide a foundational understanding of the organizational resources. Included in this chapter is a review of studies that report diminished accessibility to emergency mental health services through boarding due to the convergence of a lack of resources, organization structure, societal norms, and individual and social determinants. Finally, the chapter reviews reports that identify individual

determinants that may have implications for involuntary hospitalization and delays in care.

National Perspective on Emergency Mental Health Service Resources

The gap between needs and services for individuals with mental illness is growing. Most communities across the country are grappling with diminished funding for mental health care services. The recession of the late 2000s caused devastating reductions in the already insufficient funding of the public mental health system (Honberg, Diehl, Kimball, Gruttadaro, & Fitzpatrick, 2011). During this recession, the need for public services increased between 2008 and 2011. State public mental health services lost more than $1.8 billion from their budgets during the same period (Honberg et al., 2011; Lutterman, 2011). In 2009, general state funds covered about 40% of total funding sources for state mental health agencies (SMHAs). Between 2010 and 2011, more than 80% of states reduced their general fund allocations to SMHAs (Lutterman, 2011). Between fiscal year (FY) 2009 and FY2012, Florida reduced its spending budget on mental health services by $7.6 million, despite a population increase of 2.1% during the same period (Florida Department of Health, 2014).

Throughout the United States, Medicaid funds 46% of all public mental health services, including crisis care. More than half of states report they reduced their overall Medicaid funding stream in 2011 (Lutterman, 2011). These budget reductions have caused grave concern for the future of public mental health services across the United States. The reduction in funding is especially profound in Florida, where per capita spending for mental health and substance abuse ranked 46th out of the 48 states that reported spending in 2007 (Substance Abuse and Mental Health Services Administration,

2011). Increased Medicaid participation through the Affordable Care Act (ACA) could precipitate greater Medicaid funding in mental health services in states that expand the Medicaid program as allowed by the ACA (Miller, Lentz, Maududi, & Harding, 2013). Florida has not chosen to expand Medicaid eligibility according to ACA provisions; therefore, any increase in Medicaid support for mental health services will not be apparent in Florida.

Organization of Emergency Mental Health Resources

Federal law dictates that EDs must accept and stabilize all people who go to the hospital seeking care (EMTALA, 2003). Hospital EDs have become the primary point of entry into health care for many individuals with mental illness (Cunningham, McKenzie, & Taylor, 2006). The rates of ED visits for people with psychiatric diagnoses have increased more than overall ED visits, providing evidence that EDs are primary portals to the mental health care system. Between 2000 and 2010, EDs in the United States experienced a fourfold increase in the ratio of patients presenting with mental illness compared with all other types of problems (Cunningham et al., 2006; McKenna, 2011). In 2000, mental health or substance use issues were the primary cause for about one of every 20 (5%) ED visits (McKenna, 2011). By 2007, this figure had increased to more than one of every eight (12.5%) ED visits (McKenna, 2011). This growing trend may reflect a mismatch between the organizational resources needed for outpatient community mental health services and the accessibility and supply of such services (Catalano, McConnell, Forster, McFarland, & Thornton, 2003; Park et al., 2009). Complicating the situation, individuals with severe and persistent mental illness are more likely to have multiple ED visits within each year than any other population (Coffey et al., 2010). This

suggests a repetitive cycle of inadequate care without meeting the mental health needs of patients (McKenna, 2011).

The EMTALA mandates emergency departments to perform a medical screening evaluation not only to determine if a patient is experiencing an emergency medical condition, which can include "psychiatric disturbances, and/or symptoms of substance abuse" (EMTALA, 2010), but also to stabilize the patient's condition. In Florida, if such "stabilization" requires the patient to undergo an involuntary emergency psychiatric examination under the Baker Act, the hospital must arrange transfer for the patient to one of the 117 designated Baker Act receiving facilities for the involuntary examination. In 169 hospitals throughout Florida, an involuntary psychiatric examination necessitates facilitating a transfer to an outside facility. This particular scenario of transferring patients with psychiatric needs generates the greatest proportion of psychiatric boarding nationwide (Hazlett, McCarthy, Londner, & Onyike, 2004; Nicks & Manthey, 2012; Slade, Dixon, & Semmel, 2010; Stone, Rogers, Kruckenberg, & Lieser, 2012; Weiss et al., 2012). As there have been no systematic studies of this issue conducted in Florida, only anecdotal evidence exists pointing to incidents of prolonged boarding under this scenario in Florida.

EDs are ill equipped to care for individuals with mental illness, including those on voluntary or involuntary statute. Of 444 EDs responding to a survey of the Emergency Nurses Association, only 18% reported dedicated resources within the ED to care for people with psychiatric crises or emergencies (Howard, 2006). Hospitals that board patients with mental illnesses in the ED generally use any available ED bed, including stretchers or cots in wards or hallways that are hectic, noisy, and agitating (Bender et al.,

2009). Emergency physicians with limited training in psychiatry, rather than psychiatrists or other mental health professionals, usually perform psychiatric assessments in EDs. The modest training for psychiatric care that emergency providers receive focuses on initial diagnosis and emergent interventions such as sedation and restraint of patients (Nicks & Manthey, 2012). The only mental health treatments provided to most individuals with mental illness in EDs are medications rather than much-needed therapeutic interventions (Alakeson et al., 2010).

Societal Norms Related to Involuntary Emergency Mental Health Services: State and Federal Laws Governing Emergency Mental Health Care

The role of the government to protect the rights and interests of the individual requires specific regulations. This section discusses the provisions of the Florida laws governing mental health services and the federal law assuring the right of people to emergency care. These laws intersect in the provision of emergency mental health services in Florida.

Involuntary hospitalization. All states have statutes, or mental health laws, providing authority to evaluate and/or admit individuals suspected of having mental illness on an involuntary basis. Mental health laws principally are about protection of the rights of individuals with mental illness, and the intent of the laws is to guard personal liberties through time limits and constraints on who may initiate involuntary hospitalization or examination orders (Petrila, 1992; Testa & West, 2010). Most states limit short-term involuntary hospitalization to circumstances of imminent danger to the individual or others or if the individual is unable to meet his or her own basic needs of food, shelter, or self-preservation (Appelbaum, 1992). Such involuntary hospitalization,

or "civil commitment," presumes the individual has diminished capacity and/or lacks insight into his or her situation (Seitler, 2008). These mental health statutes draw on the dual government roles of citizen protection through police power and the mandate to act in the best interest of those who are unable to act in their own interests (Seitler, 2008; Testa & West, 2010).

Involuntary hospitalization must adhere to the principle of autonomy that provides a central concept of mental health laws in the United States. Autonomy requires that the patient understand the effects and consequences of voluntary consent for treatment. Without the capacity to understand, and therefore consent, involuntary care may be required (Dawson & Kämpf, 2006). A landmark U.S. Supreme Court decision originating in Florida, *Zinermon v. Burch* (1990), solidified this for all states, even though most state mental health laws at the time did not contain the "express and informed consent" clause of the Florida Statute 394.459 (Florida Mental Health Act, 2011). The court may assign a substitute decision maker or an individual may have a previously prepared advance directive that identifies a surrogate decision maker in the event the individual lacks capacity to consent (Dawson & Kämpf, 2006). Many states, including Florida, allow psychiatric advance directives that permit an individual to plan for the possibility of losing the capacity to consent during an acute psychiatric illness (National Resource Center on Psychiatric Advance Directives, 2011).

Because involuntary hospitalization severely restricts a person's civil liberties, a second key assumption of most states' modern laws governing involuntary hospitalization is that the person must have a mental illness and, because of the mental illness, is facing an imminent threat to safety (Testa & West, 2010). The 1975 *O'Connor*

v. Donaldson U.S. Supreme Court decision established that in addition to the mental illness requirement for involuntary hospitalization, individuals must either present a risk of harm to themselves or to others or be in need of psychiatric treatment (Melton, Petrila, & Poythress, 2007; Testa & West, 2010).

Addington v. Texas (1979) established the standard that "clear and convincing" evidence must be present for the court to order a person hospitalized involuntarily. This standard is less than criminal standards of "reasonable doubt" but more than the civil standard of "preponderance of the evidence." This middle-range standard of evidence for involuntary hospitalization demonstrates that the court considers the threat to civil liberty of mistaken involuntary hospitalization as a less critical concern than an error of mistaken criminal incarceration (Melton et al., 2007).

The Florida Mental Health Act. In 1971, the Florida legislature passed the Florida Mental Health Act, also known as the Baker Act, with the intent of ensuring justice and protecting individuals' civil rights. Since that time, the legislature has amended the act frequently. The current legislative intent of the Florida Mental Health Act for individuals in need of emergency mental health services has three critical components: First, individuals meeting criteria for involuntary hospitalization shall receive "temporary detention for evaluation when required"; second, "any involuntary hospitalization or examination [will] be accomplished in a setting which is clinically appropriate"; and third, individual dignity and human rights [will] be guaranteed to all persons who are admitted to mental health facilities or who are held under §395.463 Fla. Stat." (Florida Mental Health Act, 2006). The statute specifies three criteria for emergency involuntary examinations: (a) reason to believe mental illness is present, (b)

likelihood of self-neglect that poses a real and present threat of substantial harm and/or threat of substantial harm to self or others, and (c) inability or refusal to consent to voluntary examination (Florida Mental Health Act, 2006). Florida permits the court through ex parte orders, law enforcement officers, and health professionals (physicians, clinical psychologists, certain psychiatric nurses, licensed mental health counselors, licensed marriage and family therapists, or licensed clinical social workers) to initiate involuntary examinations (Florida Mental Health Act, 2006). Florida's attorney general issued a memo allowing physician's assistants to initiate the Baker Act under the authority of their supervising physicians (Op. Att'y Gen. AGO 2008-31, 2008).

Involuntary examinations in Florida shall take place "without unnecessary delay" (Florida Mental Health Act, 2006) only at DCF-designated receiving facilities. Law enforcement officers who execute ex parte orders or initiate involuntary examination must transport the person directly to the nearest designated receiving facility, unless the officer believes the individual is experiencing acute symptoms of sufficient severity for which immediate medical treatment is required to avoid significant danger to the person's health (Florida Mental Health Act, 2009a; Hospital Licensing and Regulation, 2011). Under these circumstances, the statute directs law enforcement officers to arrange the person's transport to a hospital ED (Florida Mental Health Act, 2009a). Hence, people requiring involuntary examinations may arrive at hospital EDs with the involuntary order already in place when a law enforcement officer escorts or directs the person to the ED. Additionally, the evaluating emergency physician or other qualified practitioner may identify the need for involuntary examination and initiate the order in the course of a medical screening examination for a person who self-reports to the ED.

The Federal Emergency Medical Treatment and Active Labor Act. The EMTALA directs hospital EDs to evaluate every person who "comes to the emergency department" to determine the presence or absence of an emergency medical condition (EMTALA, 2003). Different from the Florida statute defining emergency medical conditions (Hospital Licensing and Regulation, 2011), which does not explicate mental health or substance use conditions as emergencies, the federal regulation includes psychiatric disturbances and/or symptoms of substance abuse in the definition of the federal emergency medical condition (EMTALA, 2003). The EMTALA mandates the hospital to perform "necessary stabilizing treatments for emergency medical conditions" that are within the capabilities of the staff and the capacity of the facility. The hospital may arrange a transfer to a specialized facility when the patient's condition is stable, such that no reasonable expectation of deterioration will occur during the transfer or when the attending physician certifies that the benefits of transferring the patient to a more specialized level of care outweigh the risks of transfer (EMTALA, 2003). In Florida, owing to statutory restrictions, the specialized level of care for people requiring involuntary examination is only available at a designated receiving facility (Florida Mental Health Act, 2006). Therefore, EMTALA and the Florida statute require hospitals that are not designated receiving facilities to transfer persons needing involuntary examination.

The Impact of Florida Statute and Federal Law on Psychiatric Boarding

The Florida Mental Health Act (2006) allows 72 hours for a designated receiving facility to complete an involuntary examination. If the hospital providers are treating the patient for a medical condition at a hospital, however, the 72-hour period ceases when a

physician documents that the patient has an emergency medical condition and begins again when the emergency medical condition is stable. When the hospital attending physician documents that a patient's medical condition is no longer an emergency and the patient's condition is stable, the hospital must notify a designated receiving facility within 2 hours of the patient's need for a transfer and an involuntary examination. The transfer to a designated receiving facility must occur within 12 hours of stabilization of the emergency medical condition (Florida Mental Health Act, 2011). Figure 2, included in chapter 1, provides a detailed depiction of the expected process for people requiring involuntary examinations who present to hospital EDs requiring stabilization of an emergency medical condition.

Florida designates the DCF as the state mental health agency to administer public mental health funds. The agency provides funding to about 40% of the receiving facilities it designates to perform involuntary examinations. In 2007, the most recent year for which complete figures are available, 55% of the 122,454 involuntary examinations in Florida took place in facilities that receive state funding; Florida DCF considers these facilities "public facilities" (Christy, 2008). The proportion of involuntary examinations in public facilities decreased to 46.5% in 2013 (Christy, 2014). In DCF's most recent full report, the agency recounted that DCF funded 59.5% of the 1,096 licensed beds in these public facilities in 2010 (DCF, 2011). Nearly all (98%) of the publicly funded bed-days were occupied during the most recent reported year, FY2009–2010 (DCF, 2011). The current statute does not require occupancy reporting for privately funded beds, where the remaining 45% of the involuntary examinations occur (DCF, 2009). The virtually complete occupancy of publicly funded beds coupled with

anecdotal reports of extended psychiatric patient boarding in two Florida counties (C. Nesheim, personal communication, October 10, 2011; M. Milner, personal communication, October 14, 2011) suggests that psychiatric boarding of people admitted involuntarily is potentially a problem for some Florida hospitals. Christy (2008) also noted anecdotal evidence that some people requiring involuntary examinations remain in EDs for most or all of their 72-hour involuntary examination period waiting for bed availability at a receiving facility. There is no remedy within the Florida statutes for the situation of no receiving facility with capacity to accept a patient from a hospital within the allotted 12 hours for transfer or within the 72 hours allowed for involuntary examination.

Owing to the laws governing involuntary inpatient commitment, individuals who remain in a hospital that is a not a receiving facility for the entire 72-hour examination period and refuse admission or do not have cognitive capacity to convert to voluntary status must be discharged unless they meet involuntary inpatient placement criteria. The three criteria for involuntary inpatient placement are (a) mental illness, (b) incapable of surviving alone or with the help of family or friends and/or substantial likelihood of harm to self or others, and (c) no other less restrictive treatment is appropriate. If these criteria are present, the hospital may initiate involuntary inpatient placement in the circuit court by the first working day following the 72-hour examination period. The process of involuntary placement begins with a petition, which must include the opinion of a psychiatrist and a second opinion of a psychiatrist or psychologist. The court hearing must occur within 5 days of the petition, unless the court grants a continuance to the patient or to his or her counsel (Florida Mental Health Act, 2009b). A key concern that

creates a barrier for nonreceiving facilities that do not offer psychiatric services in initiating involuntary inpatient placement is the lack of psychiatric resources to complete the examination and petition (C. Nesheim, personal communication, October 10, 2011).

Bloom (2006), Claassen, Wise, and Krakover (2006), and Hazlett et al. (2004) independently reported trends of an increased rate of involuntary psychiatric emergency visits compared with voluntary encounters over the past decade, though rates for long-term involuntary hospitalizations have decreased (Bloom, 2006; Testa & West, 2010). The increase in visit rates that requires involuntary short-term inpatient placement may be a cause for the increase in psychiatric boarding, as declines in available inpatient beds occurred during the same period (Bender et al., 2009; Hazlett et al., 2004). Florida experienced a 72% increase in the number of involuntary examinations between 2002 and 2013 (Christy, 2010, 2014; McGaha, 2002).

Boarding: The Consequences of Resources, Organization, and Societal Norms on Utilization of Emergency Mental Health Services

A national survey of more than 600 ED administrators responding from 45 states revealed that 70% of U.S. EDs routinely board patients who present to EDs for mental illnesses for 24 hours or longer; 10% reported frequent psychiatric boarding durations of up to a week (Brauser, 2011; Shumacher Group, 2010). A 2008 national survey of 328 emergency physician respondents revealed 80% of respondents reported increased boarding times for patients with mental health conditions (American College of Emergency Physicians [ACEP], 2008; Chang, Weiss, Kosowsky et al., 2012). These emergency physician respondents reported that ED psychiatric boarding has a negative impact on the quality of care for all patients in the ED (ACEP, 2008; Owens et al., 2010).

A similar state survey of 123 ED directors in California reported average boarding times for patients with psychiatric illnesses of 10.05 hours (95% CI, 8.6–11.52) for adults and 12.97 hours (95% CI, 11.16–14.77) for patients younger than 18 years (Stone et al., 2012). The California respondents overwhelmingly reported that the lack of inpatient beds is the leading contributor for boarding adult (78.3%) and pediatric (77.4%) patients with psychiatric illnesses (Stone et al., 2012).

The ED physicians' perceptions are borne out in national database statistics. According to an analysis of the National Hospital Ambulatory Medical Care Survey Emergency Department databases, the average duration of ED mental health visits between 2001 and 2006 exceeded the average duration of non–mental health visits by 42% (Chang et al., 2011; Slade et al., 2010). The Joint Commission (2008) reported that "psychiatric boarding" (p. 25) strains emergency department resources. The Institute of Medicine's Committee on the Future of Emergency Care in the United States Health System (2007) explained,

> Because hospital EDs often do not have specialized psychiatric facilities or psychiatric specialists available and find it difficult to place such patients—many of whom are indigent or uninsured—in outside facilities, ED staff spend more than twice as long seeking beds for these patients than for those without psychiatric problems. Psychiatric patients board in hospital EDs more than twice as long as medical patients. (p. 62)

Patients with psychiatric needs represent 12.5% of all ED visits (McKenna, 2011), but they wait 5.7 times longer for an admission bed than patients needing admission for medical care (1,017 vs. 178 min; Nicks & Manthey, 2012). The longer stays for patients

with mental health needs translate to their disproportionate consumption of emergency services of about 20% by this patient segment (Epstein, Pearlmutter, & Woodward, 2012). This bottleneck of occupied ED beds by patients waiting for transfer impedes the capability of the emergency system to effectively care for incoming ill patients with physical and mental health problems (ACEP, 2008; Owens, Mutter, & Stocks, 2010). The extended waits also exert financial tolls on EDs. Nicks and Manthey (2012) calculated that hospitals lose $1,198 for each emergency department patient who requires admission or transfer for emergency psychiatric care.

In a retrospective comparison study of four academic medical center EDs, Ding et al. (2010) determined that patients with psychiatric needs experienced the longest ED visits of patients with all types of needs, irrespective of degree of patient illness or urgency of treatment required. Multiple studies and reviews report that patients with psychiatric illnesses wait an average of 7 hours for an inpatient bed after the ED provider determines a need for admission, with even longer waits if they require a transfer to an outside facility (Hazlett et al., 2004; Nicks & Manthey, 2012; Weiss et al., 2012). Slade et al. (2010) concurred by attributing most of the extended length of stay to patient visits that required transferring patients to other facilities for inpatient care.

These prolonged ED stays create additional risks of symptom exacerbation or elopement for patients with psychiatric illnesses. The chaotic ED environment provides multiple stimuli that may increase patient anxiety and agitation, which poses potential harm for patients and staff (Hickey et al., 2001; Nicks & Manthey, 2012; Park et al., 2009). Long delays increase the chance that a patient will leave the ED without

evaluation (elope), thereby increasing the risk of self-harm and suicide (Hickey et al., 2001; Park et al., 2009).

Specific Studies Evaluating Boarding

Chang et al. (2011) analyzed ED visits for psychiatric needs from five urban EDs to determine what phase of the visits contributed most to extended ED length of stay. The highly right-skewed distribution of boarding times led Chang et al. (2011) to conduct median regression analyses using quantile procedure. The delay between the decision to admit or discharge the patient and the patient actually leaving the ED contributed the most time to the overall length of stay for all patients. Patients requiring transfer for admission to other facilities experienced the longest waits, with median boarding times for transfers varying between hospitals from 4.5 hours (CI 1.1–7.8 hours) to 8 hours (CI 4.7–11.3 hours). The hospitals included in this study demonstrated significant differences in length of stay for the overall visits and each visit component. The differences were smallest, however, for patients requiring transfers for inpatient admission, suggesting that community resources for inpatient beds are a significant limiting factor to efficient mental health admissions.

From the same sample of patients (N = 1,076) from the five urban hospital EDs, Chang, Weiss, Kosowsky et al. (2012) examined the ED visits for patients that lasted longer than 24 hours in the ED (n = 90). They compared this group of patients to those with stays less than 24 hours using chi-square and Wilcoxon tests. This rate (8%) of extended length of stay (median, 31 hours) for patients with psychiatric needs is 20 times greater than the national rate (0.4%) of all ED visits lasting longer than 24 hours (National Center for Health Statistics, 2009). The factors that most influenced the

extended length of stay were (a) experiencing homelessness, (b) need to transfer to a different facility for admission, and (c) having public insurance. Lack of insurance was not a factor, as this study took place in Massachusetts when the rate of uninsured people in that state was only 2.6%. The high proportions of patients with public insurance experiencing visits over 24 hours suggest that public insurance coverage does not provide the same level of access to mental health care that private insurance coverage provides.

Weiss et al. (2012) conducted further analysis of the same overall sample (N = 1,076). To correct for the skewness of the outcome variable, length of stay, they used the lognormal distribution for their mixed-effects regression analyses. Their models explain that the few patients in the sample without insurance experienced the longest lengths of stay while waiting for transfer to other facilities, approximately 4 hours longer than the boarding times of patients with commercial insurance. Additional patient factors contributing to overall increased length of stay included (a) age greater than 41 years, (b) presence of positive blood alcohol levels, and (c) use of physical restraints in the ED (Weiss et al., 2012). Contrary to the analysis that included only those patients who experienced ED visits lasting longer than 24 hours (n = 90), in the overall sample, the experience of homelessness did not have a meaningful effect on length of stay. In neither the total sample nor the subset did race or sex influence the patient ED length of stay (Chang, Weiss, Kosowsky et al., 2012; Weiss et al., 2012).

In addition to examining the patient data from the previously described studies, Chang, Weiss, Kosowsky et al. (2012) and Weiss et al. (2012) matched the ED clinicians' experiences of patients with psychiatric illnesses having delayed care and boarding in the ED. According to this data set, patients with public insurance experienced more

problems with inpatient bed availability (77.4% vs. 22.6%, $p = .04$). Those who were experiencing homelessness had increased difficulties with bed availability (17.4% vs. 13%, $p = .06$). Regardless of any patient characteristic, clinicians from all five hospitals reported the lack of inpatient bed availability as contributing significantly to boarding patients with psychiatric needs in the ED. Chang, Weiss, Orav et al. (2012) triangulated the clinician perceptions by affirming when the clinicians identified bed availability as an issue, patients experienced significantly longer boarding times in the ED (3.7 hours more, or 365 vs. 146 min, $p = .02$) using a median regression analysis with quantile procedure.

Park et al. (2009) utilized a case-control study design to determine what patient characteristics were most associated with ED lengths of stay longer than 24 hours for patients with psychiatric needs. One hospital with a dedicated psychiatric ED in the same urban area as the sites from the analyses of Chang and colleagues (Chang et al., 2011; Chang, Weiss, Kosowsky et al., 2012; Chang, Weiss, Orav et al., 2012) and Weiss et al. (2012) provided the sample for this study. From this sample of 5,421 patients, 206 patients experienced extended lengths of stay, demonstrating a similar rate of visits with extended lengths of stay (3.8%) as in the previous reported study. The key demographic characteristics that contributed to the predictability of extended length of stay were experiencing homelessness, lack of patient insurance, and being male. Combining the clinical features of suicidal or homicidal ideation and substance abuse with the key demographic metrics provided the greatest predictive value for patient inclusion in the extended length of stay group (Park et al., 2009).

A clinical case conference regarding an extended length of stay visit with an untoward outcome prompted Jayaram and Triplett (2008) to conduct an in-depth

examination of boarding practices for patients with psychiatric needs in a high-volume tertiary academic emergency department. They determined that over the previous decade, both patient volume and length of stay steadily increased. The expansion in volume and duration of visits for patients with psychiatric needs presents clinical concerns about crowding, risk of violence, and lack of privacy for all ED patients and may have deleterious effects on quality outcomes (ACEP, 2008; Jayaram & Triplett, 2008).

