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## The Impact of a Crisis Intervention Team Program on Psychiatric Boarding

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**THE IMPACT OF A CRISIS INTERVENTION TEAM PROGRAM ON PSYCHIATRIC  
BOARDING**

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## **ABSTRACT**

### **THE IMPACT OF A CRISIS INTERVENTION TEAM PROGRAM ON PSYCHIATRIC BOARDING**

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Old Dominion University, 2021  
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Psychiatric boarding is the phenomenon of housing individuals in emergency departments while awaiting access to mental health services in the community. The expansion of psychiatric boarding is attributed to continued deinstitutionalization and under-resourcing of mental health services. Psychiatric boarding is also associated with deleterious outcomes for individuals in need of access to behavioral health services, facilities. There is limited research on programmatic efforts to reduce psychiatric boarding as it pertains to Crisis Intervention Team programs co-located in medical settings. Crisis Intervention Team (CIT) programs are community-based, multi-stakeholder partnerships that include dedicated assessment centers crisis response and referral. This study utilized a retrospective, comparative approach to test the hypothesis that CIT participation positively impacts psychiatric boarding outcomes versus boarded patients who were not CIT participants. Findings indicate that: a) CIT participants experienced reduced time in psychiatric boarding compared to non-participants, b) psychiatric boarding length of stay was reduced for all patients seen in the emergency department after the CIT program was implemented compared to before implementation, and that c) suicidal features and insurance did not impact length of stay but positive alcohol screens appeared to be associated with increased length. Study implications for research, practice and training, along with limitations and future directions, are also discussed.

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This dissertation is dedicated to my father who has been the steadfast example of resilience, integrity, grace, wisdom, courage and purpose driven living exemplified even in the midst of exceptional challenge and confrontation with mortality. Also, my mother who has been supportive without fail, and sacrificial without expectation and condition - a model of living that I will forever strive to emulate.

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## **Chapter 1**

### **STATEMENT OF THE PROBLEM**

This chapter introduces the study and reviews the specifics of the problem. This chapter also outlines the purpose of the study, significance of the study, and the research questions. This chapter concludes with definitions of terms specific to this dissertation.

### **Introduction**

Psychiatric boarding is an abundant and pervasive problem throughout the nation (Nordstrom, 2019; Major, 2021; Nordstrom, 2021; Kutscher, 2013). The combined effects of deinstitutionalization, the under-resourcing of mental health services, and complex sociological factors have led to over-reliance of hospital emergency departments to temporarily house patients who are in need of specialized and urgent mental health care. Psychiatric boarding is associated with harmful outcomes for patients, communities and healthcare providers (Santillanes, 2020; Nicks, et al., 2014). While research into the problem has increased in recent years, there remain significant limits in the understanding of those characteristics that effect the likelihood of whether or not an individual experiencing a mental health crisis will be subject to long lengths of stay in emergency departments while awaiting appropriate treatment (Lane et al., 2021; Misek, 2015).

Law enforcement officers are often the first responders to mental health emergencies and frequently transport individuals in psychiatric crisis to emergency departments as an alternative to criminal processing (Jines, 2013). Crisis Intervention Teams (CIT), also known as the Memphis model, are community based, collaborative programs that positively impact jail diversion for mental health consumers in crisis and increase the competency of law enforcement personnel to provide effective interventions in crisis situations (Watson, 2017; Compton, 2017;

Pelfrey, 2020; Tyuse, 2021; Bratina, 2018, Kubiak, 2017; McGuire, 2011). CIT programs often include an assessment center which may serve as an alternative to an emergency department for the purposes of evaluating mental health consumers and facilitating psychiatric referrals. In some cases, the CIT assessment receiving centers are co-located on hospital campuses, thereby theoretically decreasing the burden on the hospital emergency department, which is often poorly equipped to address crises of this nature. This study will investigate the impact of a CIT program with a co-located assessment receiving center on psychiatric boarding in an emergency department.