The trend of increased lengths of stay in EDs is not restricted to adult patients. Using a national representative sample (National Center for Health Statistics, 2009; *N* = 73,015) of emergency department visits by patients aged younger than 18 years, Case, Case, Olfson, Linakis, and Laska (2011) compared ED length of stay for pediatric patients with physical illnesses to those with mental illnesses. Pediatric patients with mental health illnesses were 2.4 times more likely to have ED visits lasting longer than 4 hours than were pediatric patients with physical illnesses. Significantly contributing to prolonged lengths of stay was the difficulty in securing inpatient beds for one-third of the youths in this large sample who presented with mental disorders (Case et al., 2011).

Understanding the impact on boarding of involuntary versus voluntary status for patients with psychiatric illnesses is a gap in the reviewed literature. Few of the studies located included patients' abilities to consent to or refuse care as a predictor of length of stay or boarding. Chang et al. (2011) controlled for voluntary versus involuntary status but did not report any differences in boarding frequencies or overall length of stay related to this variable. Unick et al. (2011) did not differentiate involuntary care status because 88% (1,146 of 1,305) of their sample were admitted involuntarily. Some studies included

involuntary status as a consideration of patient urgency (Case et al., 2011) or as a predictor of need for hospitalization (Maharaj, Gillies, Andrew, & O'Brien, 2011) but did not report any length of stay metrics. Ries, Yuodelis-Flores, Comtois, Roy-Byrne, and Russo (2008) excluded patients on involuntary status from their evaluation about length of stay for suicidal patients, asserting that such status may artificially lengthen the hospital stay. Soto et al. (2009) used involuntary status as one of many criteria to determine the appropriateness of ED visits for mental illnesses by pediatric patients, but they did not evaluate patient length of stay. Only Chang, Weiss, Kosowsky et al. (2012) reported no effect of involuntary status on the likelihood that patients experienced extended stays longer than 24 hours in EDs in Massachusetts. Massachusetts mental health law (Mental Health: Emergency Restraint and Hospitalization, 2012) provides for emergency hospitalization in any public or private facility for the care and treatment of mentally ill individuals. This differs from Florida, where only state-designated Baker Act receiving facilities may provide such services (Florida Mental Health Act, 2011). This study only examined psychiatric boarding occurrences for patients under involuntary statute.

Individual Determinants of Involuntary Hospitalizations and Boarding

Some populations have higher rates of inpatient, involuntary, and emergency mental health service usage. These factors are situated within the individual determinants of Andersen and Newman's (1973/2005) health utilization model. Understanding which factors are contributory to boarding and delayed involuntary mental health examinations may provide insight for policy decisions to ameliorate the problem. This section reviews the literature about mental health service usage by racial, ethnic, economic, and social

group. It also examines mental health service usage according to psychiatric diagnosis and acuity.

Racial and Ethnic Demographics of Emergency Psychiatric Service Users

The ethnic, racial, and socioeconomic disparities present in general health status and health care in the United States are magnified in the mental health field (U.S. Department of Health and Human Services, 1999). Owing to social circumstances, poor people and ethnic minorities exhibit greater reliance on emergency services than on outpatient services for psychiatric care than does the population at large (Muroff et al., 2008). In particular, Blacks are underrepresented in outpatient mental health services, while they are overrepresented in emergency and inpatient settings. The lack of early intervention and discontinuity of care influences longer inpatient stays and higher rates of involuntary hospitalizations for Blacks and other minorities (Merritt-Davis & Keshavan, 2006). Mansbach et al. (2003) reported that Black emergency patients needing psychiatric services are twice as likely to experience boarding in EDs or on medical units as White patients with the same needs.

The response of mental health providers to patients who are minorities highlights the mental health disparities. The types of diagnoses health care providers assign to Black and Hispanic patients are different from the diagnoses providers assign to White patients. Black patients have higher rates of psychotic disorders; Hispanic patients receive more substance-use-disorder diagnoses compared with the more prevalent diagnosis of major depression for White patients (Muroff et al., 2008). Merritt-Davis and Keshavan (2006) reported that the mental health care Black patients receive is of lower quality than the care provided to White patients.

Socioeconomic Usage Patterns

Socioeconomic status contributes to different use patterns. Studies show that as much as 30% of emergency psychiatric services are used by patients who are experiencing homelessness (McNiel & Binder, 2005), which concurs with SAMHSA reports of 25% of individuals who experience homelessness having mental disorders, more than 4 times the rate of the general population (Testa & West, 2010). Patients who experience homelessness have more multiple episodes of emergency psychiatric service use and have higher admission rates after receiving care in the ED (McNiel & Binder, 2005).

According to the interviews of emergency providers from Bender et al. (2009), some inpatient psychiatric facilities accept only those patients with health insurance, causing extended boarding times for uninsured patients. Hospitals, including specialized psychiatric hospitals that receive funding from the Centers for Medicare and Medicaid Services, would be in conflict with EMTALA regulations for selectively accepting only insured patients from EDs for transfer. The regulations clearly state that hospitals with "specialized capabilities . . . may not refuse to accept from a referring hospital . . . an appropriate transfer of an individual who requires such specialized capabilities or facilities if the receiving facility has the capacity to treat the individual" (EMTALA, 2004, section g).

Investigators have reported that patients without insurance experience boarding for longer periods and at higher rates than those with commercial insurance (Chang, Weiss, Kosowsky et al., 2012; Park et al., 2009; Weiss et al., 2012). In 2012, 21% of Floridians were uninsured (Kaiser Health News, 2014), compared with 2.6% of

Massachusetts residents without health insurance, from the studies conducted in the Boston area. The nearly 10-fold proportion of people lacking insurance in Florida suggests that psychiatric boarding may be more predominant in Florida than in other states with lower rates of uninsured people.

Diagnostic Indicators for Involuntary Examinations

Diagnosis, ethnicity, and socioeconomic status contribute to the likelihood of involuntarily hospitalization and boarding while waiting for appropriate services. People with severe mental illnesses, with co-occurring substance use disorders, and who are experiencing homelessness are most likely to be involuntarily hospitalized (Bruckner et al., 2010; Craw & Compton, 2006). Forster and Bilsker (2002) reported that more than one-third of patients who present for emergency psychiatric services exhibit suicidal ideation or suicide attempts. Delays in care due to boarding most frequently occur in patients who are suicidal or homicidal, with the degree of symptom severity having a linear relationship to the odds of occurrence and length of delay (Mansbach et al., 2003). The increased odds of suicidality with boarding, combined with large numbers of patients presenting with these symptoms, creates opportunities for high rates of boarding for people needing involuntary examinations.

Gaps in Literature

It is evident from the reports in the literature that lengths of stay in the ED for patients with mental illnesses are significantly longer than stays for patients with physical illnesses. Prolonged stays and increased occurrences of boarding may be the result of diminished state and national funding and declining private insurance reimbursements (Nicks & Manthey, 2012). Patients requiring involuntary inpatient examination and

stabilization for mental illnesses constitute a significant subset of the population negatively affected by the boarding phenomenon. Published data about ED boarding for patients requiring involuntary emergency examinations for mental illnesses are scant. This lack of information presents substantial obstacles for policy makers in formulating meaningful or feasible solutions for the problem of boarding.

This study aimed to address this gap by studying boarding in Florida EDs by patients requiring involuntary examination under Florida's Baker Act. Consensus from multiple analyses confirms increased and prolonged boarding for patients requiring transfer to inpatient mental health facilities. The ED boarding phenomenon for patients with Baker Act status in Florida may be of particular concern because of the predominance of hospitals that are required by the Baker Act to transfer patients to outside facilities.

Chapter 3

Methods and Procedures

The study consisted of two stages. The purpose of the first stage was to identify appropriate study sites for the second stage. This chapter presents the methods and procedures for both stages of the study. Five sections describe the second stage of the study: the (a) research questions, (b) study procedures, (c) data analysis, (d) participants, and (e) treatment of the data.

First-Stage Site Identification

Using the Florida HealthFinder data set (Florida Center for Health Information and Policy Analysis [FL Center for Health Information], 2013), the first stage of the study examined hospital EDs in Florida for volume of patients to whom ED practitioners assigned primary and secondary psychiatric diagnoses (listed in Appendix A) and who transferred to psychiatric hospitals, including distinct psychiatric divisions of general hospitals. The investigator used these data in combination with the data in Appendix C, which shows Baker Act receiving facility capacity by county to purposively select data collection sites reflective of a disparity of resources that may provide the richest participant population for Part 2 of the study. The selection procedure targeted hospitals in circuits that have fewer receiving facility beds than the state average, circuits with bed capacity near the mean for the state, and circuits with the highest density of beds per population to achieve a stratified purposeful sample.

Baker Act receiving facilities are located within one of three types of facilities: (a) crisis stabilization units (as part of community mental health centers), (b) psychiatric hospitals, or (c) psychiatric units within general hospitals. In 2014, there were 5,265

licensed Baker Act receiving facility beds in Florida (Florida Agency for Health Care Administration, 2014). The distribution of these beds varies widely among counties. More than half (34 of 67) of Florida counties have no designated receiving facility beds. The mean number of receiving facility beds per 100,000 residents in the counties with receiving facilities is 33 (range, 5–66). The DCF, acting as the state mental health agency, divides the state into 20 circuits to administer services and programs, including designating Baker Act receiving facilities. The DCF contracts with seven managing entities, each having responsibility in multiple circuits to disperse state funding to meet mental health care needs across the state (DCF, 2014b). Receiving facility beds in each of the circuits per 100,000 residents range from 12 to 50 (see Table 2). Figure 4 maps the circuit boundaries and managing entity service areas.

The investigator purposively selected hospital EDs within these circuits based on AHCA Florida HealthFinder data (FL Center for Health Information, 2013) and identified hospitals in the targeted circuits where the EDs saw the highest numbers of people receiving psychiatric diagnoses and had a history of transferring these patients to designated psychiatric facilities at the end of the hospital encounter. The Ambulatory and Emergency Department Patient Data Public Data File (Figures 5 and 6) contains visit-level data for every ED visit in the state sorted by hospital, including principal and other diagnosis codes (ICDM-9) and patient status at the end of the ED encounter. Prior to 2011, the discharge status code did not differentiate patients transferred to psychiatric hospitals, including distinct psychiatric divisions of general hospitals, from those transferred to cancer or children's hospitals. In 2010 the codes were

Table 2

Baker Act Receiving Facility Bed Capacity per 100,000 Residents by Circuit

	Bed capacity
Circuit 1	19
Circuit 2	35
Circuit 3	14
Circuit 4	31
Circuit 5	20
Circuit 6	39
Circuit 7	12
Circuit 8	30
Circuit 9	36
Circuit 10	21
Circuit 11	32
Circuit 12	24
Circuit 13	18
Circuit 14	36
Circuit 15	22
Circuit 16	50
Circuit 17	25
Circuit 18	17
Circuit 19	30
Circuit 20	18

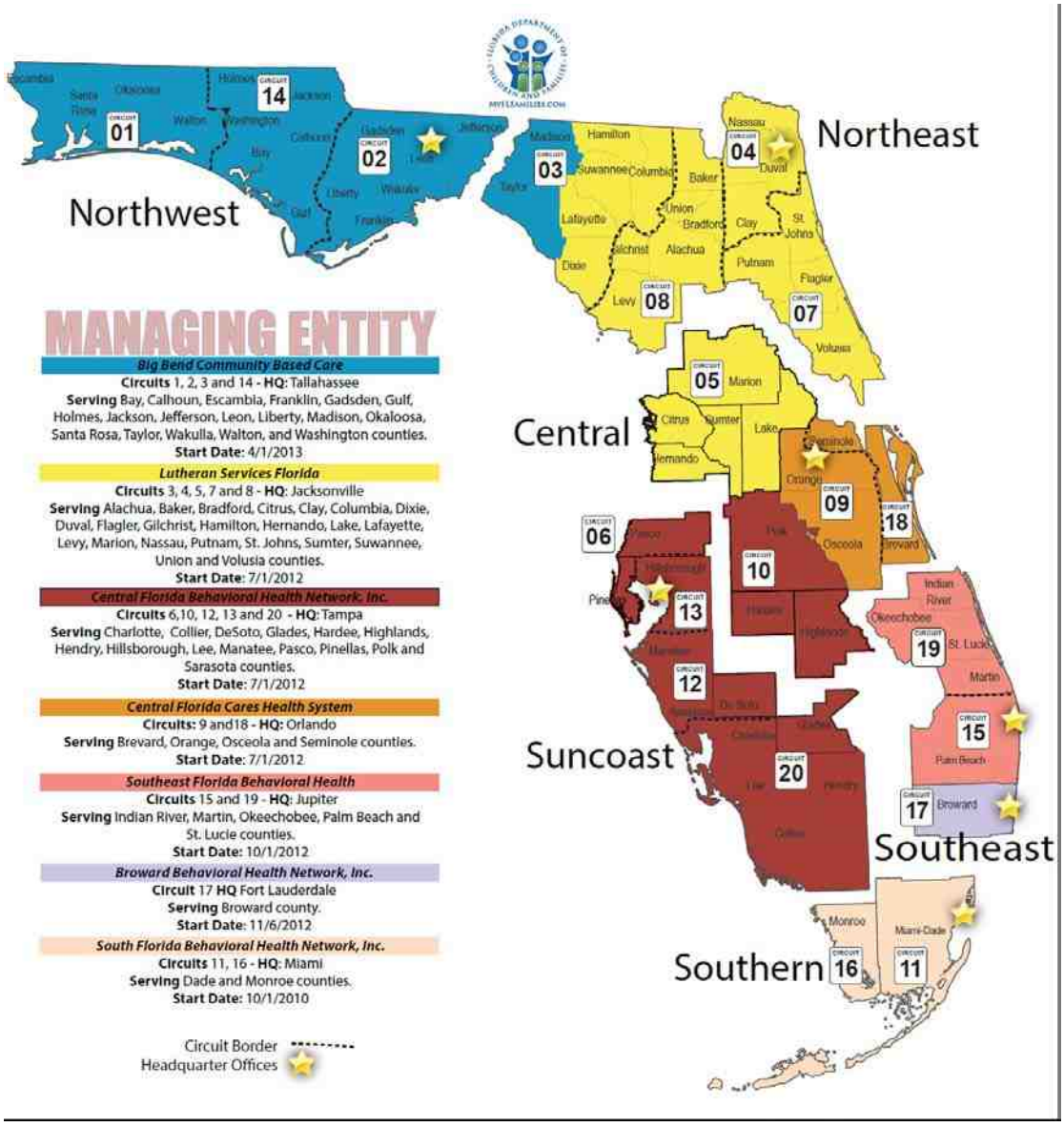

Figure 4. Florida Department of Children and Families circuits and the managing entities for crisis stabilization units.

EMERGENCY DEPARTMENT (ED) DATA
PUBLIC DATA FILE LAYOUT
EFFECTIVE January 2005 – December 2009
Revised 7/01/2010

ITEM	FIELD NAME	FREQUENCY
1.	System Record ID Number	
2.	Reporting Year	
3.	Reporting Quarter	
4.	Type of Service	
5.	Pro Code	
6.	Facility Region	
7.	Facility County	
8.	Facility Number	
9.	Patient Race or Ethnicity	
10.	Patient Sex (Gender)	
11.	Patient Age	
12.	Length of Service (days)	
13.	Weekday	
14.	Patient Zip Code	
15.	Patient County	
16.	Patient State of Residence	
17.	Hour of Arrival	
18.	Patient Status at End of Visit	
19.	Principal Payer	
20.	Patient Reason for Visit	
21.	Principal CPT or HCPCS Procedure Code	
22.	Other CPT or HCPCS Procedure Codes	Occurs up to 9 times
23.	Principal ICD-9-CM Diagnosis Code	
24.	Other ICD-9-CM Diagnosis Code	Occurs up to 9 times
25.	External Cause of Injury Codes	Occurs up to 3 times
26.	Principal ICD-9-CM Procedure Code	
27.	Other ICD-9-CM Procedure Code	Occurs up to 4 times
28.	Attending Physician ID Number	
29.	Operating or Performing Physician ID Number	
30.	Other Physician ID Number	
31.	Revenue Charges	Occurs up to 11 times
32.	Total Gross Charges	

Figure 5. Florida Agency for Health Care Administration ED public file layout, pre-2010.

AMBULATORY and EMERGENCY DEPARTMENT PATIENT DATA PUBLIC DATA FILE LAYOUT

***EFFECTIVE January 2010** (Revised)*

ITEM	DATA ELEMENTS	FILE COLUMN HEADING	COMMENTS
1.	System Record ID Number	SYS_RECID	
2.	Report Year	YEAR	
3.	Report Quarter	QTR	
4.	AHCA Facility Number	FACLNBR	
5.	Facility Medicare Number (new)	MCARE_NBR	
6.	Type of Service Code	TYPE_SERV	
7.	Service Location (new)	SERV_LOC	
8.	Pro Code	PRO_CODE	
9.	Facility Region	FAC_REGION	
10.	Facility County	FAC_COUNTY	
11.	Patient Ethnicity (new)	ETHNICITY	
12.	Patient Race (revised name and codes)	RACE	
13.	Patient Sex (revised codes)	SEX	
14.	Patient Age (calculated)	AGE	
15.	Length of Service (days) (calculated)	LOSDAYS	
16.	Patient Visit Weekday	WEEKDAY	
17.	Patient Zip Code	ZIPCODE	
18.	Patient County	PTCOUNTY	
19.	Patient State of Residence	PTSTATE	
20.	Patient Country (new)	PTCOUNTRY	
21.	Source or Point of Origin of Admission (new)	ADMSRC	
22.	Hour of Arrival	HR_ARRIVAL	
23.	Emergency Department (ED) Hour of Discharge (new)	EDHR_DISCH	
24.	Patient Status at End of Visit	PT_STATUS	
25.	Principal Payer (revised codes)	PAYER	
26.	Patient's Reason for Visit ICD-CM Code (admitting diagnosis)	REASON_CDE	
27.	Evaluation and Management Code (new)	EVALCODE1 – EVALCODE5	Occurs up to 5 times
28.	Other CPT or HCPCS Procedure Codes	OTHCPT1 – OTHCPT30	Occurs up to 30 times
29.	Principal ICD-CM Diagnosis Code	PRINDIAG	
30.	Other ICD-CM Diagnosis Code	OTHDIAG1 – OTHDIAG9	Occurs up to 9 times
31.	External Cause of Injury Code	ECODE1 – ECODE3	Occurs up to 3 times
32.	Principal ICD-CM Procedure Code	PRINPROC	
33.	Other ICD-CM Procedure Code	OTHPROC1 – OTHPROC4	Occurs up to 4 times
34.	Attending Practitioner Identification Number (revised name)	ATTEN_PHYID	
35.	Attending Practitioner National Provider Identification (NPI) (new)	ATTEN_PHYNPI	
36.	Operating or Performing Practitioner Identification Number (revised name)	OPER_PHYID	
37.	Operating or Performing Practitioner National Provider Identification (NPI) (new)	OPER_PHYNPI	
38.	Other Operating or Performing Practitioner Identification Number (revised name)	OTHOPER_PHYID	
39.	Other Operating or Performing Practitioner National Provider Identification (NPI) (new)	OTHOPER_PHYNPI	

Revised: May 16, 2011

Figure 6. Florida Agency for Health Care Administration ED public file layout, post-2010.

distinguished, and Code 65 solely designates "discharged or transferred to a psychiatric hospital including psychiatric distinct part units of a hospital." However, because the diagnostic codes are included for prior years, utilizing a list of psychiatric diagnoses, as listed in Appendix A, effectively screens for hospitals that have histories of transferring patients to outside facilities for psychiatric care. The described analysis used the most recent available 3 years of data (2010–2012). The University of New Mexico Health Sciences Center Human Research Protections Office granted this phase of the study exempt status based on the use of an existing deidentified, publicly available data set.

Examination of the Ambulatory and Emergency Department Patient Data Public Data File identified 25 potential hospital study sites in Florida to participate in the study using the criteria of discharging at least 30 patients per quarter on average to psychiatric inpatient facilities over the 3-year period. This ensured that only hospitals with sufficient numbers of patients with psychiatric transfers from areas of the state with different Baker Act resource levels would be included in the stratification process. Following site identification, the investigator contacted the chief nursing officer via personal letters and multiple follow-up phone calls (see Appendix B) at each site, inviting the hospital to participate in Stage 2 of the study. The investigator obtained a letter of approval and support from each participating site prior to applying for study approval from the University of New Mexico Health Sciences Center Human Research Protections Office, as the institutional review board (IRB) of record.

Second Stage of Study

The following section describes the methods and procedures for the second stage of the study.

Research Questions

For the purposes of this study, boarding occurs after a practitioner in an emergency department evaluates the patient and determines the patient requires admission to a Baker Act receiving facility. Boarding occurs when a patient is medically stable for such a transfer but remains in the ED or admitted to a medical unit of the hospital for longer than 4 hours (Nicks & Manthey, 2012; TJC, 2011). The aims of this study were to examine the frequency of psychiatric boarding and identify the health services factors and individual determinants associated with boarding for patients requiring involuntary psychiatric examination in Florida hospital EDs to answer the research questions:

1. To what extent does psychiatric boarding in acute care hospitals for individuals needing involuntary examinations occur in Florida?
2. What individual and structural factors influence occurrences of boarding for individuals requiring involuntary mental health examinations in Florida within the context of the societal determinant of the Baker Act?

Data collection pilot. The investigator recruited a hospital system to pilot the site coordinator training and data collection procedure. The pilot site was a hospital system well known to the investigator that routinely cares for 20–30 patients each month who require involuntary mental health examinations. The final data analysis did not include data collected at the pilot site. The pilot hospital IRB and the University of New Mexico Health Sciences Center Human Research Protections Office approved the pilot study. The pilot study collected data from 30 participants and (a) tested feasibility of obtaining the required data elements for the survey tool (see Appendix D), (b) determined the

process time of data collection, and (c) estimated an effect size for the larger study logistic regression model. The collection procedures did not require any adjustments following the pilot study.

Study Sites

The investigator selected 25 potential study sites representing 12 of the circuits in Florida that DCF uses for program administration. These circuits reflect diversity in areas of population density and receiving facility presence. Four potential study sites in four circuits responded positively to the study invitation, rendering the effective purposive sample described in the section on Stage 1. However, two of the study sites dropped out, one because of an inability to recruit a site coordinator and the other out of concern about overtaxing staff resources. The final sample represents the target population at two study sites, representing regions with Baker Act receiving facility bed capacities of 18 and 36 beds per 100,000 residents, respectively, near the extremes of the range of 12 to 50 beds per 100,000 residents. There are currently 4,268 licensed inpatient psychiatric hospital beds in Florida in 26 specialty psychiatric hospitals and in psychiatric wards of 58 general hospitals. All but 230 of these beds are in designated Baker Act receiving facilities. One of the study sites is in a circuit with 96 non–receiving facility psychiatric inpatient beds. The other study site has no inpatient psychiatric beds that are not in designated receiving facilities.

Health service system resources. The health services utilization framework is the conceptual structure that guided this study. Resources and organization are two dimensions of the framework (Andersen & Newman, 1973/2005). The two types of

institutional resources under examination are the acute care hospitals where boarding occurs and the numbers and locations of designated Baker Act receiving facility beds.

Study sites description. Two sites were used for data collection in this study, and the Baker Act receiving facility resources vary in the regions where the two hospitals are located. Table 3 displays demographic data about the overall ED patient population for each of the study sites. The two study sites met the criteria for discharging more than 30 ED patients per quarter to an inpatient psychiatric facility during the period 2010–2012, with Study Site A's average of 52.5 patients and Study Site B's average of 33.9 patents. Both hospitals are located within counties where one public Baker Act receiving facility is located. Study Site A is located in a county that also has one private Baker Act receiving facility. Study Site A is in a circuit comprising six counties with a total population of nearly 300,000 residents. Study Site A is located in a circuit with 36 beds in receiving facilities per 100,000 residents. Study Site B is in a circuit comprising five counties and a total population of about 1.2 million residents. Study Site B is located in a circuit with 18 receiving facility beds per 100,000 residents. The disparity of receiving facility beds is one difference in the health service system considered in this data analysis.

Study Procedures

The investigator traveled to each study site to demonstrate to the site coordinators the data entry procedures. Following verification of competence in data entry, the investigator provided secure access to the data entry system to each site coordinator. Each study site coordinator had restricted access only to the data from her specific site. Site coordinators completed research training requirements as designated by each facility

Table 3

ED Patient Population Demographic Data for Study Sites in 2012

	Study Site A	Study Site B
Age, *Md, M* (*SD*)	35, 39.6 (17.8)	54, 54.6 (21.0)
Gender, male	34.4%	46.6%
Race/ethnicity, White, non-Hispanic	82%	71.5%
Primary insurance type		
Commercial, private	27.5%	26%
Medicare	26.1%	41.2%
Medicaid	25.2%	9.9%
No insurance	21.2%	22.9%

Note. Patients aged 18 years and older included (FL Center for Health Information, 2013).

IRB and the University of New Mexico Human Research Protections Office. The investigator maintained biweekly contact with each site coordinator by telephone to ensure consistency of data collection. Site coordinators contacted the investigator by e-mail during data collection for clarification of questions about participant eligibility relating to veteran status and age of participants. Veterans using VA facilities for psychiatric evaluation and individuals under 18 years of age were excluded from data collection. A single site coordinator at each facility reviewed charts and entered the data.

Data Collection

Data collection occurred at both sites simultaneously through retrospective chart review from a random selection of charts of patients meeting inclusion criteria from the previous 12 months. Site coordinators at each study site were registered nurses, acting as honest brokers. These health professionals access patients' protected health information as part of their ordinary job function. Site coordinators retrospectively identified ED patients under Baker Act status using a facility "Baker Act report" as the source document. Each study participant had a Baker Act form (see Appendix E) or documentation of a Baker Act form in his or her record. Patients aged 18 years and older who appeared on the Baker Act report source document were included in the study group. If a patient arrived at the hospital ED with a completed Baker Act form, and an emergency physician or other qualified practitioner subsequently determined that no involuntary examination was necessary (Florida Mental Health Act, 2006), that patient was excluded from the study group. The site coordinators achieved randomization by selecting every third case on the facility Baker Act report, starting with the most recent case and moving backward in time until reaching the target number of cases of 85. When

a case did not meet the inclusion criteria, the site coordinator skipped that case and proceeded to the next in the selection pattern.

Site coordinators used the Research Electronic Data Capture (REDCap) electronic data capture tools hosted at the University of New Mexico Health Sciences Center. REDCap is a secure, Web-based application designed to support data capture for research studies, providing (a) an intuitive interface for validated data entry, (b) audit trails for tracking data manipulation and export procedures, (c) automated export procedures for seamless data downloads to common statistical packages, and (d) procedures for importing data from external sources. The REDCap system is secure and compliant with the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA) and provided a means for site coordinators to transmit deidentified data to the investigator.

Each study site coordinator, acting as an honest broker, recorded and transmitted data for registered ED patients aged 18 years and older for whom a Baker Act form (see Appendix E for applicable Baker Act forms) was completed by a health professional, who arrived at the ED with a Baker Act form completed by a law enforcement officer, or who had an ex parte order for an emergency mental health examination, unless the patient was transferred to a VA facility for involuntary psychiatric evaluation. Site coordinators coded each entry to indicate the study site; each participant had a unique coded identifier. Participant identities corresponding to the identifier codes were available only to the site coordinator at each facility to protect the anonymity of the participants. Collected were the following data:

- age
- gender

- psychiatric diagnosis using primary and secondary ICD-9 codes
- toxicology screening results
- living arrangements (is the person “experiencing homelessness”?)
- paying status using the same principal payer codes as the Ambulatory and Emergency Department Patient Data Public Data File
- ethnicity using the same ethnicity codes as the Ambulatory and Emergency Department Patient Data Public Data File
- race using the same race codes as the Ambulatory and Emergency Department Patient Data Public Data File
- date/time of Baker Act initiation
- initiator of the Baker Act: law enforcement, medical provider, or judicial ex parte order
- use of physical restraints that meet behavioral criteria while hospitalized (Conditions of Participation, 2006)
- suicidality
- date and time of arrival at the hospital ED
- need for medical treatment to stabilize a medical emergency prior to safe transfer to a receiving facility; if yes, date and time of “medical clearance”
- date and time of first contact with receiving facility
- date and time of transfer to receiving facility
- transfer destination (which receiving facility)

Data Analysis

Boarding occurrences and durations were calculated in SPSS version 19, using the data/time wizard to subtract the time that the patient was documented to be medically stable from the transfer or departure time. To provide a comprehensive report of the study sites, study participants, and the determinants that influence delays and episodes of boarding, each categorical variable was examined for frequency and proportion. The continuous variables measuring age and durations were explored for measures of central tendency, distribution, normality, and variation.

Bivariate analyses were used to screen each of the independent variables for association with the outcome variables for the full sample and for each of the subsamples from both study sites. Pearson's chi-square checked for association of the categorical predictor variables with boarding occurrences of 12 hours and longer and of 24 hours and longer. Effect sizes were calculated using phi for 2 × 2 contingency tables and Cramér's V for 4 × 2 tables. According to Cohen's (1988) convention, .1 corresponds to a small effect, .3 shows a medium effect, and .5 indicates a large effect for phi and Cramér's V. The continuous variable, age, was not screened, and it was entered into the logistic regression models.

Owing to right skewness of the length of time distributions and consistent with the methodology used by Slade et al. (2010) and Weiss et al. (2012), the bivariate analyses and the linear regression models used log-transformations for the boarding times dependent variable. Each of the independent variables was screened for association with the log-transformed length of boarding. Independent *t*-tests were used for the dichotomous independent variables, analyses of variance (ANOVAs) were used for the

polychotomous variables, and Pearson's correlations checked for association for the continuous variables. Cohen's *d* measured the effect size for the independent samples *t*-tests. Using standard convention, .2 signifies a small effect, .5 a medium effect, and .8 a large effect for Cohen's *d* (Cohen, 1988).

Only 10% of participants did not experience boarding, which is defined as a 4-hour or longer delay, 48.8% experienced a boarding episode exceeding the statutory limitation of 12 hours, and 18.2% experienced boarding episodes longer than 24 hours. Because this study was not powered to detect predictors of relatively rare events, the logistic regression models focused on predictors of boarding that exceeded the 12-hour statutory maximum. Three logistic regression models were created to determine the influence of independent variables on 12-hour or longer boarding for the full sample and for each of the two study sites. Categorical independent variables that demonstrated association with 12-hour or longer boarding by Pearson chi-square with *p* values of .1 or lower entered all three models.

Three linear regression models were created, one for the full sample and one each for the two subsamples from the study sites. Each model used the predictor variables that demonstrated bivariate association with the dependent variable of log-transformed length of boarding with *p* values of .1 or lower in the full sample or in either of the study site subsamples.

The polychotomous categorical variables, insurance type and diagnosis category, were dummy coded for input into the regression analyses. Using dummy variables resulted in as many as 19 predictor variables. Analysis of the data collected from the pilot estimated the odds ratio in the model at between 2.125 and 2.143 for key predictors.

An a priori power analysis determined that a sample size of 85 participants was required for the logistic regression models to detect an odds ratio of 2.14 with an alpha of .05 and power of .80 and a prevalence of the outcome of 50%. For the linear regression models, when using 19 predictors on each of the outcome variables, a priori power analysis indicated that a total sample size of 153 participants would detect a medium effect (f^2 = 0.15; α = .05, 1 − β = .80; Buchner, Erdfelder, Faul, & Lang, 2009). The target sample size of 170 provided sample size protection in the event of missing data. Each of the predictor variables falls within the health services utilization framework as a health service system factor or as an individual determinant (Andersen & Newman, 1973/2005). See Figure 7 for the classification of each predictor variable.

Study Participants

Study participants were records of patients, aged 18 years and older, in hospital EDs requiring involuntary mental health examinations according to the criteria in the Baker Act, as follows: (a) reason to believe mental illness is present, (b) likelihood of self-neglect that poses a real and present threat of substantial harm and/or threat of substantial harm to self or others, and (c) inability or refusal to consent to voluntary examination (Baker Act, 2011). Inclusion criteria were any patient, aged 18 years and older, for whom a Baker Act form was completed. If a patient arrived at the hospital ED with a Baker Act form completed prior to arrival, and an emergency physician or other qualified practitioner subsequently determined that involuntary examination was unnecessary, site coordinators excluded that patient from the study group. The sample excluded patients who received an involuntary psychiatric examination at a VA facility.

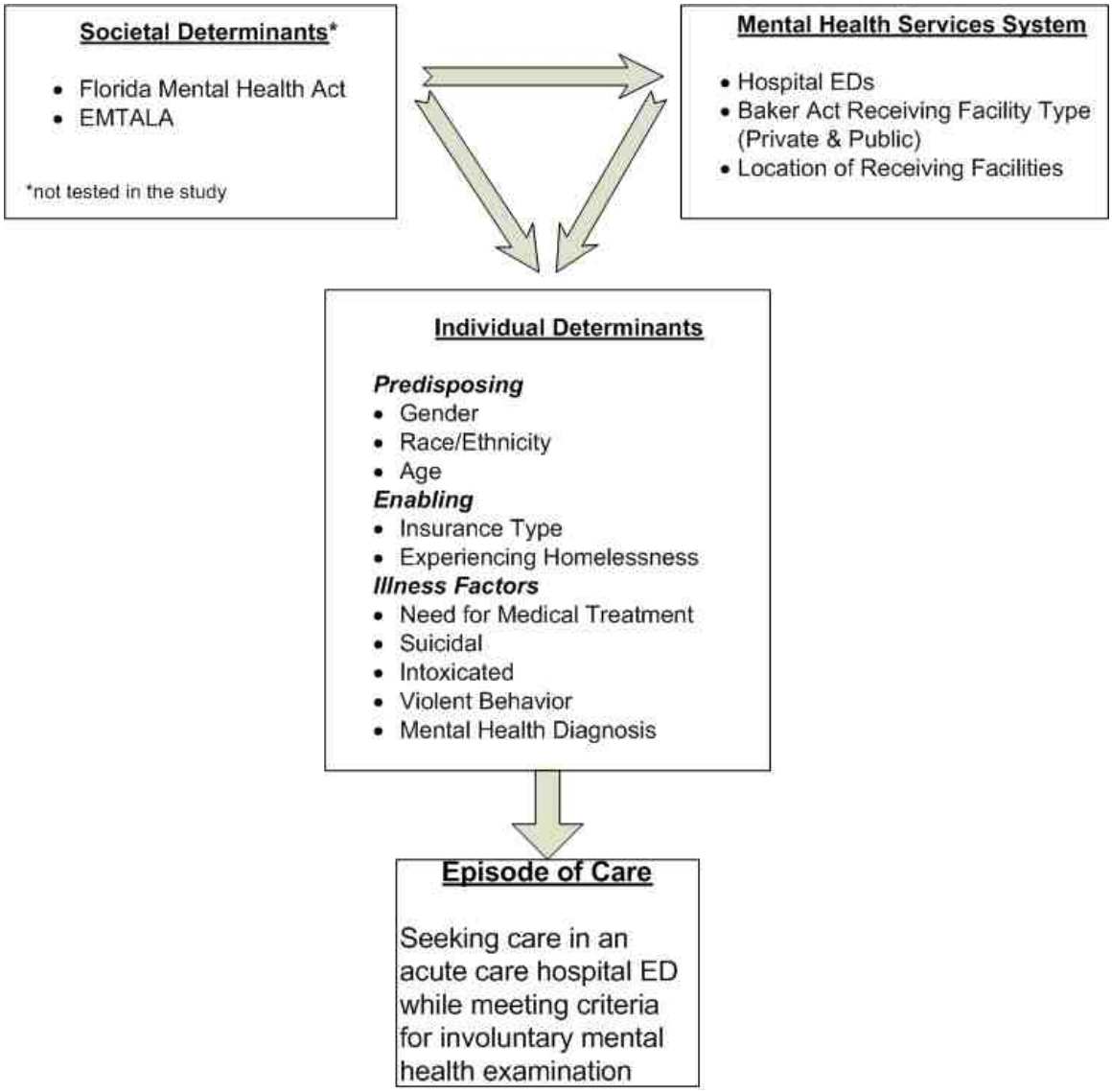

Figure 7. Study variables using health services utilization model.

Participants may have been any age older than 18 years, any ethnicity, any race, or any resident status. The participants may have arrived at the hospital ED escorted by law enforcement officers, accompanied by friends or family, or they may have arrived to an ED alone. The site coordinators, acting as honest brokers, submitted all deidentified data to the study investigator. Owing to the retrospective nature of the data collection and the honest broker submitting deidentified data, the IRBs for the hospital study sites and the university waived informed consent and HIPAA authorization. This study was retrospective and observational only; no intervention or alteration in usual services to participants occurred.

Participant Descriptions

There were 100 men and 70 women in the sample. The participants ranged in age from 18 to 89 years (*Md* = 41.7, *M* = 42.9, *SD* = 16.58). The sample overwhelmingly comprised non-Hispanic Whites (*n* = 147, 86.5%). Less than 9% (*n* = 15) reported no permanent residence (experiencing homelessness). Two-thirds of the participants (*n* = 113) had some type of insurance coverage: 18.2% (*n* = 31) had private or employer-based insurance, 28.2% (*n* = 48) were covered by Medicare, and 20% (*n* = 34) were Medicaid enrollees. The remaining 33.5% of participants (*n* = 57) had no insurance coverage (total does not equal 100% due to rounding).

A medical provider, rather than a law officer, initiated the involuntary examination for more than two-thirds of the cases (*n* = 121). Upon arrival at the hospital ED, 58.2% (*n* = 99) of the participants required some type of medical intervention to stabilize them medically for safe transfer to a receiving facility. The other 71 participants were stable for transfer to the psychiatric facilities upon arrival to the hospital. Suicidal

intention or ideation was documented in the records of nearly two-thirds (n = 104) of participants. Greater than half the participants (53%, n = 90) were intoxicated. Use of behavioral physical restraints is for the "management of violent or self-destructive behavior that jeopardizes the immediate physical safety of the patient, a staff member, or others" (Conditions of Participation, 2006). As such, use of behavioral restraints is a proxy for violent or uncontrollable behavior. Eleven percent (n = 19) of patients required restraints under behavioral criteria to manage violent or uncontrollable behavior.

Data collectors recorded the primary and secondary diagnoses using ICD-9 codes from the patient records. All participants had primary diagnoses; 138 also had a secondary diagnosis. The secondary diagnosis may have been in the same or different category as the primary diagnosis. The primary diagnosis was used for all analyses unless the primary diagnosis was a medical disorder. Because the Baker Act requires a mental illness to be present for involuntary examinations, to understand better what type of mental illnesses affect psychiatric boarding, in cases where the primary diagnosis was a medical disorder, the secondary diagnosis was used. Consultation with a psychiatric expert who evaluates and manages patients in Florida under the Baker Act criteria resulted in categorization of the diagnosis codes into four groups: (a) thought disorders, (b) mood disorders, (c) substance use disorders, and (d) medical disorders. Appendix F displays the specific diagnoses in the groupings. Mood disorders were the most frequent type of diagnosis; nearly half (n = 83, 48.8%) of participants were assigned a mood disorder. Nearly one-third (n = 50, 29.4%) of the participants received a thought disorder diagnosis. About one-tenth (n = 18, 10.6%) had a substance use disorder documented in the record, and 19 participants had medical disorders documented for the primary and for

the secondary diagnoses. The race and ethnicity of the participants were statistically significantly associated with the diagnostic categories. Non-White Hispanic participants were more likely to have thought disorder diagnoses (52.2%) than White non-Hispanic participants (25.9%), and non-White Hispanic participants were less likely to have mood disorder diagnoses (26.1%) than White non-Hispanic participants (52.4%), $\chi^2(3) = 7.80$, $n = 170$, $p = .05$, Cramér's V = .21. See Table 4 for the full description of study participants.

Treatment of the Data

Because participants were individuals requiring involuntary mental health examinations, revealing their identity may have resulted in stigma, job discrimination, or other detriments to their personal reputations. The investigator therefore developed a limited data set with minimal patient health information and maintained it in a secure fashion to minimize any risk of disclosure of personal identifying information. The study site coordinators at each participating facility were health professionals within the agencies. These professionals routinely access protected health information for the defined study participants during ordinary performance of job activities. No additional access to protected health information by individuals other than by the data collector occurred as part of data collection for this study.

Study site coordinators, acting as honest brokers, transmitted the deidentified data via the secure REDCap data management system. Each study coordinator had access only to data originating from her site. The investigator completed data use agreements for each participating study site, committing that investigators would not attempt to reidentify the data and assuring participating hospitals that only the researcher and her

Table 4

Description of Study Participants

	Total		Study Site A		Study Site B	
	n	%	*n*	%	*n*	%
Male	100	58.8	48	56.5	52	61.2
Female	70	41.2	37	43.5	33	38.8
Non-Hispanic White	147	86.5	73	85.9	74	87.1
Experiencing homelessness[a]	15	8.8	1	1.2	14	16.5
Medical provider–initiated Baker Act	121	71.2	62	72.9	59	69.4
Required medical treatment[b]	99	58.2	26	30.6	73	85.9
Insurance type[c]						
Private/commercial	31	18.2	18	21.2	13	15.3
Medicare	48	28.2	16	18.8	32	37.7
Medicaid	34	20.0	24	28.2	10	11.8
No insurance	57	33.5	27	31.8	30	35.3
Violent (behavioral restraints)	19	11.2	10	11.8	9	10.6
Suicidal[d]	104	61.2	43	50.6	61	71.8
Intoxicated[e]	90	52.9	35	41.2	55	64.7
Diagnosis[f]						
Thought disorder	50	29.4	39	45.9	11	12.9
Mood disorder	83	48.8	41	48.2	42	49.4
Substance use disorder	18	10.6	2	2.4	16	18.8
Medical disorder	19	11.2	3	3.5	16	18.8

Table 4 (continued)

	Total		Study Site A		Study Site B	
	n	%	*n*	%	*n*	%
Boarded						
>4 hours	153	90.0	83	97.6	70	82.4
>12 hours[g]	83	48. 8	57	67.1	26	30.6
>24 hours	31	18.2	17	20.0	14	16.5
>72 hours	1	0.6	0	0.0	1	1.2
Public receiving facility[i]	94	55.3	37	43.5	57	67.1
Transferred out of county	58	34.1	31	36.5	27	31.8
	Total		Study Site A		Study Site B	
Age, *Md, M* (*SD*)	41.7, 42.9 (16.6)		40.2, 40.6 (15.1)		45.9, 45.1 (17.1)	
Miles to receiving facility, *Md, M* (*SD*)[h]	6, 27.2 (38.8)		2, 34.3 (50.2)		6, 20.1 (20.1)	

Note. $N = 170$. Samples for Study Sites A and B each $n = 85$.
[a]Significant differences between Study Sites A and B: $\chi^2(1) = 10.91$, $n = 161$, $p = .001$, phi = −.26. [b]Significant differences between Study Sites A and B: $\chi^2(1) = 53.43$, $n = 170$, $p < .001$, phi = −.56. [c]Significant differences between Study Sites A and B: $\chi^2(3) = 12.06$, $n = 170$, $p = .007$, Cramér's V = .27. [d]Significant differences between Study Sites A and B: $\chi^2(1) = 8.02$, $n = 170$, $p = .005$, phi = −.22. [e]Significant differences between Study Sites A and B: $\chi^2(1) = 9.44$, $n = 170$, $p = .002$, phi = −.24. [f]Significant differences between Study Sites A and B: $\chi^2(3) = 35.48$, $n = 170$, $p < .001$, Cramér's V = .46. [g]Significant differences between Study Sites A and B: $\chi^2(1) = 22.62$, $n = 170$, $p < .001$, phi = −.37. [h]Significant differences between Study Sites A and B: $t(168) = -2.42$, $p = .02$, Cohen's $d = -.37$. [i]Significant differences between Study Sites A and B: $\chi^2(1) = 9.52$, $n = 170$, $p = .002$, phi = .24.

supervising committee members had access to the entire data set.

The investigators stored the limited data set information only on the REDCap secure server at the Clinical and Translational Science Center at the Health Sciences Center of the University of New Mexico. The investigator directly imported and analyzed the data with SPSS version 19 to perform statistical analyses. The investigator has retained the deidentified data set in the SPSS file in a secure fashion to allow comparison with data from future studies about psychiatric boarding.

Chapter 4

Results of the Statistical Analyses of the Data

This chapter presents the results of the statistical analyses conducted to answer the research questions:

1. To what extent does psychiatric boarding in acute care hospitals for individuals needing involuntary examinations occur in Florida?
2. What individual, societal, and structural factors influence occurrences of ED boarding for individuals requiring involuntary mental health examinations in Florida?

Baker Act Receiving Facilities

Ten Baker Act receiving facilities were used for involuntary examination of the participants in the sample, six from Study Site A and four from Study Site B. Four facilities receive funding from the DFC (public facilities); the others are private specialty psychiatric hospitals or general hospitals that provide psychiatric services. Transfers to private (n = 76) versus public (n = 94) receiving facilities were split at about a 45% to 55% ratio, respectively. About one-third (n = 58) transferred to receiving facilities in counties other than the county in which the hospital was located. Participants traveled distances ranging from 1 to 137 miles for their involuntary psychiatric examinations (Md = 6.0, M = 27.2, SD = 38.8).

Participants without insurance coverage more frequently transferred within the same county as the hospital to a receiving facility (n = 45, 40.2%) than those with insurance coverage. Participants with private insurance (n = 23, 74.2%) remained in the same county significantly more frequently than people with other types of insurance (n =

44, 53.7%). Participants covered by Medicare transferred out of the county more frequently (n = 27, 56.3%) to a receiving facility than participants with other insurance coverage types (n = 19, 29.2%), $\chi^2(3) = 15.79$, n = 170, p = .001, Cramér's V = .31. There was no significant difference in the log-transformed length of boarding between participants who stayed in county (M = 2.34, SD = 0.83) and those who transferred out of county (M = 2.31, SD = 1.00), $t(168) = -.233$, p = .827, Cohen's d = .36.

Medicare beneficiaries traveled the furthest (M = 32.56 miles) and participants with private insurance coverage had the shortest travel distances (M = 22.65 miles) to the receiving facilities. Analysis by one-way ANOVA revealed no statistically significant differences in distance to the receiving facilities between participants in the four insurance category groups, $F(3,166) = .611$, p = .609. Study participants aged 65 years and older (n = 20) traveled twice as far (M = 48.5 miles) to a receiving facility than those younger than 65 years (M = 24.4 miles), $t(168) = 2.65$, p =.009, Cohen's d = .64. The distance traveled to a private receiving facility (M = 39.49, SD = 43.01) was significantly longer than the distance to public receiving facilities (M = 17.33, SD = 32.01), $t(168) = -3.85$, $p < .001$, Cohen's d = .58. Uninsured participants (n = 44, 77.2%) and participants covered by Medicaid (n = 22, 64.7%) transferred to public receiving facilities significantly more frequently than did participants with private insurance (n = 13, 41.9%) or participants who were Medicare beneficiaries (n = 15, 31.3%), $\chi^2(3) = 25.74$, n = 170, $p < .001$, Cramér's V = .39. See Table 5 for details about receiving facilities and insurance types.

Table 5

Baker Act Receiving Facility Use by Insurance Type

	Receiving facility, *n* (%)		Transfer, *n* (%)	
Insurance type	Public	Private	In county	Out of county
Private/commercial	13 (13.8)	18 (23.7)	23 (20.5)	8 (13.8)
Medicare	15 (16.0)	33 (43.4)	21 (18.8)	27 (46.6)
Medicaid	22 (23.4)	12 (15.8)	23 (20.5)	11 (19.0)
No insurance	44 (46.8)	13 (17.1)	45 (40.2)	12 (20.7)
Total	94 (100.0)	76 (100.0)	112 (100.0)	58 (100.1)[a]

[a]Does not equal 100% owing to rounding.

Characteristics of Those Who Boarded

Boarding occurs when a person requiring specific health care services waits 4 hours or longer in the ED until appropriate inpatient resources are available (TJC, 2011); in the case of psychiatric boarding, the person might also wait on an inpatient medical unit until appropriate mental health facilities are available (Mansbach et al., 2003). According to the operational definition of boarding (any delay longer than 4 hours), 90% of the study participants experienced boarding; only 17 participants waited less than 4 hours for transfer to the Baker Act receiving facility. The mean boarding time from determination of medical stability to transfer was 14.9 hours (*SD* = 14.5, *Md* = 11.0). According to Florida statute, a patient must transfer to a designated receiving facility within 12 hours of stabilization of the emergency medical condition (Baker Act, 2011). Approximately one-half (*n* = 87) of study participants had transfer times that met this criteria. The remaining 48.8% of participants had waits that exceeded the statutory maximum, with 18.2% (*n* = 31) experiencing extended waits of more than 24 hours; one participant waited more than 4.5 days. Significantly more men (*n* = 58) experienced boarding delays of 12 hours or longer than women (*n* = 25) experienced, $\chi^2(1) = 8.19$, *n* = 170, *p* = .004, phi = .22. More men (*n* = 22, 22%) waited longer than 24 hours than women (*n* = 9, 12.8%) waited 24 hours or longer; the difference did not reach statistical significance, $\chi^2(1) = 2.31$, *n* = 170, *p* = .129, phi = .12. See Tables 6 and 7 for details about which participants experienced boarding episodes of longer than 12 and 24 hours. People who required medical interventions for stabilization prior to safe transfer to the receiving facility (*n* = 36, 36.4%) experienced fewer episodes of boarding that

Table 6

Participants Who Boarded 12 Hours or Longer

	Full sample		≥12-hour boarded full sample (*n*= 83)		≥12-hour boarded at Study Site A (n = 57)		≥12 hour boarded Study Site B (*n* = 26)	
	n	%	*n*	%	*n*	%	*n*	%
Male[a,b]	100	58.8	58	69.9	36	63.2	22	84.6
Female	70	41.2	25	30.1	21	36.8	4	15.4
Non-Hispanic White	147	86.5	70	84.3	47	82.5	23	88.5
Experiencing homelessness	15	8.8	6	7.2	1	1.8	5	19.2
Medical provider–initiated BA	121	71.2	59	71.1	42	73.7	17	65.4
Required medical treatment[c]	99	58.2	36	43.4	14	24.6	22	84.6
Insurance type[d]								
Private/commercial	31	18.2	12	14.5	7	12.3	5	19.2
Medicare	48	28.2	24	28.9	15	26.3	9	34.6
Medicaid	34	20.0	20	24.1	17	29.8	3	11.5
No insurance	57	33.5	27	32.5	18	31.6	9	34.6
Violent (behavioral restraints)	19	11.2	10	12.1	6	10.5	4	15.4
Suicidal intent or ideation	104	61.2	45	54.2	26	45.6	19	73.1
Intoxicatede	90	52.9	43	51.8	22	38.6	21	80.8

Table 6 (continued)

	Full sample		≥12-hour boarded full sample (*n*= 83)		≥12-hour boarded at Study Site A (*n* = 57)		≥12 hour boarded Study Site B (*n* = 26)	
	n	%	*n*	%	*n*	%	*n*	%
Diagnosis								
Thought disorder	50	29.4	30	36.1	28	49.1	2	7.7
Mood disorder	83	48.8	39	47.0	24	42.1	15	57.7
Substance use disorder	18	10.6	5	6.0	2	3.5	3	11.5
Medical disorder	19	11.2	9	10.8	3	5.3	6	23.1
Public receiving facility	94	55.3	47	56.6	28	49.1	19	73.1
Transferred out of county	58	34.1	31	37.3	22	38.6	9	34.6

[a]Significant association with >12 hour boarding for full sample: $\chi^2(1) = 8.20$, $n = 170$, $p = .004$, phi = .22. [b]Significant association with >12 hour boarding at Study Site B: $\chi^2(1) = 8.66$, $n = 85$, $p = .003$, phi = .32. [c]Significant association with >12 hour boarding for full sample: $\chi^2(1) = 14.73$, $n = 170$, $p < .001$, phi = −.29. [d]Significant association with >12 hour boarding at Study Site A: $\chi^2(3) = 11.78$, $n = 85$, $p = .008$, phi = .37. [e]Significant association with >12 hour boarding at Study Site B: $\chi^2(1) = 4.23$, $n = 85$, $p = .040$, phi = .22.

Table 7

Participants Who Boarded 24 Hours or Longer

	Full sample		≥24 hour boarded full sample (*n* = 31)		≥24 hour boarded Study Site A (*n* = 17)		≥24 hour boarded Study Site B (*n* = 14)	
	n	%	*n*	%	*n*	%	*n*	%
Male	100	58.8	22	71.0	11	64.7	11	78.6
Female	70	41.2	9	29.0	6	35.3	3	21.4
Non-Hispanic White	147	86.5	26	83.9	14	82.4	12	85.7
Experiencing homelessness	15	8.8	4	12.9	1	5.8	3	21.4
Medical provider–initiated BA	121	71.2	21	67.7	10	58.8	11	78.6
Required medical treatment	99	58.2	17	54.8	5	29.4	12	85.7
Insurance								
Private/commercial	31	18.2	4	12.9	2	11.8	2	14.3
Medicare	48	28.2	6	19.4	2	11.8	4	28.6
Medicaid	34	20.0	6	19.4	4	23.5	2	14.3
No insurance	57	33.5	15	48.4	9	52.9	6	42.9
Violent (behavioral restraints)	19	11.2	5	16.1	3	17.6	2	14.3

Table 7 (continued)

	Full sample		≥24 hour boarded full sample (*n* = 31)		≥24 hour boarded Study Site A (*n* = 17)		≥24 hour boarded Study Site B (*n* = 14)	
	N	%	*n*	%	*n*	%	*n*	%
Suicidal intent or ideation	104	61.2	20	64.5	10	58.8	10	71.4
Intoxicated	90	52.9	17	54.8	5	29.4	12	85.7
Diagnosis								
Thought disorder	50	29.4	7	22.6	6	35.3	1	7.1
Mood disorder	83	48.8	18	58.1	9	52.9	9	64.3
Substance use disorder	18	10.6	4	12.9	2	11.8	2	14.3
Medical disorder	19	11.2	2	6.5	0	0.0	2	14.3
Public receiving facility	94	55.3	22	71.0	10	58.8	12	85.7
Transferred out of county[a]	58	34.1	12	38.7	9	52.9	3	21.4

[a]Significant association with >24 hour boarding for Study Site A: $\chi^2(1) = 4.40$, $n = 85$, $p = .036$, phi = .23.

exceeded 12 hours than did people who did not require treatment for medical conditions (n = 47, 66.2%), $\chi^2(1) = 14.73$, n = 170, $p < .001$, phi = −.29. This difference did not continue for the participants who had boarding delays of more than 24 hours.

In the full sample, insurance type, race/ethnicity, experiencing homelessness, intoxication, violent behavior, and diagnosis category did not exhibit any influence on boarding episodes lasting longer than 12 or 24 hours. A smaller proportion of participants who expressed suicidal intention or ideation (n = 45, 43.3%) waited longer than 12 hours than did participants who did not indicate suicidal thoughts (n = 38, 57.6%), though the difference was not statistically significant, $\chi^2(1) = 3.31$, n = 170, p = .069, phi = −.14, and the difference narrowed for participants who waited longer than 24 hours.

Inferential Statistical Analyses

The following analyses examine the data to determine if any health service system factors and individual determinants predict episodes of boarding that last 12 hours or longer and overall length of boarding.

Differences Between the Study Sites

There are differences between the samples from the two study sites. At Study Site A, only one participant was experiencing homelessness, whereas 16.5% (n = 14) of the participants at Study Site B reported no permanent residence, $\chi^2(1) = 10.91$, n = 161, p = .001, phi = −.26. Significantly fewer participants required treatment to achieve medical stability prior to transfer to a receiving facility at Study Site A (n = 26) than at Study Site B (n = 73), $\chi^2(1) = 53.43$, n = 170, $p < .001$, phi = −.56. Significantly more participants at Study Site B (n = 61) than at Study Site A (n = 43) had suicidal intention

or ideation, $\chi^2(1) = 8.02$, $n = 170$, $p = .005$, phi = −.22. At Study Site A, 35 participants were intoxicated, which is significantly less than the 55 participants at Study Site B who met the same criterion, $\chi^2(1) = 9.44$, $n = 170$, $p = .002$, phi = −.24.

The payer mix for participants at the two hospitals was different, $\chi^2(3) = 12.06$, $n = 170$, $p = .007$, Cramér's V = .27. Medicare provided coverage for 18.8% of the participants at Study Site A and 37.6% of the participants at Study Site B. The proportions of participants covered by Medicare reflects the difference in proportions of the hospital ED adult (≥18 years) annual patient population that are aged 65 years and older. At Study Site A, 11.4% of the adult patient population is older than 65 years; at Study Site B, 33.0% of the adult patients are more than 65 years old (FL Center for Health Information, 2013). The Medicaid enrollment percentages differed in the inverse direction from Medicare enrollment (Study Site A = 28.2%, Study Site B = 11.8%).

The frequency of three of the four diagnosis categories assigned to the participants differed significantly by study site, $\chi^2(3) = 35.48$, $n = 170$, $p < .001$, Cramér's V = .46. More participants at Study Site A experienced thought disorders ($n = 39$) than did participants at Study Site B ($n = 11$). The sample at Study Site B included 16 participants with substance use disorders, significantly more than the sample at Study Site A ($n = 2$). Medical disorders affected significantly more participants at Study Site B ($n = 16$) than at Study Site A ($n = 3$).

Study Site and Gender Associated With Episodes of Boarding for 12 Hours or Longer

The bivariate analyses indicated that seven independent variables met the criteria of *p* value of .1 or less for inclusion in the logistic regression models: (a) study site

(reference value, Study Site B), (b) gender (reference value, female), (c) the need for medical treatment for safe transfer to the receiving facility (reference value, no), (d) insurance type (reference value, private insurance), (e) presence of suicidal intent or ideation (reference value, no), (f) intoxication (reference value, no), and (g) transferring to a receiving facility out of the county (reference value, no). These seven categorical independent variables and the continuous independent variables, age and distance to receiving facility, were entered into a logistic regression model in a forced entry procedure for the outcome of 12 hours or longer boarding for the full study sample. Preliminary analysis indicated adequate goodness of fit for the model (Hosmer and Lemeshow test $p = .947$) and no problems with multicollinearity (variance inflation factor maximum = 4.84).

The full model, with all the predictors, was statistically significant for predicting boarding of 12 hours or longer, $\chi^2(11) = 42.39$, $N = 170$, $p < .001$. The pseudo R^2 values for the model were .221 (Cox and Snell) and .294 (Nagelkerke). The independent variables of study site and gender made unique statistically significant contributions to the model. Participants at Study Site A had 4.7 greater odds (95% CI, 2.0–12.5) of experiencing boarding lasting 12 hours or longer than did participants at Study Site B, controlling for all other predictors. Men had 3.3 greater odds (95% CI, 1.6–6.9) of waiting 12 hours or longer than did women (Table 8). The full model correctly classified 12-hour or longer boarding occurrences for 70.6% of participants; see Table 9 for classification details, a substantial improvement over the correct classification of the null model (51.2%). No predictor variables showed statistically significant association with extended boarding of 24 hours or longer in the bivariate analyses for the full sample,

Table 8

Odds Ratios for Boarding Times of 12 Hours or Longer

	Full sample[a]		Study Site A[b]		Study Site B[c]	
	OR	95% CI	OR	95% CI	OR	95% CI
Study site[d]	4.70	1.77–12.49	–	–	–	–
Gender[d,e]	3.29	1.57–6.89	4.15	1.19–14.51	6.67	1.75–25.41
Required medical treatment	0.69	0.29–1.62	0.30	0.07–1.34	0.53	0.12–2.43
Insurance type (contrast: private)						
Medicare[f]	2.13	0.66–6.92	30.23	2.12–430.14	0.70	0.12–3.98
Medicaid	1.91	0.60–6.12	2.33	0.43–12.57	0.82	0.12–5.74
No insurance	1.53	0.55–4.31	4.36	0.84–22.58	0.80	0.17–4.01
Suicidal intent or ideation	0.72	0.34–1.56	0.86	0.24–3.07	0.84	0.26–2.75
Intoxication	1.54	0.71–3.33	0.36	0.09–1.45	3.54	0.95–13.27
Out of county transfer[g]	0.88	0.17–4.58	8.96	1.72–46.71	2.34	0.56–9.77
Age[h]	1.00	0.99–1.03	1.08	1.02–1.15	0.97	0.93–1.01
Distance to receiving facility	1.01	0.99–1.03	–	–	–	–
Constant	0.13		0.20		0.35	

Note. CI = confidence interval; OR = odds ratio.
[a]$\chi^2(11) = 42.39$, $N = 170$, $p < .001$, pseudo R^2: .22 (Cox & Snell), .29 (Nagelkerke). [b]$\chi^2(9) = 34.09$, $N = 85$, $p < .001$, pseudo R^2: .33 (Cox & Snell), .46 (Nagelkerke). [c]$\chi^2(9) = 17.67$, $N = 85$, $p = .039$, pseudo R^2 .19 (Cox and Snell), .27 (Nagelkerke). [d]Full sample $p < .01$. [e]Study Site B, $p < .05$. [f]Study Site A, $p < .05$. [g]Study Site A, $p < .05$. [h]Study Site A, $p < .05$.

Table 9

Classification Table for Regression Model of 12-Hour and Longer Boarding

Observed	Predicted		% Correct
	Waited < 12 hours	Waited ≥ 12 hours	
Waited < 12 hours	64	23	73.6
Waited ≥ 12 hours	27	56	67.5
Overall percentage			70.6

thus, no regression model was created to determine influence of predictor variables on extended boarding.

There was not a statistically significant difference between the samples at the two study sites for boarding times for participants who experienced extended boarding longer than 24 hours ($U = 109$, $z = 4.38$, $p = .662$).

Influence of Health Service System Resources on Occurrences of Boarding

Health services system resources and institutional organizations contribute to overall health services utilization patterns. Because the health service system resources and organizations are different at the two facilities, the data were split to examine if the independent variables had differing influence under these two health service system conditions.

Controlling for the Health Service System Resources for Boarding Longer Than 12 and 24 Hours

More than two-thirds (67.1%) of participants at Study Site A experienced boarding delays longer than 12 hours, whereas fewer than one-third (30.6%) of those at Study Site B had this experience, $\chi^2(1) = 22.62$, $n = 170$, $p < .001$, phi = .37. The difference was not remarkable for participants who had delays longer than 24 hours (Study Site A, 16.5%; Study Site B, 20.0%), $\chi^2(1) = .36$, $n = 170$, $p = .551$, phi = .05. The gender difference of men ($n = 22$) versus women ($n = 4$) who waited 12 hours or longer was present in the Study Site B sample, $\chi^2(1) = 8.66$, $n = 85$, $p = .003$, phi = .32. Study Site A, with significantly more frequent 12-hour boarding episodes, showed no statistically significant differences in occurrence rates between men ($n = 36$, 75%) and women ($n = 21$, 56.8%), $\chi^2(1) = 3.15$, $n = 85$, $p = .076$, phi = .19.

There was an association between the need for medical treatment prior to safe transfer to the Baker Act receiving facility and the experience of waiting longer than 12 hours for transfer for the sample as a whole. The proportion of participants who needed medical treatment varied significantly between the samples at Study Site A (n = 26, 30.6%) and Study Site B (n = 73, 85.9%), $\chi^2(1) = 53.43$, n = 170, $p > .001$, phi = −.56. This factor does not demonstrate a statistically significant association with 12-hour boarding at either hospital when the sample was split by study site and the effect sizes were lower (Study Site A phi = −.19, Study Site B phi = −.29).

Intoxication was significantly associated with longer than 12-hour boarding at Study Site B (intoxicated participants n = 21, not intoxicated n = 5), $\chi^2(1) = 4.23$, n = 85, $p > .040$, phi = .22). This significant association did not exist for the sample at Study Site A. At Study Site A, insurance type was significantly associated with 12-hour boarding, $\chi^2(3) = 11.78$, n = 85, p =.008, Cramér's V = .37. Medicare enrollment (Medicare n = 15, 93.8%, not Medicare n = 42, 46.3%) was associated with more frequent occurrences of 12-hour or longer boarding, and participants with private commercial insurance (n = 7, 38.9%) had a lower proportion of 12-hour boarding occurrences than did all other participants (n = 50, 74.6%). Insurance type was not statistically influential for 12-hour boarding at Study Site B.

The two study sites have different health service system resources of receiving facility beds (Study Site A = 36 beds per 100,000 residents; Study Site B = 18 beds per 100,000 residents) and other nonidentified differences that may have been reflected in the differences between the study samples. Therefore each subsample was analyzed with

logistic regression independently to investigate which individual determinants of health services utilization predict 12- and 24-hour or longer boarding.

Medicare and gender most associated with 12-hour boarding at Study Site A. The logistic regression model to determine what independent variables predicted 12-hour or longer boarding used (a) gender (reference value, female), (b) the need for medical treatment for safe transfer to the receiving facility (reference value, no), (c) insurance type (reference value, private insurance), (d) presence of suicidal intent or ideation (reference value, no), (e) intoxication (reference value, no), (f) transferring to a receiving facility out of the county (reference value, no), and (g) age. Distance to receiving facility was excluded from the model owing to collinearity with out-of-county transfer. All the independent variables entered the regression model in a forced entry procedure. Preliminary analysis indicated adequate goodness of fit for the model (Hosmer and Lemeshow $p = .649$) and no problems with multicollinearity after removal of distance to receiving facility (variance inflation factor maximum = 1.21).

The model was statistically significant in distinguishing participants with boarding of 12 hours or longer from those with shorter waits, $\chi^2(9) = 34.09$, $N = 85$, $p < .001$. The pseudo R^2 values for the model were .33 (Cox and Snell) and .46 (Nagelkerke; see Table 8). Four predictors contributed statistically significant values to the model: gender, being a Medicare beneficiary, transferring out of the county, and age. The odds of experiencing boarding of 12 hours or longer were 4.15 times higher (95% CI, 1.19–14.51) for men than for women. Medicare beneficiaries had more than 30 times (95% CI, 2.12–430.14) greater odds of experiencing 12-hour boarding than participants with private insurance. Age increased the odds of boarding 12 hours or longer, with each 5-

year increment of age yielding a 47% increase in the odds of 12-hour boarding (OR 1.08, CI, 1.02–1.15). The full model correctly predicted 76.5% of 12-hour or longer boarding episodes for study participants, an improvement over the null model (67.1%; see Table 10 for classification details).

Gender was most associated with 12-hour boarding at Study Site B. The logistic regression model at Study Site B used the independent variables (a) gender (reference value, female), (b) the need for medical treatment for safe transfer to the receiving facility (reference value, no), (c) insurance type (reference value, private insurance), (d) presence of suicidal intent or ideation (reference value, no), (e) intoxication (reference value, no), (f) transferring to a receiving facility out of the county (reference value, no), and (g) age to predict the episodes of 12-hour or longer boarding at Study Site B. Preliminary analysis indicated adequate goodness of fit for the model (Hosmer and Lemeshow $p = .59$) and no problems with multicollinearity (variance inflation factor maximum = 1.57).

The model was statistically significant, indicating an ability to distinguish between participants who waited 12 hours or longer and those who did not, $\chi^2(9) = 17.67$, $N = 85$, $p = .039$. The pseudo R^2 values for the model were .19 (Cox and Snell R^2) and .27 (Nagelkerke R^2). Only gender was a statistically significant predictor of 12-hour or longer boarding. Controlling for all other predictors, male participants at Study Site B had 6.67 greater odds of 12-hour or longer boarding than female participants had (95% CI, 1.75–25.41; Table 8). The full model correctly categorized 70.6% of 12-hour or longer boarding occurrences for participants, a marginal improvement over the null model (69.4%; see Table 11 for classification details).

Table 10

Classification Table for Regression Model of 12-Hour Boarding at Study Site A

Observed	Predicted		% Correct
	Waited < 12 hours	Waited ≥ 12 hours	
Waited < 12 hours	14	14	50.0
Waited ≥ 12 hours	6	51	89.5
Overall percentages			76.5

Table 11

Classification Table for Regression Model of 12-Hour Boarding at Study Site B

Observed	Predicted		% Correct
	Waited < 12 hours	Waited ≥ 12 hours	
Waited < 12 hours	51	8	86.4
Waited ≥ 12 hours	17	9	34.6
Overall percentage			70.6

Length of Boarding

There were apparent differences in the mean length of boarding after medical stabilization until transfer to the receiving facility (Table 12) when comparing all the predictor variables in the study. Two-tailed independent sample *t*-tests for the dichotomous variables indicated that only the contrasts between the log-transformed length of boarding and the study sites, gender, and the need for medical treatment to stabilize the patient for safe transfer to a receiving facility differ at a statistically significant level ($p \leq .05$). One-way ANOVAs between groups for variables with more than two categories (insurance type and diagnosis groups) demonstrated that the categories of insurance type, $F(3, 166) = .69$, $p = 56$, and diagnosis, $F(3, 166) = .27$, $p = .85$, had no statistically significant influence on log-transformed length of boarding. Pearson product-moment correlations showed no significant associations between log-transformed length of boarding and age ($r = -.123$, $n = 170$, $p = .111$) and distance to the receiving facility ($r = .114$, $n = 170$, $p = .139$).

Health Service System Resources and Gender Predict Increased Length of Boarding

The independent samples *t*-test between the means of the log of length of boarding demonstrated eight independent variables that met the criteria of *p* value equal to or less than .1. These eight independent variables, (a) the study site, (b) gender, (c) the need for medical treatment, (d) intoxication, (e) receiving facility type, (f) out-of-county transfer, (g) age, and (h) distance to receiving facility were entered into a linear multiple regression model to assess the ability of the variables to predict the log of the length of boarding. No violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity were evident in preliminary analyses.

Table 12

Length of Boarding After Medical Stabilization Until Transfer to the Receiving Facility

	Length of stay in hours, *Md*, *M* (*SD*)
Total sample *N = 170*	11.0, 14.94 (14.47)
Study site[a]	
Study Site A, *n* = 85	15.0, 17.19 (11.56)
Study Site B, *n* = 85	6.0, 12.68 (16.65)
Gender[b]	
Men, *n* = 100	13.0, 16.34 (13.42)
Women, *n* = 70	8.5, 12.93 (15.72)
Race/ethnicity	
Non-Hispanic White, *n* = 147	11.0, 14.59 (14.55)
Other, *n* = 23	16.0, 17.13 (13.99)
Experiencing homelessness	
No, *n* = 155	11.0, 14.19 (11.69)
Yes, *n* = 15	7.0, 22.67 (30.84)
Required medical treatment[c]	
No, *n* = 71	14.0, 15.97 (10.13)
Yes, *n* = 99	7.0, 14.19 (16.92)
Suicidal ideation or intention	
Present, *n* = 104	9.0, 15.08 (15.75)
Not present, *n* = 66	12.5, 14.71 (12.28)

Table 12 (continued)

	Length of stay in hours, *Md, M* (*SD*)
Intoxicated	
Negative, *n* = 80	11.5, 14.14 (10.99)
Positive, *n* = 90	10.5, 15.64 (17.00)
Baker Act initiator	
Medical provider, *n* = 121	11.0, 14.51 (13.07)
Law officer, *n* = 49	11.0, 15.98 (17.56)
Violent	
Not restrained, *n* = 151	11.0, 14.63 (14.24)
Restrained, *n* = 19	13.0, 17.37 (16.38)
Insurance type	
Medicare, *n* = 48	11.5, 13.52 (13.46)
Medicaid, *n* = 34	13.5, 15.53 (11.62)
No insurance, *n* = 57	11.0, 16.51 (17.97)
Private or commercial, *n* = 31	9.0, 13.58 (11.52)
Diagnosis group	
Thought disorder, *n* = 55	13.0, 15.65 (12.67)
Mood disorder, *n* = 97	11.0, 15.10 (14.15)
Substance use disorder, *n* = 35	10.0, 14.77 (13.05)
Medical disorder, *n* = 64	10.0, 15.33 (17.52)

Table 12 (continued)

	Length of stay in hours, *Md, M* (*SD*)
Receiving facility	
Public, *n* = 94	11.5, 16.23 (16.79)
Private, *n* = 76	11.0, 13.33 (10.82)
Receiving facility location	
In county, *n* = 112	11.0, 14.60 (14.42)
Out of county, *n* = 58	13.0, 15.59 (14.66)

Note. *N* = 170.

[a]Significant difference between the log of means: $t(151) = 4.73$, $p < .001$, Cohen's $d = -.73$. [b]Significant difference between the log of means: $t(168) = 2.04$, $p = .04$, Cohen's $d = -.32$. [c]Significant difference between the log of means: $t(168) = 2.89$, $p = .004$, Cohen's $d = .48$.

The histogram of the error residual greater than 3 was less than what one would expect from a sample of this size. The scatterplots of each independent variable versus the log-transformed length of boarding show no violations of linear relationships. The maximum variance inflation factor was 6.21, indicating no severe problems with multicollinearity. No major deviations from normality were depicted in the normal P-P plot. The residuals versus fits plot demonstrated no evidence of heteroskedasticity.

The total variance in the log of length of boarding explained by the model is 19.1%, $F(8, 161) = 4.76$, $p = < .001$ (Table 13). The most notable explanatory variable in this model was study site ($B = .67$, $p < .001$), indicating that participants at Study Site A experienced 95.4% longer waits for transfer to the receiving facility after medical stabilization as compared to those at Study Site B. Gender was a statistically significant predictor ($B = .31$, $p = .02$): men experienced 36.3% longer waits than women experienced.

Differences in Boarding Times With Different Health Service System Resources

There were differences in health services system receiving facility resources between the circuits where the study sites were located. One difference this study identified is the number of receiving facility beds. Study Site A and Study Site B were in circuits with 36 and 18 beds per 100,000 residents, respectively. The two study sites had mean log-transformed lengths of boarding that differed significantly (Study Site A, $M = 2.63$, $SD = 0.68$; Study Site B, $M = 2.03$, $SD = 0.97$), $t(168) = -4.73$, $p < .001$, Cohen's $d = -.73$ (Table 14). Linear regression models examined the data from each study site to determine if the independent variables had predictive value for each of the two health system resource conditions independently.

Table 13

Multiple Regression Model for Predictors of Boarding Times

	Full sample[a]		Study Site A[b]		Study Site B[c]	
	Exp(*B*)	Exp 95% CI	Exp(*B*)	Exp 95% CI	Exp(*B*)	Exp 95% CI
Constant		3.95–12.16	–	5.51–15.43	–	3.05–18.73
Study site[d]	1.95	1.36–2.81	–	–	–	–
Gender[d]	1.36	1.06–1.76	1.29	0.97–1.69	1.39	0.93–2.08
Medical treatment	0.96	0.71–1.31	0.82	0.60–1.11	1	0.57–1.79
Intoxicated[e]	1.13	0.86–1.47	0.79	0.59–1.05	1.64	1.06–2.55
Receiving facility type	0.73	0.53–1.00	0.81	0.61–1.07	0.79	0.25–2.47
Out of county[f]	1.06	0.55–2.02	1.52	1.12–2.06	1.26	0.43–3.73
Age[f]	1	0.99–1.01	1.01	1.00–1.02	0.99	0.98–1.00
Miles to receiving facility	1	0.99–1.01	–	–	–	–

Note. CI = confidence interval.
[a]$N = 170$, $R^2 = .191$, $F(8, 161) = 4.76$, $p = < .001$. [b]$n = 85$, $R^2 = .218$, $F(6, 78) = 3.63$, $p = .003$. [c]$n = 85$, $R^2 = .174$, $F(6, 78) = 2.73$, $p = .018$. [d]Full sample, $p < .05$. [e]Study Site B, $p < .05$. [f]Study Site A, $p < .05$.

Table 14

Boarding Time for Each Predictor at Both Study Sites

	Study Site A: boarding time in hours		Study Site B: boarding time in hours	
	n	*M, Md* (*SD*)	*n*	*M, Md* (*SD*)
Full sample	85	15.0, 17.19 (11.56)	85	6.0, 12.68 (16.65)
Men	48	16.5, 18.46 (11.09)	52	7.5, 14.38 (15.01)
Women	37	12.0, 15.54 (12.09)	33	5.0, 10.00 (18.75)
Non-Hispanic White	73	14.0, 16.67 (11.86)	74	6.5, 12.54 (16.73)
Other	12	18.0, 20.33 (9.37)	11	5.0, 13.64 (17.57)
Has a permanent home	84	15.0, 16.95 (11.42)	71	6.0, 10.92 (11.23)
Experiencing homelessness	1	–, 37.00 (–)	14	6.5, 21.64 (31.74)
No medical treatment required	59	15.0, 17.14 (10.00)	12	6.5, 10.25 (9.07)
Required medical treatment	26	14.0, 17.31 (14.72)	73	6.0, 13.08 (17.60)
Suicidal	43	14.0, 17.60 (12.92)	61	7.0, 13.30 (17.36)
Not suicidal	42	15.0, 16.76 (10.12)	24	4.0, 11.13 (14.91)
Not intoxicated	50	17.5, 18.18 (10.86)	30	4.0, 7.40 (7.42)
Intoxicated[b]	35	13.0, 15.77 (12.52)	55	7.0, 15.56 (19.43)
Medical provider–initiated BA	62	15.0, 17.48 (12.33)	59	6.0, 11.39 (13.19)
Law officer–initiated BA	23	13.0, 16.39 (9.36)	26	7.0, 15.62 (22.68)

Table 14 (continued)

	Study Site A: boarding time in hours		Study Site B: boarding time in hours	
	n	*M*, *Md* (*SD*)	*n*	*M*, *Md* (*SD*)
Not restrained	75	15.0, 17.11 (11.48)	76	6.0, 12.18 (16.23)
Restrained	10	16.5, 17.80 (12.79)	9	11.0, 16.89 (20.48)
Insurance type				
Medicare	16	15.5, 16.06 (4.92)	32	5.5, 12.25 (16.07)
Medicaid	24	15.5, 18.29 (11.77)	10	4.5, 8.90 (8.50)
No insurance	27	16.0, 18.67 (14.35)	30	7.5, 14.57 (20.76)
Private or commercial	18	14.50, 11.0 (11.06)	13	6.0, 12.31 (12.48)
Diagnosis group				
Thought disorder	39	15.0, 16.38 (10.28)	11	4.0, 11.27 (19.60)
Mood disorder	41	13.0, 16.78 (12.44)	42	6.5, 12.64 (13.17)
Substance use disorder	2	37.0, 37.00 (12.73)	16	6.0, 10.38 (10.99)
Medical disorder	3	19.0, 20.00 (1.73)	16	7.5, 16.06 (26.11)
Public receiving facility	37	16.0, 19.43 (13.97)	57	7.0, 14.16 (18.21)
Private receiving facility	48	13.5, 15.46 (9.07)	28	5.0, 9.68 (12.66)
Transferred in county	58	13.0, 15.02 (9.06)	54	7.0, 14.15 (18.62)
Transferred out of county[a]	27	17.0, 21.85 (14.78)	31	5.0, 10.13 (12.36)

[a]Study Site A, significant difference between the log of means: $t(83) = -2.21$, $p = .03$.
[b]Study Site B, significant difference between the log of means: $t(83) = -2.97$, $p = .004$.

Location of receiving facility influenced boarding time at Study Site A. The independent samples *t*-test between the means of the log of length of boarding demonstrated seven independent variables for the subsample analyses that met the criteria of *p* value equal to or less than .1. Distance to the receiving facility and out-of-county transfers exhibited collinearity in the preliminary analysis (variance inflation factor maximum = 15.89). The final model omitted distance to receiving facility. Six independent variables, (a) gender, (b) the need for medical treatment, (c) intoxication, (d) receiving facility type, (e) age, and (f) out-of-county transfer, were entered into a linear multiple regression model to assess the ability of the variables to predict the log of the length of boarding at Study Site A. No violation of the assumptions of normality, linearity, multicollinearity, and homoscedasiticity were evident in preliminary analyses following removal of out-of-county transfer.

The total variance in the log of length of boarding explained by the model was 21.8%, $F(6, 78) = 3.63$, $p = .003$ (Table 13). Age ($B = .01$, $p = .033$) and out-of-county receiving facility ($B = .042$, $p = .007$) contributed statistically significant explanatory value to the variance in length of stay. Each additional year of age predicted that the wait for transfer would increase by slightly more than 1%. Participants who transferred to receiving facilities in other counties experienced boarding episodes lasting 52.0% longer than those who remained in the same county.

Intoxicated participants experienced longer boarding at Study Site B. The linear regression model for Study Site B contained the same six independent samples as the model for Study Site A: gender, the need for medical treatment, intoxication, receiving facility type, age, and out-of-county transfer. No violations of the assumptions

of normality, linearity, multicollinearity, and homoscedasticity were evident in preliminary analyses of the histograms and scatterplots. The total variance in the log of length of boarding explained by the model is 17.4%, $F(6, 78) = 2.73$, $p = .018$ (Table 13). Only the variable intoxicated contributed significant explanatory value to the variance of the log-transformed length of boarding ($B = .50$, $p = .027$), indicating that intoxicated participants at Study Site B experienced 64.3% longer boarding as compared with participants who were not intoxicated at Study Site B.

The independent variables, study site, type of Baker Act receiving facility, county location of receiving facility, and distance for transfer, analyzed by the models in this report represent resources and organization of the mental health service system for people in Florida needing involuntary examinations. The independent variables, gender, race/ethnicity, and age, are predisposing individual determinants of involuntary mental health service utilization. Diagnosis category, participant need for medical treatment, suicidal intent or ideation, violent behavior, and intoxication compose the illness level determinants. Insurance type and the experience of homelessness were the enabling factors. Chapter 5 presents discussion about the statistically significant findings described in this chapter.

Chapter 5

Discussion

Study Purpose and Objectives

This research study was designed to determine the extent of psychiatric boarding occurrences in Florida for people meeting criteria for involuntary psychiatric examination. An additional aim was to evaluate factors that may contribute to boarding. An episode of psychiatric boarding occurs when any patient needing mental health inpatient services is still in the ED 4 hours after a practitioner makes a decision to admit or transfer the patient to inpatient care (Asplin et al., 2008; TJC, 2011).

Florida allows involuntary examinations to take place at state-designated Baker Act receiving facilities only (Florida Mental Health Act, 2009b). It is therefore important for mental health system administrators and policy makers to be informed about the extent of psychiatric boarding and the factors that influence delayed transfers to the receiving facilities associated with this requirement. This study aimed to describe which preidentified factors of the mental health service system and what individual determinants relate to longer waits for transfer to Baker Act receiving facilities in Florida.

Review of the Literature and Conceptual Framework

More than three-fourths of the acute care hospitals in Florida are not designated Baker Act receiving facilities (Florida Agency for Health Care Administration, 2014), creating a situation that requires the hospital to transfer the patients in their EDs who need involuntary mental health examinations to Baker Act receiving facilities. The current 35% deficit from the statewide targeted capacity of mental health CSU beds (Florida Agency for Health Care Administration, 2014), and a plethora of previous

research substantiating that the need to transfer to another facility significantly increases the odds of prolonged boarding (Bender et al., 2009; Chang et al., 2011; Chang, Weiss, Kosowsky et al., 2012; Chang, Weiss, Orav et al., 2012; Jayaram & Triplett, 2008; Nicks & Manthey, 2012; Park et al., 2009; Slade et al., 2010; Weiss et al., 2012; Wharff, Ginnis, Ross, & Blood, 2011), contribute to concern that individuals needing an involuntary mental health examination in Florida are delayed from receiving the timely care mandated by law (Florida Mental Health Act, 2009b).

Addressing this issue to ease or eliminate the problem of long delays and boarding may moderate the suffering that affected individuals endure, shorten overall hospital time, and improve the opportunities for positive long-term outcomes for individuals who have acute needs for involuntary short-term inpatient mental health care services (Kelly et al., 2002; Kishi et al., 2004). Reducing psychiatric boarding may have the added benefit of lessening hospital liability by decreasing the risks of patient injury, staff harm, and patient elopement (Hickey et al., 2001; Park et al., 2009).

Having identified the scope of psychiatric boarding, discussion can begin to create policy solutions to reduce or eliminate the occurrences. Identification of specific patient factors that contribute to the likelihood of extended patient boarding will enable state and county mental health policy makers to better allocate resources and institute interventions, thus reducing occurrences of boarding for members of this patient population.

This study employed the health services utilization model developed by Andersen and Newman (1973/2005) to identify what factors may contribute to the phenomenon of psychiatric boarding. This model considers societal, health service system, and

individual determinants to be explanatory components of health service utilization. The Baker Act and the federal laws governing how hospitals treat emergency patients (EMTALA) constituted the societal factors. The Baker Act receiving facilities and the acute care hospitals composed the health service system factors of the model for this study. The individual factors that may influence psychiatric boarding for this study were the participants' demographic characteristics, their insurance type, and their clinical conditions.

The Research Questions

To address the purposes identified earlier, this study posed the following research questions:

1. To what extent does psychiatric boarding in acute care hospitals for individuals needing involuntary examinations occur in Florida?
2. What individual, societal, and structural factors influence occurrences of ED boarding for individuals requiring involuntary mental health examinations in Florida?

Review of the Methods

The participants in this study were patients aged 18 years and older in the two study site EDs who required involuntary mental health examinations according to the criteria in the Baker Act (Florida Mental Health Act, 2011). The sample population totaled 170 participants, 85 from each facility. Selection of the study sites occurred through examination of the Florida HealthFinder data set (FL Center for Health Information, 2013) for hospital EDs in Florida with consistently large numbers of

patients that transfer to psychiatric hospitals and stratifying the identified hospitals across the DCF circuits of Florida with disparate Baker Act receiving facility bed resources.

The two resultant study sites were hospital EDs that discharge more than 30 patients each quarter to an inpatient psychiatric facility. They were located in circuits with diverse Baker Act receiving facility bed capacities. The circuit for Study Site A had receiving facility resources of 36 beds per 100,000 residents. The circuit for Study Site B had 18 receiving facility beds per 100,000 people.

Site coordinators were registered nurses who completed retrospective chart reviews from a random selection of charts of patients who met the inclusion criteria over the 12-month period prior to data collection. The study site coordinators submitted to the study investigator deidentified data from the chart reviews that reflected the dependent variables pertaining to lengths of stay before transfer to Baker Act receiving facilities and the independent variables, which are the individual characteristics of the participants that may be determinants of boarding and boarding delays of 12 hours or longer.

Discussion

The first aim of this study was to determine if psychiatric boarding occurs in acute care hospitals for people needing involuntary examinations in Florida, and if it occurs, how large the magnitude of the boarding problem is. The overwhelming majority of participants (90%) in this study waited longer than the industry guideline of 4 hours before transfer to a Baker Act receiving facility (TJC, 2011). This study demonstrated that the patients in the study who needed an involuntary mental health examination according to Baker Act criteria (Florida Mental Health Act, 2006) routinely experienced boarding delays when their initial contact with the health care system for this episode of

care was at a general hospital ED. Furthermore, about half of the participants experienced delays longer than the 12-hour period that the Baker Act specifies as the maximum time before the patient should transfer to a designated receiving facility (Florida Mental Health Act, 2009b). Nearly one of every five participants experienced an extended boarding delay of more than 24 hours, 47 times the magnitude of the national rate of extended delays for patients seeking medical treatment in EDs (National Center for Health Statistics, 2009). The frequent occurrences of boarding that exceeded the statutory maximum of 12 hours and the extreme variability of boarding lengths (*SD* = 14.5 hours) indicated the severity of the boarding problem for patients waiting for involuntary mental health examinations in Florida at the two study sites.

Summary of Findings

Using the conceptual framework of the health services utilization model (Andersen & Newman, 1973/2005), this study sought to discern which individual and structural factors influence occurrences of ED boarding for people requiring involuntary mental health examinations in Florida. The involuntary emergency mental health services utilization model depicted in Figure 8 was adapted from Andersen and Newman (1973/2005) using the findings of this research study.

Health Services System Factors Influence of Boarding

Taking into account the organizational factor of the hospital ED and the regional resources of the Baker Act receiving facility beds, there may be some health service system factors that differed between the two study sites that delivered the most influence for boarding occurrences and lengths of boarding stays. There was a significant difference in the system resources of Baker Act receiving facility beds between the two

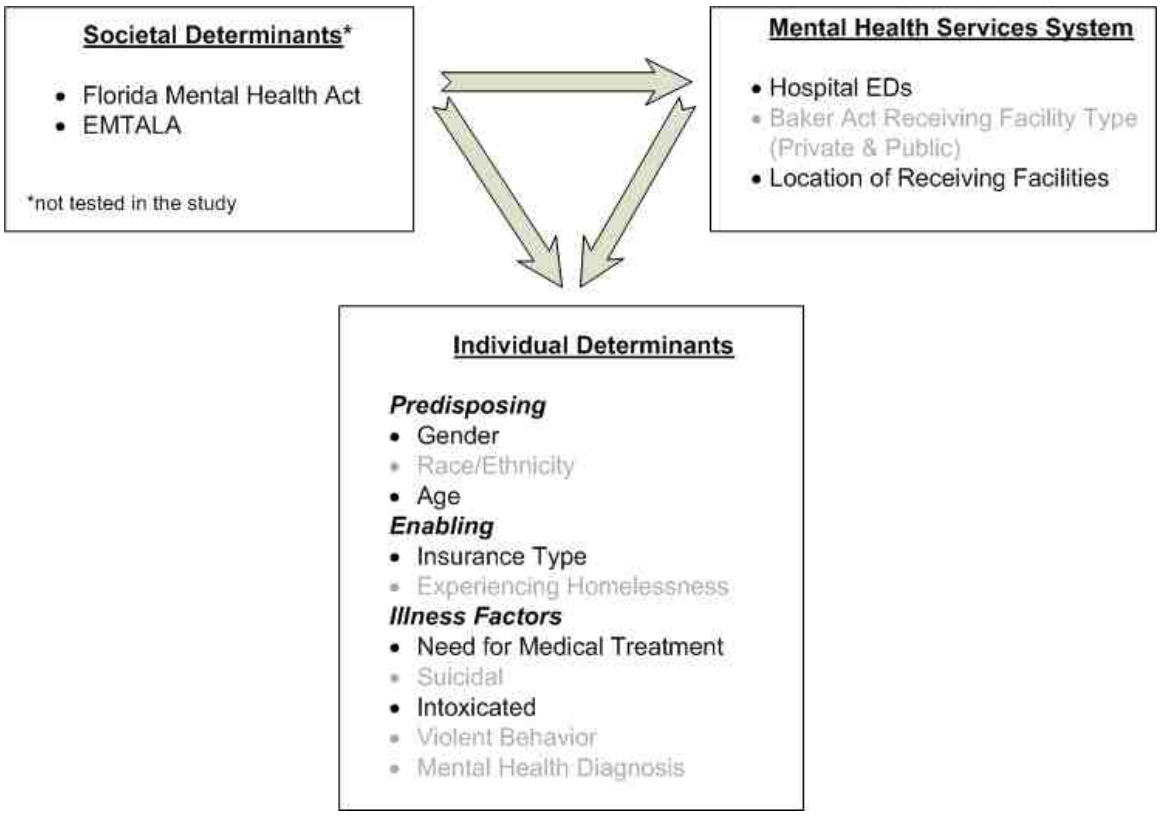

Figure 8. Involuntary emergency mental health services utilization model. Grayed out variables did not have a statistically significant influence on boarding in this study. Adapted from "Societal and Individual Determinants of Medical Care Utilization in the United States," by R. Andersen and J. F. Newman, 2005, *Milbank Quarterly, 83*(4), p. 4.

study sites, with Study Site A being located in a circuit with 36 receiving facility beds per 100,000 residents, and Study Site B being in a circuit with 18 beds per 100,000 residents. There is not a significant difference in the proximity of the receiving facilities to the hospitals. The noteworthy differences in patient population by age, patient diagnoses, the need for medical treatment, and insurance type may also indicate some other different health service system resources that this study design could not detect. Participants at Study Site A, with more receiving facility resources, experienced delays longer than 12 hours about twice as often as participants at Study Site B. The median duration of the boarding times at study site A was 9 hours longer (15 hours) than at Study Site B (6 hours). The overall mean and median length of stay for participants in an area with the higher number of receiving facility beds was 5 hours longer than for the participants at the site where the bed availability is the lowest. This is a counterintuitive finding; therefore, other service system factors need exploration.

The variations in the health service system between the two facilities did not appear to influence extended delays of 24 hours or longer as there was not a statistically significant difference in the numbers of extended stay episodes between the facilities or a difference in the overall durations of those visits that exceeded 24 hours. The proximity of the Baker Act receiving facilities nor the public versus private funding systems of the facilities influenced the boarding occurrences or overall lengths of boarding. At Study Site A, though, participants who transferred to receiving facilities in other counties had 9 times greater odds of 12-hour or longer boarding, and the overall length of boarding was 52% longer, indicating that the location of the receiving facilities may be an influential factor for boarding.

Individual Determinants Influence Boarding

This study evaluated factors that belong to the category of individual determinants within the health utilization model, using the overall classifications of predisposing factors, enabling factors, and illness levels (Andersen & Newman, 1973/2005). The findings provide insight into which factors contributed to boarding and long waits for involuntary mental health examinations.

Predisposing factors. The predisposing factors were gender, race, ethnicity, and age. Men composed a larger proportion of the sample as compared with the overall ED patient population at each facility, suggesting that men in EDs are identified as meeting criteria for involuntary mental health examinations more frequently than women are identified for involuntary examination. Gender offered significant explanatory value to the question of who is affected by delayed access to Baker Act receiving facilities, as men had significantly longer waits for transfer (*Md* = 13 hours) than did women (*Md* = 8.5 hours), and men more frequently had episodes of boarding longer than 12 and 24 hours than did women. These findings contrast with previous research that did not demonstrate a gender difference for lengths of stay of ED patients seeking care for mental illnesses (Chang, Weiss, Kosowsky et al., 2012; Weiss et al., 2012), though they are consistent with the findings of Park et al. (2009). A follow-up secondary analysis of the current data from this study to determine if there are interaction effects between gender and the experience of homelessness, intoxication, violent behavior, and suicidal intent or ideation may help explain the longer and more frequent boarding experienced by men in this study.

Age had a small contribution to the overall length of boarding times; each additional 5-year increment provided a 47% increase in the odds of 12-hour or longer boarding and a negligible increase in the duration of the boarding episode. Weiss et al. (2012) also determined that age contributed to longer stays for patients visiting the ED for mental illnesses. The oldest participants traveled the longest distances to receiving facilities for their transfer. The further distance phenomenon may relate to the aged population requiring specialized geriatric psychiatric services or needing facilities that offer medical expertise within the psychiatric facility to manage more complex medical conditions that more frequently occur for people older than 65 years.

A smaller fraction of the study participants were non-Hispanic White individuals when compared to the overall adult patient populations of the study site EDs. The literature reports higher rates of emergency mental health use by minority populations than by nonminority populations (Merritt-Davis & Keshavan, 2006; Muroff et al., 2008). Reports in the literature that Black emergency patients who need psychiatric services are more likely to experience boarding in EDs or on medical units than White patients (Mansbach et al., 2003) were reflected to a limited degree in this study sample. Participants who were other than non-Hispanic and White experienced greater rates of 12- and 24-hour or longer delays than those who were non-Hispanic and White. The median boarding times for the participants who were of other than non-Hispanic White ethnicity and race were 5 hours longer than for the non-Hispanic White participants, though the differences in occurrence rate and the overall lengths of boarding between the race/ethnicity groups did not reach statistical significance. Only 23 participants identified as being other than non-Hispanic White.

Enabling factors. The enabling factors for this study were insurance type and the experience of homelessness. A much greater share of the sample was uninsured than the overall payer mix for each of the study sites, indicating that people who need involuntary mental health examinations may be more likely to be uninsured than the general ED patient population. The occurrence rate of boarding was not statistically significantly different between insured and uninsured participants. About one-third of the participants were uninsured, though half the participants who experienced extended delays were uninsured. This discrepancy was not statistically significant in the sample. The median boarding time (11 hours) for uninsured participants was 2 hours longer than the median boarding time for participants with private insurance, though the longer wait was not statistically significant. This statistically nonsignificant finding is unlike previous reports of higher numbers of episodes of psychiatric boarding for uninsured patients in Massachusetts at a time that the uninsured rate was less than 3% of the population (Chang, Weiss, Kosowsky et al., 2012; Park et al., 2009; Weiss et al., 2012).

Florida has the fourth highest rate of uninsured (21%) among the 50 states and the District of Columbia (Kaiser Health News, 2014). Had the rate of boarding in this Florida sample been more similar to the problems reported in Massachusetts, one could presume that a health system that so frequently encounters patients without insurance has adjusted its resources to accommodate this population. The median wait for transfer was overall much higher in this Florida sample (11 hours) compared to the Massachusetts samples (6.3 hours). A more likely explanation for the different findings may be that the Baker Act receiving facility resource supply in Florida is so limited that the ability to pay

for services by being insured does not enable unhindered access to emergency mental health care.

At Study Site A, participants who were Medicare beneficiaries had 30 times greater odds of encountering delays of 12 hours or longer than participants with private health insurance. The median age of Medicare beneficiaries at Study Site A was 43 years, making it unlikely that this inequality in boarding time relates to beneficiaries needing geriatric facilities. It may be important to note that Medicare enrollment is available not only to people aged 65 years and older; also individuals with permanent disabilities may enroll in Medicare. The proportion of study participants covered by Medicare at Study Site A (18.8%) and at Study Site B (37.6%) was larger than the proportion of patients older than 65 years in each of the study site's adult patient population, at 11.4% and 33%, respectively (FL Center for Health Information, 2013). This longer wait may reflect difficulties hospital staff members have locating receiving facilities with capabilities of caring for people with long-term or permanent disabilities.

Unlike the study sample from the report of Chang, Weiss, Kosowsky et al. (2012), participants in this study covered by Medicaid plans at Study Site B did not have longer waits than those with other types of insurance. The median boarding time for Medicaid enrollees (4.5 hours) at Study Site B was shorter than the median boarding time for participants with private insurance (6 hours). Quite a different picture emerged at Study Site A, where privately insured participants had the shortest median boarding time (11 hours), while beneficiaries of Medicare and Medicaid waited nearly as long (*Md* = 15.5 hours) as those who were uninsured (*Md* = 16 hours). Chang, Weiss, Kosowsky et al. (2012) presumed that the longer waits of Medicaid enrollees indicated inadequacy of

public health insurance as compared to private insurance. In this sample, there were no statistically significant differences between Medicaid and private insurance enrollees, indicating that in contrast to Massachusetts, privately insured and Medicaid enrollees share in the problem of boarding on a substantially equal level in Florida.

Participants with private insurance and those with Medicare coverage used private facilities more frequently than public facilities, reflective of more choices of care providers being available to people who have the means to pay for services, though these participants often needed to travel farther to access the private facilities. The more frequent use of public receiving facilities by uninsured patients and those enrolled in a Medicaid plan is consistent with the public funding intent of the DCF. It is noteworthy that the boarding times before transfer did not differ between public or private facilities, indicating that participants with and without insurance shared the burden of boarding about equally.

About 19% of the participants were experiencing homelessness. Of the participants experiencing homelessness, 1 was at Study Site A and 14 were at Study Site B. The median length of boarding for those experiencing homelessness at Study Site B (6.5 hours) was slightly longer than the median length of boarding (6.0 hours) of the participants who reported permanent homes. The one participant who was experiencing homelessness at Study Site A waited 37 hours as compared with the median boarding time of 15 hours. As Chang, Weiss, Kosowsky et al. (2012) and Weiss et al. (2012) found, the experience of homelessness did not contribute in a statistically significant way to the phenomenon of boarding or the overall length of wait for transfer.

Illness level. Examination of the illness level variables in the data set—diagnosis category, need for medical treatment, intoxication, violent behavior, and suicidal ideation or intent—provided understanding about the influence of illness level on boarding and on the length of boarding episodes.

The need for medical treatment to stabilize the participants' emergency medical conditions provided the second greatest influence on reducing boarding and reducing the durations of boarding occurrences. This effect was evident only from analyses of the full sample. Splitting the sample by health service system resources (study sites) revealed that the influence of medical treatment was not statistically significant. The need for medical treatment could be a proxy for variance in medical practices in the two distinct parts of Florida.

Similar to the report that Black patients have higher rates of psychotic disorders (Muroff et al., 2008), participants in the current study who were other than non-Hispanic and White were diagnosed with thought disorders more frequently than non-Hispanic White participants. Participants with thought disorders experienced 12-hour or longer boarding more frequently than participants who did not have a thought disorder as a primary or secondary diagnosis. Neither race/ethnicity nor the primary or secondary diagnosis of a thought disorder contributed in a statistically significant way to the overall length of boarding.

Although a diagnosis of a substance use disorder did not appear to have statistically significant influence on the occurrence or length of boarding episodes, participants who were intoxicated at the time of arrival to the ED at Study Site B had a median boarding time of 7 hours, as compared to 4 hours for those who were not

intoxicated. This statistically significant difference was not present at Study Site A. Nonintoxicated participants at Study Site A waited longer for transfer on average (*Md* = 18 hours) than intoxicated participants (*Md* = 13 hours) at Study Site B. The apparent difference between boarding experiences for intoxicated participants at the two study sites may reflect a difference in medical judgment regarding medical stability for safe transfer to the receiving facility, as some receiving facility guidelines may consider intoxicated individuals not to be safe to transfer until they are sober. In these situations, the hospital staff members may have proactively arranged the transfers pending soberness and determinations of medical stability.

Nearly two-thirds of the participants in the current sample exhibited suicidal ideation or intent (*n* = 104), nearly double the rate of patients who reported to the ED for mental health care by Forster and Bilsker (2002), though their study was not limited to those who needed involuntary care. There were no statistically significant differences in the occurrence rate of boarding or the lengths of boarding between participants with or without suicidal intent or ideation and those without. This outcome contrasts with earlier research that demonstrated that suicidal or homicidal patients boarded more frequently than patients who were not suicidal or homicidal (Forster & Bilsker, 2002; Mansbach et al., 2003; Park et al., 2009). At each study site, the participants to whom the staff applied physical restraints to manage violent or self-destructive behavior experienced marginally longer boarding times than did nonrestrained participants. Unlike other reported studies, the difference in length of boarding for restrained participants did not reach statistical significance (Weiss et al., 2012).

Limitations

This section examines the factors that may limit applicability of the findings of the study.

Selection Bias: Study Sites

This study evaluated the psychiatric boarding practices at two hospitals in the state of Florida. These study sites may not be representative of the majority of Florida's 220 acute care hospitals with EDs. Phase 1 of the study identified 25 hospitals in Florida to recruit for participation in this study; 4 responded with positive interest, while only 2 hospitals followed through with participation. The most frequently cited reason for nonparticipation was policies that disallow nonaffiliated investigators to conduct research within the institutions. Because the study was seeking data to evaluate for the occurrence of delays of transfer to Baker Act receiving facilities that are inconsistent with Florida law, however, there may have been reluctance from the hospitals to expose this practice. Hence the hospitals that did participate may have different practices from the nonparticipating hospitals. One of the hospitals that initially responded positively to be part of this study was a designated Baker Act receiving facility. That hospital withdrew from the study owing to inability to recruit a data collector. Inclusion of data from a receiving facility hospital would have helped to determine if the need to transfer is a major contributing factor.

This study identified the number of licensed receiving facility beds in Florida, representing the maximum possible available beds. The actual number of available beds facilities operate may be lower than the licensed number of beds. Each of the study sites for this research study works within different levels of health service system resources in

terms of Baker Act bed availability, however, the receiving facility resources may not be the only or the most important factor accounting for the variations between the study sites' psychiatric boarding practices. The differences in the diagnoses categories that practitioners at the study sites assigned to participants and determination of need for medical treatment could offer other understandings about the organizational processes at the study sites that contribute to the variance in boarding. This study did not examine the local resource availability of outpatient mental health services, inpatient psychiatric facilities that are not designated Baker Act receiving centers, or other social service networks that could influence the frequency with which residents need emergency or crisis mental health services. Study Site B was in a circuit that had 96 inpatient psychiatric beds that are not part of designated receiving facilities. The circuit where Study Site A was located has no inpatient psychiatric beds that are not part of a designated receiving facility. These nonreceiving facility beds may be a factor in the health services system resources unaccounted for in this study. Availability of these types of services may have the potential to reduce the strain on emergency medical and mental health services (Buckman, 2011; Salyers, Rollins, Clendenning, McGuire, & Kim, 2011). The two facilities may have other institutional differences that this study could not identify.

Selection Bias: Participants

The demographic makeup of the study sample is not reflective of the diversity of the population across Florida. According to the Florida Department of Health (2014), 23.8% of the estimated 19.5 million Floridians are Hispanic, and 21.8% are non-White. The study sample comprised 4.1% Hispanic participants and 11.8% non-White

participants. Previous reports have indicated that ethnic and racial minority populations have different usage patterns of mental health services that this study may not have detected (Mansbach et al., 2003; Merritt-Davis & Keshavan, 2006; Muroff et al., 2008).

The data collectors for this study randomly selected every third patient from their respective study sites from the Baker Act reports generated through the hospitals' EHR systems. The data collected skipped patients who met exclusion criteria by being less than 18 years old, transferring to a VA facility, or a medical provider determining the patient no longer met criteria for involuntary examination. The data collectors did not maintain a list detailing the characteristics of excluded patients. There may be systematic characteristics of the excluded patients that could have influenced boarding times.

Sample Size

The a priori power analysis determined the target for the overall sample size of the study. There was extreme variability in lengths of boarding times. There was severe asymmetry between participants who did not experience boarding as compared with those who did and similar asymmetry between individuals who experienced extended boarding (longer than 24 hours) with those who experience nonextended boarding. These distributions limited the ability to detect statistically significant associations of 4-hour or longer boarding and extended boarding with the independent variables for this sample.

Potential for Measurement Error

The site coordinators extracted the data from the EHRs of the participants. Key elements of the data are specific times that demark transitions of patient status during the hospital visit. The time that the participants were determined to be medically stable for safe transfer to the receiving facility is a manual time entry in the EHR; such manual

entries could be imprecise, rendering the boarding time calculations inaccurate. Other elements hospital registration clerks entered into the EHR, such as demographic information, race, and ethnicity, may not have reflected the participants' perspectives.

Confounding Constructs

The individual determinants of the health services utilization model include personal health beliefs (Andersen & Newman, 1973/2005). This study did not include any variables to capture the health beliefs of participants, such as matters that may influence medication adherence, use of outpatient mental health therapies, or perceptions of stigma related to mental illnesses. Factors of personal health beliefs may affect individuals or cultural populations that share common beliefs, and their usage rates and patterns of involuntary mental health services could have implications for psychiatric boarding.

Policy Implications of the Findings

Recognition and measurement of a problem is the first step toward rectifying it. This study identified that approximately one-half of the study participants (48.8%) encountered delays that exceeded the statutory maximum of the Florida Mental Health Act (Baker Act, 2011). Nearly one-fifth of the participants (18.2%) had extended delays of 24 hours or longer (*Md* = 30), more than double the rate of extended ED length of stay for patients with mental illnesses (8%) reported by Chang, Weiss, Kosowsky et al. (2012) in Massachusetts. The frequency of waiting periods that were longer than the statutory maximum and the frequency of extended lengths of stay render this a significant problem that warrants scrutiny by researchers and state mental health policy makers. The state mental health agency, DCF, which contracts with intermediary managing entities to

administer CSU beds, has requested a report on the high rates of access delays to designated Baker Act receiving facilities (H. J. Mathieson, personal communication, June 27, 2014). Increasing the CSU bed capacity by 677 beds to meet the objective identified by the Florida Administrative Code ("Public Mental Health Crisis Stabilization Units," 2012) of 10 beds per 100,000 residents may be a significant step toward reducing the problem of boarding. There is no remedy within the Florida statutes for the situation of no receiving facility with capacity to accept a patient from a hospital within the allotted 12 hours for transfer or within the 72 hours allowed for involuntary examination. The DCF should develop possible remedies and propose the remedies to the Florida legislature to alleviate this significant problem.

Pursuant to Florida statute (Florida Mental Health Act, 2006), the Baker Act Reporting Center housed at the Florida Mental Health Institute of the University of South Florida collects individual, specific case data for each involuntary mental health examination that takes place at a Baker Act receiving facility in Florida. Appendix E displays the form the receiving center uses to submit the data. To facilitate better understanding of the boarding issues individuals needing care encounter under the provisions of the Baker Act, the Florida legislature should consider authorizing the Baker Act Reporting Center to collect additional points. The reporting center currently asks if, prior to the current examination of an adult, the person was in a nursing home, an assisted living facility, or jail. The possible responses to the same question for children are only that the child was in the custody of the juvenile justice system or in DCF custody. For adults and children, adding the possible response "hospital," would allow systematic collection and tabulation of statewide psychiatric boarding occurrences.

The DCF advises, “Hospitals that aren’t designated [as receiving facilities] have serious problems in not being able to legally retain persons, yet [they] can’t always successfully transfer them to receiving facilities within the 12 hour period permitted by law. This could result in false imprisonment complaints” (DCF, n.d., p. 5). In its frequently asked questions document about receiving facility designation, the DCF acknowledges that discharging “an obviously ill person” to avoid the risk of an episode of false imprisonment is “never a good idea” (DCF, n.d., p. 3). With this recognition that hospitals have problems adhering to the transfer requirements of the Baker Act, the Florida Department of Health should study if the licensing requirements for some acute care hospitals with EDs should include conditions for designation as a Baker Act receiving facility.

According to the Florida Agency for Health Care Administration (AHCA), general hospitals that are designated receiving facilities must have “a distinct psychiatric emergency reception and triage area that minimizes individual’s exposure to undue and exacerbating environmental stresses while awaiting or receiving services” (Florida Mental Health Act, 2005). AHCA should enforce consistent licensing provisions to ensure patients’ exposures to exacerbating environments are limited in general hospitals that are not designated receiving facilities.

Implications for Future Research

To appreciate fully the scope of psychiatric boarding in Florida for patients in hospitals waiting for involuntary psychiatric examinations, more data about the phenomena need to be gathered. Future studies of this problem should collect data on the frequency of boarding in all of the DCF circuits of Florida, including hospitals that are

receiving facilities, to determine if the presence of the on-site service reduces the length of wait for the involuntary examination.

This study illuminated that some hospital EDs have overall shorter boarding times for patients waiting for an involuntary examination than other hospitals do. The processes established by the hospitals and agencies that compose the mental health systems within each circuit may contribute to the health service system determinants that could improve the boarding problem. To learn what approaches maximize the limited resources of receiving facility beds for ED patients, a systematic qualitative research study to learn the processes that high-performing and low-performing hospitals employ to facilitate transfers of patients who need involuntary examinations may be particularly beneficial. Previous literature has identified that the phenomenon of transferring a patient to an outside facility contributes greatly to the problem of psychiatric boarding in EDs. The problem cited is the unavailability of beds at facilities with the capacity to care for patients with mental illnesses. It was beyond the scope of this study to explore reasons that receiving facilities are unable to accept transfer requests from acute care hospitals. However, within the framework of the health services utilization model, understanding what contributes to the unavailability of beds at the receiving facilities in an attempt to form solutions to alleviate the restricted access is imperative. The DCF report to the legislature about bed use in receiving facilities for FY2009–2010 (DCF, 2009) was the last report of this type that the DCF produced. Since that time, the DCF has contracted with seven managing entities for administration and management of receiving facility bed usage, each with responsibility for specific circuits throughout the state (H. J. Mathieson, personal communication, June 27, 2014). See Figure 4 in chapter

3 for details about this organizational structure. Research that collaborates with each of the managing entities to understand the utilization rates and patterns will help state and regional mental health policy makers to best allocate the Baker Act receiving facility beds where needs are greatest.

This study excluded minors younger than 18 years of age. The shortage of inpatient psychiatric beds is more severe for adolescents than for adults. Case et al. (2011) reported pediatric boarding to be a significant problem due to hospital staff having difficulty locating available and appropriate inpatient psychiatric facilities for pediatric patients. It is important to understand how the boarding phenomenon affects adolescents in Florida who need involuntary examinations, as this vulnerable population has less ability for self-advocacy than do adults; therefore subsequent studies of this issue should include adolescent participants.

Conclusion

The purpose of this study was to determine if psychiatric boarding for patients needing involuntary mental health examinations in Florida is a problem, and if so, to assess what health service system and individual factors contribute to the problem. As 90% of participants experienced boarding and nearly half of participants boarded longer than the statutory limitation of 12 hours provided by the Florida Mental Health Act (2009b), this study fulfilled its first aim by determining that psychiatric boarding of the identified population is a problem in Florida. The frequency of boarding that exceeds the 12-hour limit of the law and the high variability of boarding durations establishes that the boarding problem warrants prompt attention.

The study identified that some health services system factors contribute to the problem, but the specific factors remain unclear. A surprising finding of the study was that more frequent and longer boarding occurred in the circuit (Study Site B) with a higher number of Baker Act receiving facility resources per capita. When accounting for the nonreceiving facility inpatient psychiatric resources in Study Site B's circuit, there are 26 inpatient psychiatric beds per 100,000 residents, as compared to the 36 receiving facility beds per 100,000 in the circuit for Study Site A. The difference in the resources of licensed beds does not explain the discrepancies in boarding occurrences or lengths of boarding. Florida mental health policy makers require additional research regarding the health services system resources to determine what factors contribute to boarding.

The overall frequency of boarding was higher in this study than what studies in the literature reported. Contrary to findings from previous research about individual determinants of psychiatric boarding, the lack of health insurance and public Medicaid coverage did not correspond to more frequent or longer boarding in the samples from this study, indicating that even people with private coverage encounter significant delays in access to involuntary mental health examinations in Florida.

The individual determinants that this study found to be significantly associated with frequent and longer boarding were being male, increased age, being a Medicare beneficiary, not requiring medical treatments to stabilize an emergency medical condition, and being intoxicated. The findings regarding age, gender, and intoxication are consistent with results of earlier studies regarding psychiatric boarding (Chang, Weiss, Kosowsky et al., 2012; Park et al., 2009; Weiss et al., 2012). The relationships between psychiatric boarding and not needing medical treatment and being a Medicare

beneficiary are new discoveries from this study. The investigator recommends additional research to confirm these results.

This study adds to the scarce body of literature that examines psychiatric boarding in EDs. Furthermore, because this study examined only delays in service for people needing involuntary mental health care, it contributes a new category of research regarding psychiatric boarding. The information this study presented can assist state mental health policy makers in Florida to direct future research to enable the most appropriate allocation of limited mental health resources to provide appropriate receiving facility services across Florida.

Appendix A:

List of ICD-9 Codes to Screen ED Data for Psychiatric Discharge Diagnoses

ICD-9 Code	Description
290	SENILE/PRESENILE PSYCH
2900	SENILE DEMENTIA UNCOMP
2901	PRESENILE DEMENTIA
29010	PRESENILE DEMENTIA
29011	PRESENILE DELIRIUM
29012	PRESENILE DELUSION
29013	PRESENILE DEPRESSION
2902	SENILE DELUSION/DEPRESS
29020	SENILE DELUSION
29021	SENILE DEPRESSIVE
2903	SENILE DELIRIUM
2904	AS DEMENTIA
29040	VASCULAR DEMENTIA|UNCOMP
29041	VASC DEMENTIA W DELIRIUM
29042	VASC DEMENTIA W DELUSION
29043	VASC DEMENTIA W DEPRESSN
2908	SENILE PSYCHOSIS NEC
2909	SENILE PSYCHOT COND NOS
291	ALCOHOLIC PSYCHOSES

ICD-9 Code	Description
2910	DELIRIUM TREMENS
2911	ALCOHOL AMNESTIC DISORDR
2912	ALCOHOL PERSIST DEMENTIA
2913	ALCOH PSY DIS W HALLUCIN
2914	PATHOLOGIC ALCOHOL INTOX
2915	ALCOH PSYCH DIS W DELUS
2918	OTH ALCOHOLIC PSYCHOSIS
29181	ALCOHOL WITHDRAWAL
29182	ALCOH INDUCE SLEEP DISOR
29189	ALCOHOL MENTAL DISOR NEC
2919	ALCOHOL MENTAL DISOR NOS
292	DRUG PSYCHOSES
2920	DRUG WITHDRAWAL
2921	DRUG PARANOID/HALLUCIN
29211	DRUG PSYCH DISOR W DELUS
29212	DRUG PSY DIS W HALLUCIN
2922	PATHOLOGIC DRUG INTOX
2928	OTHER DRUG MENTAL DISORD
29281	DRUG-INDUCED DELIRIUM
29282	DRUG PERSISTING DEMENTIA
29283	DRUG PERSIST AMNESTC DIS

ICD-9 Code	Description
29284	DRUG-INDUCED MOOD DISORD
29285	DRUG INDUCED SLEEP DISOR
29289	DRUG MENTAL DISORDER NEC
2929	DRUG MENTAL DISORDER NOS
293	TRANSIENT ORG MENTAL PBX
2930	DELIRIUM D/T OTHER COND
2931	SUBACUTE DELIRIUM
2938	OTH TRANSIENT ORG MENTAL
29381	PSY DIS W DELUS OTH DIS
29382	PSY DIS W HALLUC OTH DIS
29383	MOOD DISORDER OTHER DIS
29384	ANXIETY DISORDER OTH DIS
29389	TRANSIENT MENTAL DIS NEC
2939	TRANSIENT MENTAL DIS NOS
294	OTHER ORGANIC PSYCH COND
2940	AMNESTIC DISORD OTH DIS
2941	DEMENTIA IN OTH DISEASES
29410	DEMENTIA W/O BEHAV DIST
29411	DEMENTIA W BEHAVIOR DIST
2948	MENTAL DISOR NEC OTH DIS
2949	MENTAL DISOR NOS OTH DIS

ICD-9 Code	Description
295	SCHIZOPHRENIC DISORDERS
2950	SIMPLE SCHIZOPHRENIA
29500	SIMPL SCHIZOPHREN-UNSPEC
29501	SIMPL SCHIZOPHREN-SUBCHR
29502	SIMPLE SCHIZOPHREN-CHR
29503	SIMP SCHIZ-SUBCHR/EXACER
29504	SIMPL SCHIZO-CHR/EXACERB
29505	SIMPL SCHIZOPHREN-REMISS
2951	HEBEPHRENIA
29510	HEBEPHRENIA-UNSPEC
29511	HEBEPHRENIA-SUBCHRONIC
29512	HEBEPHRENIA-CHRONIC
29513	HEBEPHREN-SUBCHR/EXACERB
29514	HEBEPHRENIA-CHR/EXACERB
29515	HEBEPHRENIA-REMISSION
2952	CATATONIC SCHIZOPHRENIA
29520	CATATONIA-UNSPEC
29521	CATATONIA-SUBCHRONIC
29522	CATATONIA-CHRONIC
29523	CATATONIA-SUBCHR/EXACERB
29524	CATATONIA-CHR/EXACERB

ICD-9 Code	Description
29525	CATATONIA-REMISSION
2953	PARANOID SCHIZOPHRENIA
29530	PARANOID SCHIZO-UNSPEC
29531	PARANOID SCHIZO-SUBCHR
29532	PARANOID SCHIZO-CHRONIC
29533	PARAN SCHIZO-SUBCHR/EXAC
29534	PARAN SCHIZO-CHR/EXACERB
29535	PARANOID SCHIZO-REMISS
2954	AC SCHIZOPHRENIC EPISODE
29540	SCHIZOPHRENIFORM DIS NOS
29541	SCHIZOPHRENIC DIS-SUBCHR
29542	SCHIZOPHREN DIS-CHRONIC
29543	SCHIZO DIS-SUBCHR/EXACER
29544	SCHIZOPHR DIS-CHR/EXACER
29545	SCHIZOPHRENIC DIS-REMISS
2955	LATENT SCHIZOPHRENIA
29550	LATENT SCHIZOPHREN-UNSP
29551	LAT SCHIZOPHREN-SUBCHR
29552	LATENT SCHIZOPHREN-CHR
29553	LAT SCHIZO-SUBCHR/EXACER
29554	LATENT SCHIZO-CHR/EXACER

ICD-9 Code	Description
29555	LAT SCHIZOPHREN-REMISS
2956	RESIDUAL SCHIZOPHRENIA
29560	SCHIZOPHR DIS RESID NOS
29561	SCHIZOPH DIS RESID-SUBCH
29562	SCHIZOPHR DIS RESID-CHR
29563	SCHIZO RESID SUBCHR/EXAC
29564	SCHIZOPH RESID-CHRO/EXAC
29565	SCHIZOPH DIS RESID-REMIS
2957	SCHIZOAFFECTIVE TYPE
29570	SCHIZOAFFECTIVE DIS NOS
29571	SCHIZOAFFECTV DIS-SUBCHR
29572	SCHIZOAFFECTIVE DIS-CHR
29573	SCHIZOAFF DIS-SUBCH/EXAC
29574	SCHIZOAFFTV DIS-CHR/EXAC
29575	SCHIZOAFFECTVE DIS-REMIS
2958	SCHIZOPHRENIA NEC
29580	SCHIZOPHRENIA NEC-UNSPEC
29581	SCHIZOPHRENIA NEC-SUBCHR
29582	SCHIZOPHRENIA NEC-CHR
29583	SCHIZO NEC-SUBCHR/EXACER
29584	SCHIZO NEC-CHR/EXACERB

ICD-9 Code	Description
29585	SCHIZOPHRENIA NEC-REMISS
2959	SCHIZOPHRENIA NOS
29590	SCHIZOPHRENIA NOS-UNSPEC
29591	SCHIZOPHRENIA NOS-SUBCHR
29592	SCHIZOPHRENIA NOS-CHR
29593	SCHIZO NOS-SUBCHR/EXACER
29594	SCHIZO NOS-CHR/EXACERB
29595	SCHIZOPHRENIA NOS-REMISS
296	AFFECTIVE PSYCHOSES
2960	MANIC DISORD 1 EPISODE
29600	BIPOL I SINGLE MANIC NOS
29601	BIPOL I SINGLE MANC-MILD
29602	BIPOL I SINGLE MANIC-MOD
29603	BIPOL I SING-SEV W/O PSY
29604	BIPO I SIN MAN-SEV W PSY
29605	BIPOL I SING MAN REM NOS
29606	BIPOL I SINGLE MANIC REM
2961	RECUR MANIC DISORD
29610	RECUR MANIC DIS-UNSPEC
29611	RECUR MANIC DIS-MILD
29612	RECUR MANIC DIS-MOD

ICD-9 Code	Description
29613	RECUR MANIC DIS-SEVERE
29614	RECUR MANIC-SEV W PSYCHO
29615	RECUR MANIC-PART REMISS
29616	RECUR MANIC-FULL REMISS
2962	MDD SINGLE EPISODE
29620	DEPRESS PSYCHOSIS-UNSPEC
29621	DEPRESS PSYCHOSIS-MILD
29622	DEPRESSIVE PSYCHOSIS-MOD
29623	DEPRESS PSYCHOSIS-SEVERE
29624	DEPR PSYCHOS-SEV W PSYCH
29625	DEPR PSYCHOS-PART REMISS
29626	DEPR PSYCHOS-FULL REMISS
2963	MDD-RECURRENT EPISODE
29630	RECURR DEPR PSYCHOS-UNSP
29631	RECURR DEPR PSYCHOS-MILD
29632	RECURR DEPR PSYCHOS-MOD
29633	RECUR DEPR PSYCH-SEVERE
29634	REC DEPR PSYCH-PSYCHOTIC
29635	RECUR DEPR PSYC-PART REM
29636	RECUR DEPR PSYC-FULL REM
2964	BAD MANIC

ICD-9 Code	Description
29640	BIPOL I CURRNT MANIC NOS
29641	BIPOL I CURNT MANIC-MILD
29642	BIPOL I CURRNT MANIC-MOD
29643	BIPOL I MANC-SEV W/O PSY
29644	BIPOL I MANIC-SEV W PSY
29645	BIPOL I CUR MAN PART REM
29646	BIPOL I CUR MAN FULL REM
2965	BAD DEPRESSED
29650	BIPOL I CUR DEPRES NOS
29651	BIPOL I CUR DEPRESS-MILD
29652	BIPOL I CUR DEPRESS-MOD
29653	BIPOL I CURR DEP W/O PSY
29654	BIPOL I CURRNT DEP W PSY
29655	BIPOL I CUR DEP REM NOS
29656	BIPOL I CURRNT DEP REMIS
2966	BAD MIXED
29660	BIPOL I CURRNT MIXED NOS
29661	BIPOL I CURRNT MIX-MILD
29662	BIPOL I CURRNT MIXED-MOD
29663	BIPOL I CUR MIX W/O PSY
29664	BIPOL I CUR MIXED W PSY

ICD-9 Code	Description
29665	BIPOL I CUR MIX-PART REM
29666	BIPOL I CUR MIXED REMISS
2967	BIPOLOR I CURRENT NOS
2968	MANIC-DEPRESSIVE NEC&NOS
29680	BIPOLAR DISORDER NOS
29681	ATYPICAL MANIC DISORDER
29682	ATYPICAL DEPRESSIVE DIS
29689	BIPOLAR DISORDER NEC
2969	AFFECTIVE PSYCH NEC&NOS
29690	EPISODIC MOOD DISORD NOS
29699	EPISODIC MOOD DISORD NEC
297	PARANOID STATES
2970	PARANOID STATE| SIMPLE
2971	DELUSIONAL DISORDER
2972	PARAPHRENIA
2973	SHARED PSYCHOTIC DISORD
2978	PARANOID STATES NEC
2979	PARANOID STATE NOS
298	OTH NONORGANIC PSYCHOSES
2980	REACT DEPRESS PSYCHOSIS
2981	EXCITATIV TYPE PSYCHOSIS

ICD-9 Code	Description
2982	REACTIVE CONFUSION
2983	ACUTE PARANOID REACTION
2984	PSYCHOGEN PARANOID PSYCH
2988	REACT PSYCHOSIS NEC/NOS
2989	PSYCHOSIS NOS
299	PSYCHOSES OF CHILDHOOD
2991	DISINTEGRATIVE PSYCHOSIS
29910	CHILDHD DISINTEGR-ACTIVE
29911	CHILDHD DISINTEGR-RESID
2998	EARLY CHLD PSYCHOSES NEC
29980	PERVASV DEV DIS-CUR NEC
29981	PERVASV DEV DIS-RES NEC
2999	EARLY CHILD PSYCH NOS
29990	PERVASV DEV DIS-CUR NOS
29991	PERVASV DEV DIS-RES NOS
300	NEUROTIC DISORDERS
3000	ANXIETY STATES
30000	ANXIETY STATE NOS
30001	PANIC DIS W/O AGORPHOBIA
30002	GENERALIZED ANXIETY DIS
30009	ANXIETY STATE NEC

ICD-9 Code	Description
3001	HYSTERIA
30010	HYSTERIA NOS
30011	CONVERSION DISORDER
30012	DISSOCIATIVE AMNESIA
30013	DISSOCIATIVE FUGUE
30014	DISSOCIATVE IDENTITY DIS
30015	DISSOCIATIVE REACT NOS
30016	FACTITIOUS DIS W SYMPTOM
30019	FACTITIOUS ILL NEC/NOS
3002	PHOBIC DISORDERS
30020	PHOBIA NOS
30021	AGORAPHOBIA W PANIC DIS
30022	AGORAPHOBIA W/O PANIC
30023	SOCIAL PHOBIA
30029	ISOLATED/SPEC PHOBIA NEC
3003	OBSESSIVE-COMPULSIVE DIS
3004	DYSTHYMIC DISORDER
3005	NEURASTHENIA
3006	DEPERSONALIZATION DISORD
3007	HYPOCHONDRIASIS
3008	NEUROTIC DISORDERS NEC

ICD-9 Code	Description
30081	SOMATIZATION DISORDER
30082	UNDIFF SOMATOFORM DISRDR
30089	SOMATOFORM DISORDERS NEC
3009	NONPSYCHOTIC DISORD NOS
301	PERSONALITY DISORDERS
3010	PARANOID PERSONALITY
3011	AFFECTIVE PERSONALITY
30110	AFFECTIV PERSONALITY NOS
30111	CHRONIC HYPOMANIC PERSON
30112	CHR DEPRESSIVE PERSON
30113	CYCLOTHYMIC DISORDER
3012	SCHIZOID PERSONALITY
30120	SCHIZOID PERSONALITY NOS
30121	INTROVERTED PERSONALITY
30122	SCHIZOTYPAL PERSON DIS
3013	EXPLOSIVE PERSONALITY
3014	OBSESSIVE-COMPULSIVE DIS
3015	HISTRIONIC PERSONALITY
30150	HISTRIONIC PERSON NOS
30151	CHR FACTITIOUS ILLNESS
30159	HISTRIONIC PERSON NEC

ICD-9 Code	Description
3016	DEPENDENT PERSONALITY
3017	ANTISOCIAL PERSONALITY
3018	OTHER PERSONALITY DISORD
30181	NARCISSISTIC PERSONALITY
30182	AVOIDANT PERSONALITY DIS
30183	BORDERLINE PERSONALITY
30184	PASSIVE-AGGRESSIV PERSON
30189	PERSONALITY DISORDER NEC
3019	PERSONALITY DISORDER NOS
302	SEXUAL DISORDERS
3020	EGO-DYSTONIC SEX ORIENT
3071	ANOREXIA NERVOSA
3075	EATING DISORD NEC & NOS
30750	EATING DISORDER NOS
30751	BULIMIA NERVOSA
30759	EATING DISORDER NEC
3078	PSYCHALGIA
30780	PSYCHOGENIC PAIN NOS
3080	STRESS REACT| EMOTIONAL
3081	STRESS REACTION| FUGUE
3082	STRESS REACT| PSYCHOMOT

ICD-9 Code	Description
3083	ACUTE STRESS REACT NEC
3084	STRESS REACT| MIXED DIS
3089	ACUTE STRESS REACT NOS
309	ADJUSTMENT REACTION
3090	ADJUSTMNT DIS W DEPRESSN
3091	PROLONG DEPRESSIVE REACT
3092	ADJUST RXN/OTH EMOTION
30921	SEPARATION ANXIETY
30922	EMANCIPATION DISORDER
30924	ADJUSTMENT DIS W ANXIETY
30928	ADJUST DIS W ANXIETY/DEP
30929	ADJ REACT-EMOTION NEC
3093	ADJUST DISOR/DIS CONDUCT
3094	ADJ DIS-EMOTION/CONDUCT
3098	OTHER ADJUST REACTION
30981	POSTTRAUMATIC STRESS DIS
30982	ADJUST REACT-PHYS SYMPT
30983	ADJUST REACT-WITHDRAWAL
30989	ADJUSTMENT REACTION NEC
3099	ADJUSTMENT REACTION NOS
310	NONPSYCHOTIC OBS

ICD-9 Code	Description
3100	FRONTAL LOBE SYNDROME
3101	PERSONALITY CHG OTH DIS
311	DEPRESSIVE DISORDER NEC
312	CONDUCT DISTURBANCE NEC
3120	UNSOCIALIZED AGGRESSION
31200	UNSOCIAL AGGRESS-UNSPEC
31201	UNSOCIAL AGGRESSION-MILD
31202	UNSOCIAL AGGRESSION-MOD
31203	UNSOCIAL AGGRESS-SEVERE
3121	UNSOCIAL UNAGGRESSION
31210	UNSOCIAL UNAGGRESS-UNSP
31211	UNSOCIAL UNAGGRESS-MILD
31212	UNSOCIAL UNAGGRESS-MOD
31213	UNSOCIAL UNAGGR-SEVERE
3122	SOCIAL CONDUCT DISORDER
31220	SOCIAL CONDUCT DIS-UNSP
31221	SOCIAL CONDUCT DIS-MILD
31222	SOCIAL CONDUCT DIS-MOD
31223	SOCIAL CONDUCT DIS-SEV
3123	IMPULSE CONTROL DISORDER
31230	IMPULSE CONTROL DIS NOS

ICD-9 Code	Description
31233	PYROMANIA
31234	INTERMITT EXPLOSIVE DIS
31235	ISOLATED EXPLOSIVE DIS
31239	IMPULSE CONTROL DIS NEC
3124	MIX DIS CONDUCT/EMOTION
3128	OTHER CONDUCT DISTURB
31281	CNDCT DSRDR CHLDHD ONST
31282	CNDCT DSRDR ADLSCNT ONST
31289	OTHER CONDUCT DISORDER
3129	CONDUCT DISTURBANCE NOS
313	EMOTIONAL DIS CHILD/ADOL
3130	OVERANXIOUS DISORDER
3131	MISERY & UNHAPPINESS DIS
3132	SENSITIVITY & WITHDRAWAL
3133	RELATIONSHIP PROBLEMS
3138	OTH EMOTIONAL PBX CHILD
31381	OPPOSITION DEFIANT DISOR
31382	IDENTITY DISORDER
31389	EMOTIONAL DIS CHILD NEC
3139	EMOTIONAL DIS CHILD NOS
316	PSYCHIC FACTOR W OTH DIS

Appendix B:

Recruiting Letter for Study Sites

Laura Brennaman, MSN RN CEN

PhD Candidate & Fellow

University of New Mexico

College of Nursing

Fort Myers, FL 33919

LBrennaman@salud.unm.edu

August 8, 2013

Dear <CNO>,

I am an RN in Fort Myers, Florida, and a PhD candidate with the College of Nursing at the University of New Mexico. I am recruiting four to six general acute care hospitals in Florida for my dissertation project, *Boarding Patients Who Require Involuntary Mental Health Examinations in Florida.* During my nearly 30 years as an emergency nurse and administrator in emergency departments, I became keenly aware of the growing trend of people in Florida and across the U.S. to seek mental health care in hospital emergency departments. Through analysis of the AHCA database of emergency visits from 2010 to 2012, I have identified «name» as a key hospital in the «DCF_Region» DCF region caring for emergency department patients with mental health needs.

The purpose of the study is to provide data related to boarding practices of persons who require involuntary mental health examinations in the state of Florida. Collection and analysis of such data are foundational to identifying needs for potential changes in policies that affect people requiring mental health services and the hospitals that serve them. There are scant published data about ED boarding for patients requiring

involuntary examinations for mental illnesses. This lack of information presents substantial obstacles for policy makers in formulating meaningful or feasible solutions for the problem of boarding. This study aims to address this gap by studying the incidence of psychiatric boarding in Florida emergency departments and general hospitals by patients requiring involuntary examination under the Florida Baker Act.

Study participants would be patients over 18 years of age who present to your emergency department and require involuntary mental health examinations according to the criteria in the Baker Act.

If your facility participates, following authorization by your Internal Review Board, I will recruit a site coordinator from your staff who will submit deidentified data retrospectively about study participants via a secure and HIPAA-compliant Web-based data repository. Because the site coordinator will collect and deidentify the data retrospectively, participating institutions will need to have access to a source document or report that identifies which patients in their facilities were in the ED and/or admitted to an inpatient unit under the Baker Act status.

I will not reference any identification of data collection sites in any dissemination of study outcomes or results. The only identifying features of the sites will be reference to the overall county population in broad categories and the number of Baker Act Receiving Facility beds per 100,000 people in broad categories.

The University of New Mexico IRB has approved this study protocol. I am currently piloting the data collection process at four hospitals in Florida. The pilot should conclude by the end of August. I anticipate data collection at your facility will occur between October and December 2013. There will be no expense to your facility for

participation. I will ask the site coordinator to collect and submit data during nonworking hours. The study is funded through a grant from the Robert Wood Johnson Foundation; this funding will provide stipend payments to the data collector(s) for their time.

I hope you will consider «name» participation in this study. Please indicate your interest on the attached response letter and return it in the enclosed envelope. You may contact me by phone (239-634-xxxx) or by e-mail (lbrennaman@salud.unm.edu) with any questions.

Thank you for your consideration,

Laura Brennaman

PhD Candidate & Fellow

Robert Wood Johnson Foundation Nursing & Health Policy Collaborative

University of New Mexico

College of Nursing

Response Letter Regarding participation in the research project:

Boarding Patients Who Require Involuntary Mental Health Examinations in Florida

To: Laura Brennaman

Fort Myers, FL 33919

☐ «name» is interested in participating in the study described.

(I will send more information to you or to your designated contact person. We will discuss the specific details regarding timing, process, and compliance with HIPPA and protection of human subjects.)

Please identify a contact person at «name» to receive more information about the study. This person should have knowledge of the IRB process at «name».

Name: _____

Title: _____

Address: _____

Phone Number: _____

E-mail: _____

☐ I have specific questions listed below (use the reverse side if necessary). Please respond to these questions in writing before we determine our interest in participating with this study.

_____

_____

_____

_____

_____

_____

_____

Appendix C:

Baker Act Receiving Facility Capacity by County

County	Population (in 100,000s)			No. of licensed beds					
	Adult	Child[a]	Total	Adult	Child[a]	Baker Act	Adult/ 100,000	Child/ 100,000	Total/ 100,000
Alachua	2.03	0.44	2.47	74	19	93	36	43	38
Baker	0.20	0.07	0.27	4	0	4	20	0	15
Bay	1.32	0.37	1.69	76	4	80	58	11	47
Bradford	0.23	0.06	0.29	0	0	0	0	0	0
Brevard	4.36	1.08	5.43	126	16	142	29	15	26
Broward	13.57	3.91	17.48	442	34	476	33	9	27
Calhoun	0.11	0.03	0.15	0	0	0	0	0	0
Charlotte	1.37	0.23	1.60	63	8	71	46	35	44
Citrus	1.19	0.22	1.41	0	0	0	0	0	0
Clay	1.41	0.50	1.91	24	0	24	17	0	13
Collier	2.59	0.63	3.22	14	6	20	5	10	6
Columbia	0.52	0.15	0.68	18	0	18	34	0	27
Miami-Dade	19.51	5.46	24.96	854	98	952	44	18	38
De Soto	0.27	0.08	0.35	0	0	0	0	0	0
Dixie	0.13	0.03	0.16	0	0	0	0	0	0
Duval	6.61	2.04	8.64	202	54	256	31	27	30
Escambia	2.33	0.64	2.98	151	26	177	65	41	59
Flagler	0.77	0.19	0.96	0	0	0	0	0	0
Franklin	0.10	0.02	0.12	0	0	0	0	0	0
Gadsden	0.35	0.11	0.46	0	0	0	0	0	0
Gilchrist	0.13	0.04	0.17	0	0	0	0	0	0
Glades	0.10	0.02	0.13	0	0	0	0	0	0
Gulf	0.13	0.03	0.16	0	0	0	0	0	0
Hamilton	0.12	0.03	0.15	0	0	0	0	0	0
Hardee	0.20	0.08	0.28	0	0	0	0	0	0
Hendry	0.28	0.11	0.39	0	0	0	0	0	0
Hernando	1.39	0.34	1.73	61	0	61	44	0	35

County	Population (in 100,000s)			No. of licensed beds					
	Adult	Child[a]	Total	Adult	Child[a]	Baker Act	Adult/ 100,000	Child/ 100,000	Total/ 100,000
Highlands	0.81	0.18	0.99	17	0	17	21	0	17
Hillsborough	9.35	2.94	12.29	166	24	190	18	8	15
Holmes	0.16	0.04	0.20	0	0	0	0	0	0
Indian River	1.12	0.26	1.38	34	12	46	30	46	33
Jackson	0.40	0.10	0.50	0	0	0	0	0	0
Jefferson	0.12	0.03	0.15	0	0	0	0	0	0
Lafayette	0.07	0.02	0.09	0	0	0	0	0	0
Lake	2.35	0.62	2.97	155	6	161	66	10	54
Lee	4.98	1.21	6.19	30	12	42	6	10	7
Leon	2.22	0.54	2.75	115	19	134	52	35	49
Levy	0.32	0.09	0.41	0	0	0	0	0	0
Liberty	0.07	0.02	0.08	0	0	0	0	0	0
Madison	0.15	0.04	0.19	0	0	0	0	0	0
Manatee	2.57	0.66	3.23	59	6	65	23	9	20
Marion	2.67	0.64	3.31	83	0	83	31	0	25
Martin	1.21	0.26	1.46	0	0	0	0	0	0
Monroe	0.62	0.11	0.73	36	0	36	58	0	49
Nassau	0.57	0.16	0.73	0	0	0	0	0	0
Okaloosa	1.40	0.40	1.81	58	0	58	41	0	32
Okeechobee	0.30	0.10	0.40	0	0	0	0	0	0
Orange	8.76	2.70	11.46	172	186	358	20	69	31
Osceloa	1.98	0.70	2.69	0	8	8	0	11	3
Palm Beach	10.51	2.69	13.20	202	37	239	19	14	18
Pasco	3.66	0.99	4.65	90	16	106	25	16	23
Pinellas	7.54	1.63	9.17	281	48	329	37	29	36
Polk	4.60	1.42	6.02	170	12	182	37	8	30
Putnam	0.58	0.17	0.74	0	0	0	0	0	0
Santa Rosa	1.15	0.36	1.51	0	0	0	0	0	0
Sarasota	3.20	0.60	3.79	63	37	100	20	62	26
Seminole	3.26	0.97	4.23	79	37	116	24	38	27
St. Johns	1.46	0.44	1.90	46	0	46	31	0	24
St. Lucie	2.16	0.62	2.78	75	20	95	35	32	34

County	Population (in 100,000s)			No. of licensed beds					
	Adult	Child[a]	Total	Adult	Child[a]	Baker Act	Adult/ 100,000	Child/ 100,000	Total/ 100,000
Sumter	0.85	0.09	0.93	0	0	0	0	0	0
Suwannee	0.32	0.09	0.42	0	0	0	0	0	0
Taylor	0.18	0.04	0.23	0	0	0	0	0	0
Union	0.13	0.03	0.16	0	0	0	0	0	0
Volusia	4.01	0.93	4.95	152	0	152	38	0	31
Wakulla	0.24	0.07	0.31	0	0	0	0	0	0
Walton	0.44	0.11	0.55	0	0	0	0	0	0
Washington	0.20	0.05	0.25	0	0	0	0	0	0
State Totals	147.99	40.02	188.01	4,192	745	4,937	28	19	26

Note. Census estimates from U.S. Census Bureau (2012); Baker Act Receiving Facility bed capacity from Joe Anson, Baker Act & Marchman Act Policy Director Policy & Planning Section Substance Abuse & Mental Health Program Office Department of Children & Families, September 29, 2012.

[a]Child defined as under age 18 years.

Appendix D:

Data Collection Tool

Confidential

Pilot Study for Boarding patient who require involuntary mental health examinations

Please complete one entry form for each ED patient needing Baker Act evaluation.

Thank you!

Facility Code _____

Case Number _____

Arrival Date and Time _____
(enter yyyy-mm-dd hh:mm)

Date of Birth _____
(enter yyyy-mm-dd)

Patient Age _____

Gender
- ☐ Male
- ☐ Female
- ☐ unknown

Patient Race
- ☐ American Indian or Alaskan Native
- ☐ Asian
- ☐ Black or African American
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White
- ☐ Other
- ☐ Unknown

Patient Ethnicity
- ☐ Hispanic or Latino. A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race
- ☐ Non-Hispanic or Latino. A person not of any Spanish culture or origin.
- ☐ Unknown

Principle Payer	☐ Medicare ☐ Medicare Managed Care - Patients covered by Medicare Advantage plans, Medicare HMO, ☐ Medicare PPO, Medicare Private Fee for Service or any other type of Medicare plan where CMS is not ☐ the direct payer. ☐ Medicaid ☐ Medicaid Managed Care - Patients covered by Medicaid HMOs, Medicaid provider sponsored networks (PSNs) or other Medicaid funded plans that are licensed in the state of Florida. ☐ Commercial Health Insurance - Patients covered by any type of private coverage, including HMO, ☐ or self-insured plans. ☐ Workers' Compensation ☐ TriCare or Other Federal Government ☐ VA ☐ Other State/Local Government ☐ Self Pay - Patients with no insurance coverage ☐ Non-Payment - Includes charity, professional courtesy, no charge, research/clinical trial, ☐ refusal to pay/bad debt, Hill Burton free care, research/donor that is known at the time of ☐ reporting. ☐ Other ☐ Kidcare - Includes Healthy Kids, Medikids, and Children's Medical Services ☐ Unknown ☐ Commercial Liability Coverage - Patients whose health care is covered under a liability policy, such as automobile, homeowners or general business.
Living Arrangements	☐ Patient reports permanent residence ☐ Patient has no permanent residence (homeless or shelter) ☐ Unknown
Date/Time of Baker Act Initiation	_____ (enter yyyy-mm-dd hh:mm)
Date/Time of Baker Act Order (if present)	_____ (enter yyyy-mm-dd hh:mm)
Who signed the Baker Act form?	☐ Medical provider ☐ Law enforcement ☐ Judicial order ☐ unknown
Patient's reason for visit ICD-CM Code (admitting diagnosis)	_____ (enter number including decimal point if present xxx.xx)
If a secondary diagnosis was assigned, enter the ICD-CM code here:	_____ (enter number including decimal point if present xxx.xx)
Was medical stabilization required prior to transfer to Baker Act Receiving Facility?	☐ yes ☐ no ☐ unknown
Following medical stabilization, what date and time was the patient medically cleared for transfer to Baker Act Receiving Facility?	_____ (enter yyyy-mm-dd hh:mm)
Was suicidal intention or ideation present?	☐ yes ☐ no ☐ unknown

Blood Alcohol Testing	☐ Not tested ☐ Greater than 80 mg/dl ☐ Less than 80 mg/dl
Toxicology Screen	☐ Not tested ☐ positive for benzodiazepine, opiates, or stimulants ☐ negative for benzodiazepine, opiates, or stimulants
Were behavioral health restraints applied during time in hospital?	☐ yes ☐ no ☐ unknown
When was the first notification to a Baker Act Receiving Facility made for this patient?	_____ (enter yyyy-mm-dd hh:mm)
When did patient depart hospital with Baker Act Receiving Facility destination?	_____ (enter yyyy-mm-dd hh:mm)

What Baker Act Receiving Facility did the patient transfer to?

- ☐ APALACHEE CENTER, Leon County
- ☐ ATLANTIC SHORES HOSPITAL, Broward County
- ☐ AVENTURA HOSPITAL AND MEDICAL CENTER, Miami-Dad County
- ☐ BAPTIST HOSPITAL INC, Escambia County
- ☐ BAPTIST MEDICAL CENTER DOWNTOWN, Duval County
- ☐ BRIDGEWAY CENTER, Okaloosa County
- ☐ BROWARD HEALTH BROWARD GENERAL MEDICAL CENTE Broward County
- ☐ BROWARD HEALTH IMPERIAL POINT MEDICAL CENTER, Broward County
- ☐ CENTRAL FLORIDA BEHAVIORAL HOSPITAL (operated by Baycare Behavioral Health), Orange County
- ☐ CHARLOTTE BEHAVIORAL HEALTH CARE, Charlotte Count
- ☐ CHARLOTTE REGIONAL MEDICAL CENTER (Riverside Behavioral Center), Charlotte County
- ☐ CIRCLES OF CARE - Children's Unit, Brevard County
- ☐ CIRCLES OF CARE INC - Adult Unit, Brevard County
- ☐ CITRUS HEALTH NETWORK - Adult Unit, Miami-Dade County
- ☐ CITRUS HEALTH NETWORK - Children's Unit, Miami-Dade County
- ☐ COASTAL BEHAVIORAL HEALTHCARE, Sarasota County
- ☐ COLUMBIA HOSPITAL (The Pavilion), Palm Beach County
- ☐ COMMUNITY HEALTH OF SOUTH FLORIDA, Miami-Dade County
- ☐ DAVID LAWRENCE MENTAL HEALTH CENTER, Collier Cou
- ☐ DELRAY MEDICAL CENTER (Fair Oaks Pavilion), Palm Beach County
- ☐ DEPOO HOSPITAL, Monroe County
- ☐ EASTSIDE PSYCHIATRIC HOSPITAL, Leon County
- ☐ EMERALD COAST BEHAVIORAL HOSPITAL, Bay County
- ☐ FLAGLER HOSPITAL, St. Johns County
- ☐ FLORIDA HOSPITAL HEARTLAND MEDICAL CENTER LAKE PLACID, Highlands County
- ☐ FLORIDA HOSPITAL, Orange County
- ☐ FORT LAUDERDALE HOSPITAL, Broward County
- ☐ FORT WALTON BEACH MEDICAL CENTER, Okaloosa Coun
- ☐ GUIDANCE/CARE CENTER, Monroe County
- ☐ HALIFAX HEALTH MEDICAL CENTER, Volusia County
- ☐ HARBOR PINES, Brevard County
- ☐ HENDERSON BEHAVIORAL HEALTH, Broward County
- ☐ HIGH POINT TREATMENT CENTER, Broward County
- ☐ INDIAN RIVER MEDICAL CENTER, Indian River County
- ☐ JACKSON MEMORIAL HOSPITAL, Miami-Dade County
- ☐ JACKSON NORTH COMMUNITY MENTAL HEALTH CENTER Miami-Dade County
- ☐ JACKSON NORTH MEDICAL CENTER, Miami-Dade County
- ☐ JACKSON SOUTH COMMUNITY HOSPITAL, Miami-Dade Co
- ☐ JEROME GOLDEN CENTER FOR BEHAVIORAL HEALTH, Pal Beach County
- ☐ KENDALL REGIONAL MEDICAL CENTER, Miami-Dade Cour
- ☐ LAKELAND REGIONAL MEDICAL CENTER, Polk County
- ☐ LAKESIDE BEHAVIORAL HEALTHCARE -Adult Unit, Orange County
- ☐ LAKESIDE BEHAVIORAL HEALTHCARE -Children's Unit, Orange County
- ☐ LAKESIDE BEHAVIORAL HEALTHCARE INC (Lakeside Alternatives Hospital), Orange County
- ☐ LAKEVIEW CENTER, Escambia County
- ☐ LARGO MEDICAL CENTER - INDIAN ROCKS, Pinellas County
- ☐ LARKIN COMMUNITY HOSPITAL, Miami-Dade County
- ☐ LAWNWOOD REGIONAL MEDICAL CENTER & HEART INSTITUTE, St. Lucie County
- ☐ LIFE MANAGEMENT CENTER OF NORTHWEST FLORIDA, B County
- ☐ LIFESTREAM BEHAVIORAL CENTER CSU, Lake County
- ☐ LIFESTREAM BEHAVIORAL CENTER HOSPITAL, Lake Coun
- ☐ MANATEE GLENS CRISIS STABILIZATION UNIT, Manatee

County
- [ ] MANATEE GLENS HOSPITAL, Manatee County
- [ ] MANATEE MEMORIAL HOSPITAL, Manatee County
- [ ] MEDICAL CENTER OF TRINITY WEST PASCO CAMPUS, Pas County
- [ ] MEMORIAL HOSPITAL OF TAMPA, Hillsborough County
- [ ] MEMORIAL REGIONAL HOSPITAL, Broward County
- [ ] MENTAL HEALTH CARE - Adult Unit, Hillsborough County
- [ ] MENTAL HEALTH CARE - Children's Unit, Hillsborough County
- [ ] MENTAL HEALTH CARE ADULT EMERGENCY SERVICES--C Hillsborough County
- [ ] MENTAL HEALTH CENTER OF JACKSONVILLE, Duval Coun
- [ ] MENTAL HEALTH RESOURCE CENTER -Adult Unit, Duval County
- [ ] MENTAL HEALTH RESOURCE CENTER - Children's Unit, Duval County
- [ ] MERCY HOSPITAL, Miami-Dade County
- [ ] MERIDIAN BEHAVIORAL HEALTHCARE (Gateway Commu Services, Inc.), Alachua County
- [ ] MERIDIAN BEHAVIORAL HEALTHCARE (Gateway Commur Services, Inc.), Columbia County
- [ ] MIAMI BEHAVIORAL HEALTH CENTER, Miami-Dade Count
- [ ] MIAMI CHILDREN'S HOSPITAL, Miami-Dade County
- [ ] MORTON PLANT HOSPITAL, Pinellas County
- [ ] MORTON PLANT NORTH BAY HOSPITAL RECOVERY CENTI Pasco County
- [ ] MOUNT SINAI MEDICAL CENTER, Miami-Dade County
- [ ] NEW HORIZONS COMMUNITY MENTAL HEALTH CENTER, Miami-Dade County
- [ ] NEW HORIZONS OF THE TREASURE COAST - Adult Unit, St. Lucie County
- [ ] NEW HORIZONS OF THE TREASURE COAST - Children's Unit, St. Lucie County
- [ ] NORTH SHORE MEDICAL CENTER, Miami-Dade County
- [ ] NORTH SHORE MEDICAL CENTER - FMC CAMPUS (Ft. Lauderdale - previously Florida Medical Center), Broward County
- [ ] NORTHEAST FLORIDA STATE HOSPITAL, Baker County
- [ ] NORTHSIDE MENTAL HEALTH CENTER CSU, Hillsborough County
- [ ] ORANGE PARK MEDICAL CENTER, Clay County
- [ ] PALMETTO GENERAL HOSPITAL, Miami-Dade County
- [ ] PARK PLACE BEHAVIORAL HEALTH CARE, Osceola County
- [ ] PARK ROYAL HOSPITAL, Lee County
- [ ] PEACE RIVER CENTER CRISIS STABILIZATION UNIT, Polk County
- [ ] PEMHS ADULT CRISIS STABILIZATION UNIT- A, Pinellas County
- [ ] PEMHS ADULT CRISIS STABILIZATION UNIT- B, Pinellas County
- [ ] PEMHS CHILDREN'S SCREENING & STABILIZATION UNIT, Pinellas County
- [ ] PEMHS ADULT CRISIS STABILIZATION UNIT- C, Pinellas County
- [ ] PORT ST LUCIE HOSPITAL, St. Lucie County
- [ ] RIVER POINT BEHAVIORAL HEALTH (formerly Ten Broeck Hospital), Duval County
- [ ] SARASOTA MEMORIAL HOSPITAL (Bayside Center for Behavioral Health), Sarasota County
- [ ] SEMINOLE BEHAVIORAL HEALTHCARE, Seminole County
- [ ] SHANDS AT VISTA, Alachua County
- [ ] SHANDS HOSPITAL AT THE UNIVERSITY OF FLORIDA, Alachua County
- [ ] SHANDS JACKSONVILLE MEDICAL CENTER, Duval County
- [ ] SMA BEHAVIORAL HEALTH SERVICES, Volusia County
- [ ] SOUTH COUNTY MENTAL HEALTH CENTER, Palm Beach County
- [ ] SOUTH SEMINOLE HOSPITAL, Seminole County
- [ ] SOUTHERN WINDS HOSPITAL, Miami-Dade County

- [ ] SPRINGBROOK HOSPITAL, Hernando County
- [ ] ST ANTHONYS HOSPITAL, Pinellas County
- [ ] ST JOSEPHS HOSPITAL BEHAVIORAL HEALTH CENTER, Hillsborough County
- [ ] ST MARY'S MEDICAL CENTER, Palm Beach County
- [ ] TALLAHASSEE MEMORIAL HOSPITAL, Leon County
- [ ] THE CENTERS INC, Marion County
- [ ] THE JEROME GOLDEN CENTER FOR BEHAVIORAL HEALTH INC, Palm Beach County
- [ ] THE VINES HOSPITAL, Marion County
- [ ] UNIVERSITY BEHAVIORAL CENTER, Orange County
- [ ] UNIVERSITY HOSPITAL AND MEDICAL CENTER (University Pavilion Behavioral Health Services), Broward County
- [ ] UNIVERSITY OF MIAMI HOSPITAL, Miami-Dade County
- [ ] VISTA BEHAVIORAL CRISIS SERVICES (Lee Mental Health Center) CCSU & JARF - Children's Unit, Lee County
- [ ] VISTA BEHAVIORAL CRISIS SERVICES (Lee Mental Health Center) CSU - Adult Unit, Lee County
- [ ] WEST FLORIDA HOSPITAL, Escambia County
- [ ] WESTCHESTER GENERAL HOSPITAL, Miami-Dade County
- [ ] WINDMOOR HEALTHCARE OF CLEARWATER, Pinellas Cou
- [ ] WINTER HAVEN HOSPITAL, Polk County
- [ ] WUESTHOFF MEDICAL CENTER-ROCKLEDGE, Brevard Co
- [ ] UNKNOWN

Appendix E:

Baker Act Forms

Report of Law Enforcement Officer Initiating Involuntary Examination

State of Florida, County of _____, Florida

I,_____, am a law enforcement officer certified by the State of Florida. In my opinion

_____ appears to meet the following criteria for involuntary examination:

1. I have reason to believe said person has a mental illness pursuant to Section 394.455 (18), F.S., and because of the mental illness (check a or b):

☐ a. Person has refused voluntary examination after conscientious explanation and disclosure of the purpose of the examination; OR

☐ b. Person is unable to determine for himself/herself whether examination is necessary, AND

2. Either (check all that apply)

☐ a. Without care or treatment said person is likely to suffer from neglect or refuse to care for himself/herself, and such neglect or refusal poses a real and present threat of substantial harm to his/her well-being and it is not apparent that such harm may be avoided through the help of willing family members or friends or the provision of other services; AND/OR,

☐ b. There is substantial likelihood that without care or treatment the person will cause serious bodily harm to (check one or both) ☐ self ☐ others in the near future, as evidenced by recent behavior.

Circumstances supporting this opinion, including specific information about the person's behavior, threats and actions and information offered by others:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ / _____ / 20_____ _____ am pm

Signature of Law Enforcement Officer — Time

_____ — Printed Name of Law Enforcement Officer

_____ — Full Name of Law Enforcement Agency (printed)

_____ — Badge or ID Number

_____ — Law Enforcement Case Number

By Authority of s. 394.463(2)(a) 2, Florida Statutes
CF-MH 3052a, Sept 06 (obsoletes previous editions) (Mandatory Form)

BAKER ACT

Baker Act Forms - 51

Certificate of Professional Initiating Involuntary Examination

All sections of this form must be completed and legible (please print)

I have personally examined (printed name of person) _____ at time _____ am pm (time must be within the preceding 48 hours) on _____/_____/ 20_____ in _____ County and that person appears to meet criteria for involuntary examination OR I am a physician who has determined that (printed name of person) _____ has failed or has refused to comply with the treatment ordered by the court, and, in my clinical judgment, efforts were made to solicit compliance and the person appears to meet the criteria for involuntary examination. Section IV of this form is completed to document the requirements of the law.

This is to certify that my professional license number is: _____ and I am a *(check one box)*

☐ Psychiatrist ☐ Physician (non-psychiatric) ☐ Clinical Psychologist ☐ Psychiatric Nurse ☐ Clinical Social Worker

☐ Mental Health Counselor ☐ Marriage and Family Therapist Each as defined in s.394.455, F.S.

Section I: CRITERIA

There is reason to believe person has a mental illness as defined in Section 394.455(18), Florida Statutes (excludes retardation or developmental disabilities, intoxication, or conditions manifested only by antisocial behavior or substance abuse impairment).

Diagnosis of Mental Illness is: List all mental health diagnoses applicable to this person

DSM Code(s) (if known)

AND BECAUSE OF MENTAL ILLNESS

☐ A. Person has refused voluntary examination after conscientious explanation of disclosure of the purpose of examination

OR

Statute requires that at least one be checked, but both may be checked if both apply

☐ B. Person is unable to determine for himself/herself whether examination is necessary

☐ A. Without care and treatment the person is likely to suffer from neglect or refuse to care for himself/herself, and such neglect or refusal poses a real and present threat of substantial harm to his or her well-being and it is not apparent that such harm may be avoided through the help of willing family members or friends or the provision of other services

AND EITHER

(A and/or B)

☐ B. There is substantial likelihood that without care or treatment the person will cause serious bodily harm to (check one or both):

☐ self ☐ others

in the near future, as evidenced by recent behaviors (describe behaviors at top of page 2)

Section II: SUPPORTING EVIDENCE

A. My observations supporting these criteria including the person's behaviors and statements, specifically those related to suicidal ideation, previous suicide attempts, homicidal ideation or self-injury are as follows:

CONTINUED OVER

Certificate of Professional Initiating Involuntary Examination (Page 2)

Section III: OTHER INFORMATION

Other information, including source relied upon to reach this conclusion is as follows. If information is obtained from other persons, describe these sources (e.g., reports of family, friends, other mental health professionals or law enforcement officers, as well as medical or mental health records).

Section IV: NON-COMPLIANCE WITH INVOLUNTARY OUTPATIENT PLACEMENT ORDER

Complete this section if you are a physician who is documenting non-compliance with an involuntary outpatient placement order.
This is to certify that I am a physician, as defined in Florida Statutes 394.455(21), F.S. and in my clinical judgment, the person has failed or has refused to comply with the treatment ordered by the court, and the following efforts have been made to solicit compliance with the treatment plan:

Section V: INFORMATION FOR LAW ENFORCEMENT

Provide identifying information (if known) if needed by law enforcement to find the person so he/she may be taken into custody for examination:

Age: _____ ☐ Male ☐ Female Race/ethnicity: _____

Other details (such as height, weight, hair color, clothing worn when last seen, where last seen):

If relevant, information such as access to weapon, recent violence or pending criminal charges:

This form must be transported with the person to the receiving facility to be retained in the clinical record. Copies may be retained by the initiating professional and by the law enforcement agency transporting the person to the receiving facility.

Section VI: SIGNATURE

Signature of Professional:	Date Signed
Typed or Printed Name of Professional:	Phone ( )
Address of Professional:	

By Authority of s. 394.455(18), 394.463(2)(a)3, 394.4655, Florida Statutes
CF-MH 3052b, Sept 06 (obsoletes previous editions) (Mandatory Form) BAKER ACT

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Request for Involuntary Examination after Stabilization of Emergency Medical Condition

The following person _____, for whom an involuntary examination has been initiated has been evaluated or treated at _____ Hospital located at _____ for an emergency medical condition.

a. The person arrived at this hospital at: _____ am pm on _____, 20____.
b. The attending physician documented that the person had an emergency medical condition at:

_____ am pm on _____, 20__.
c. The attending physician documented at _____ am pm on _____, 20___

☐ That the person's medical condition had stabilized, or
☐ That an emergency medical condition did not exist

This hospital is notifying _____, a designated receiving facility or the psychiatric unit within this hospital, within two (2) hours of the time noted in (c) above that the person must be examined by a designated receiving facility and released; or the person must be transferred to a designated receiving facility in which appropriate medical treatment is available.

Within 12 hours of the time noted in (c) above, the designated receiving facility: (check one or both boxes)

☐ Shall perform the involuntary examination at this hospital or,

☐ Shall, if it has available the appropriate medical treatment, accept transfer of the person.

The nature and extent of this person's current medical problems: _____

_____

_____

_____

This hospital, pursuant to federal and state statutes, will provide or secure transport of this person via: _____ with expected time of arrival of: _____ am pm on _____, 20_____ unless other methods of transportation have been arranged as specified:

_____

_____

_____

_____	_____	_____	_____ am pm
Signature of Administrator or Designee	Credentials	Date	Time

_____	_____
Typed or Printed Name	Name of Hospital

*** Transfers of persons in a psychiatric emergency must be performed in compliance with the federal EMTALA law. This completed form must be given to the receiving facility with the form initiating the involuntary examination prior to or at the time of the transfer of the person with a copy retained in the clinical record. The person shall not be held for involuntary examination longer than a total of 72 hours plus the period during which an emergency medical condition was declared by the attending physician.**

See s. 394.463(g), (h), Florida Statutes
CF-MH 3102, Feb 05 (obsoletes previous editions) (Recommended Form) **BAKER ACT**

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Appendix F:

Recoded Diagnosis Categories

Code	Primary diagnosis	Category grouping
62.84	Suicidal ideation	Mood disorder
70.2	General psychiatric examination, other and unspecified	Thought disorder
262.2	Other severe protein-calorie malnutrition	Medical disorder
291.81	Alcohol withdrawal	Substance disorder
293.9	Unspecified transient mental disorder in conditions classified elsewhere	Medical disorder
295.3	Paranoid type schizophrenia	Thought disorder
295.4	Acute schizophrenic episode unspecified state	Thought disorder
295.7	Schizo-affective type schizophrenia unspecified state	Thought disorder
295.8	Other specified types of schizophrenia	Thought disorder
295.9	Unspecified schizophrenia	Thought disorder
296.2	Major depressive affective disorder single episode unspecified degree	Mood disorder
296.22	Major depressive affective disorder single episode moderate degree	Mood disorder
296.25	Major depressive affective disorder single episode in partial or unspecified remission	Mood disorder
296.4	Bipolar disorder, most recent episode (or current) manic unspecified degree	Mood disorder

Code	Primary diagnosis	Category grouping
296.8	Bipolar disorder, unspecified	Mood disorder
296.9	Other and unspecified episodic mood disorder	Mood disorder
297	Paranoid state simple	Thought disorder
297.1	Delusional disorder	Thought disorder
298.9	Unspecified psychosis	Thought disorder
300	Anxiety state unspecified	Mood disorder
300.01	Panic disorder without agoraphobia	Mood disorder
300.9	Unspecified nonpsychotic mental disorder	Mood disorder
303	Acute alcoholic intoxication in alcoholism unspecified drinking behavior	Substance use disorder
303.01	Acute alcoholic intoxication in alcoholism continuous drinking behavior	Substance use disorder
303.91	Acute alcoholic intoxication in alcoholism continuous drinking behavior	Substance use disorder
305	Nondependent abuse of drugs	Substance use disorder
305.2	Nondependent cannabis abuse	Substance use disorder
305.5	Nondependent opioid abuse	Substance use disorder
311	Depressive disorder, not elsewhere classified	Mood disorder
312.9	Unspecified disturbance of conduct	Mood disorder

Code	Primary diagnosis	Category grouping
331	Alzheimer's disease	Medical disorder
724.5	Backache unspecified	Medical disorder
780.02	Transient alteration of awareness	Medical disorder
780.09	Other alteration of consciousness	Medical disorder
780.1	Coma	Medical disorder
780.8	Generalized hyperhidrosis	Medical disorder
780.97	Altered mental status	Medical disorder
796.2	Elevated blood pressure reading without diagnosis of hypertension	Medical disorder
805.4	Closed fracture of lumbar vertebra without mention of spinal cord injury	Medical disorder
965	Poisoning by opiates and related narcotics	Substance use disorder
965.4	Poisoning by aromatic analgesics, not elsewhere classified	Substance use disorder
965.61	Poisoning by propionic acid derivatives	Medical disorder
967.8	Poisoning by other sedatives and hypnotics	Medical disorder
969.09	Poisoning by other antidepressants	Medical disorder
969.3	Poisoning by other antipsychotics neuroleptics and major tranquilizers	Medical disorder
969.4	Poisoning by benzodiazepine-based tranquilizers	Medical disorder
969.5	Poisoning by other tranquilizers	Medical disorder

Code	Primary diagnosis	Category grouping
975.2	Poisoning by skeletal muscle relaxants	Medical disorder
977.9	Poisoning by unspecified drug or medicinal substance	Medical disorder
980.9	Toxic effect of unspecified alcohol	Substance use disorder
983.9	Toxic effect of caustic unspecified	Medical disorder
15.05	Personal history of allergy to other foods	Medical disorder
49.87	Physical restraints status	Mood disorder
58.69	Long-term (current) use of other medications	Medical disorder
62.84	Suicidal ideation	Mood disorder
62.85	Homicidal ideation	Mood disorder
70.1	General psychiatric examination requested by the authority	Thought disorder
276.8	Hypopotassemia	Medical disorder
276.9	Electrolyte and fluid disorders not elsewhere classified	Medical disorder
291.81	Alcohol withdrawal	Medical disorder
294.11	Dementia in conditions classified elsewhere with behavioral disturbance	Medical disorder
294.2	Dementia, unspecified	Medical disorder
295.3	Paranoid type schizophrenia	Thought disorder
295.72	Schizoaffective disorder, chronic	Thought disorder
295.9	Unspecified schizophrenia	Thought disorder
296.2	Major depressive disorder single episode	Mood disorder

Code	Primary diagnosis	Category grouping
296.3	Major depressive disorder recurrent episode	Mood disorder
296.33	Major depressive affective disorder, recurrent episode, severe, without mention of psychotic behavior	Mood disorder
296.4	Bipolar I disorder, most recent episode (or current) manic, unspecified	Mood disorder
296.5	Bipolar disorder, most recent episode (or current) depressed	Mood disorder
296.6	Bipolar disorder, most recent episode (or current) mixed	Mood disorder
296.7	Bipolar I disorder, most recent episode (or current) unspecified	Mood disorder
296.8	Bipolar disorder, unspecified	Mood disorder
296.9	Other and unspecified episodic mood disorder	Mood disorder
297.8	Other specified paranoid states	Thought disorder
297.9	Unspecified paranoid state	Thought disorder
300	Anxiety states	Mood disorder
300.9	Unspecified nonpsychotic mental disorder	Mood disorder
301.3	Explosive personality disorder	Mood disorder
303	Acute alcoholic intoxication	Substance use disorder
303.01	Acute alcoholic intoxication in alcoholism, continuous	Substance use disorder

Code	Primary diagnosis	Category grouping
303.9	Other and unspecified alcohol dependence	Substance use disorder
304.1	Sedative, hypnotic or anxiolytic dependence	Substance use disorder
305	Nondependent alcohol abuse	Substance use disorder
305.1	Tobacco use disorder	Substance use disorder
305.6	Nondependent cocaine abuse	Substance use disorder
305.7	Nondependent amphetamine or related acting sympathomimetic abuse	Substance use disorder
305.9	Nondependent other mixed or unspecified drug abuse	Substance use disorder
307.9	Other and unspecified special symptoms or syndromes, not elsewhere classified	Mood disorder
309.28	Adjustment disorder with mixed anxiety and depressed mood	Mood disorder
311	Depressive disorder, not elsewhere classified	Mood disorder
312.9	Unspecified disturbance of conduct	Mood disorder
312.9	Unspecified disturbance of conduct	Mood disorder
314.01	Attention deficit disorder with hyperactivity	Mood disorder

Code	Primary diagnosis	Category grouping
331.82	Dementia with Lewy bodies	Medical disorder
338.29	Other chronic pain	Medical disorder
344.1	Other demyelinating diseases of central nervous system - Schilder's disease	Medical disorder
348.3	Encephalopathy, unspecified	Medical disorder
349.82	Toxic encephalopathy	Medical disorder
401.9	Unspecified essential hypertension	Medical disorder
425.4	Other primary cardiomyopathies	Medical disorder
427.31	Atrial fibrillation	Medical disorder
599	Urinary tract infection	Medical disorder
716.9	Arthropathy, unspecified	Medical disorder
724.2	Lumbago	Medical disorder
780.1	Hallucinations	Thought disorder
780.39	Other convulsions	Medical disorder
780.52	Insomnia, unspecified	Medical disorder
780.97	Altered mental status	Medical disorder
790.29	Other abnormal glucose	Medical disorder
796.2	Elevated blood pressure reading without diagnosis of hypertension	Medical disorder
881.02	Open wound of wrist, without mention of complication	Medical disorder
950	Optic nerve injury	Medical disorder
950.2	Injury to optic pathways	Medical disorder

Code	Primary diagnosis	Category grouping
950.3	Injury to visual cortex	Medical disorder
965	Poisoning by opiates and related narcotics	Substance use disorder
965.09	Poisoning by other opiates and related narcotics	Substance use disorder
965.61	Poisoning by propionic acid derivatives	Medical disorder
969.4	Poisoning by benzodiazepine-based tranquilizers	Medical disorder
972.6	Poisoning by other antihypertensive agents	Medical disorder
977.9	Poisoning by unspecified drug or medicinal substance	Medical disorder
980.5	Toxic effect of alcohol	Substance use disorder
989.89	Toxic effect of other substance, chiefly non-medicinal as to source, not elsewhere classified	Medical disorder

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