### **Purpose of the Study**

The purpose of this study is to contribute to the understanding of the impact of a CIT program on the phenomenon of psychiatric boarding. We hope to better understand the variables and conditions that relate to psychiatric boarding and the potential impact of a programmatic intervention on psychiatric boarding outcomes. Specifically, the study attempts to determine if there is a significant decrease of psychiatric boarding at a suburban hospital-based emergency department as a result of the implementation of a community Crisis Intervention Team assessment center on the same campus as the emergency department. Hospital emergency departments have been overwhelmed with crowding issues in recent years (Santillanes, 2020; Hefflefinger, 2014), in part, due to long lengths of stay for patients awaiting mental health treatment. Psychiatric boarding has multiple deleterious impacts on patients, communities and providers, such as a reduction in effectiveness of treatment, overwhelmed care providers who feel ill-equipped, and fewer individuals obtaining care due to disproportionately negative past experiences. Crisis Intervention Team programs have been demonstrated to improve access to services for mental health consumers. To this point, however, there has not been any research to

study the impact of a Crisis Intervention Team on psychiatric boarding outcomes. It is aim of this study to expand the body of knowledge surrounding psychiatric boarding, specifically the potential impact of a CIT program.

### **Significance of the Study**

At first glance, psychiatric boarding and Crisis Intervention Teams may not seem germane to the mainstream of the counseling profession. However, if we consider the underpinning issues and harmful outcomes for persons impacted by psychiatric boarding and widespread, unjust criminalization due to mental health challenges, we realize that there are many elements of alignment in terms of opportunities for advocacy and inter-professional roles of professional counselors and counselor educators. This section will explore some of these areas of relevance in greater detail.

### **Integrated Healthcare Models and Counseling**

Counselors function in a multitude of professional roles outside the domains of traditional silos of mental health practices (Johnson, 2014). For example, counselors work in jails, hospitals, schools, colleges, corporations, military and governmental service agencies, and in many other settings in which collaboration with other professional disciplines is an essential component of ensuring best outcomes for community members (Carrol, 2015; Goldsmith, 2015; Sheperis, 2015). Even within mental health agencies, counselors often work alongside physicians, psychologists, social workers, and other allied health professionals (Borsos, 2011).

Furthermore, large scope legislative changes, such as the Affordable Care Act, are propelling the landscape of healthcare delivery away from traditional encounter based, health maintenance models towards a progressive population health outcome model focusing on wellness and prevention (Davis, 2011). There is widespread recognition of the need to

effectively integrate behavioral health within the scope of services of community healthcare providers in order to achieve population health goals (Horgan et al., 2012). In fact, the integration of mental health services is now required for many healthcare systems to achieve credentialing and subsequent reimbursement through Medicare (Steinberg, 2014).

As these changes have continued to evolve, there has been an increased need for the presence of mental health professionals, including counselors, employed in multidisciplinary healthcare settings (Conyne, 2015). It is therefore critical for counselors to have interprofessional competencies, thereby effectively facilitating community and systemic level changes that enhance quality of life, dignity, and efficiency of resources (Johnson, 2014). The collaborative, multi-agency Crisis Intervention Team (CIT) is an example of a program model in which mental health professionals are engaged, that promotes all of these outcomes for mental health consumers in local communities (Cross et al., 2014).

### **Advocacy and CIT Programs**

The counseling profession has a long history rooted in social advocacy (Toporek, 2010). The American Counseling Association (ACA) has endorsed advocacy competencies across multiple domains, thereby solidifying the integration of advocacy behaviors as a function of counselor identity (Ratts, 2016). Hof et al. (2009), summarized the counselor's social advocacy role as follows: "social advocacy is a counselor's work with or on behalf of his or her clients, the communities in which they live, and the larger systems that impact them" (p. 19). Counselors working in leadership roles in inter-professional settings enjoy a unique opportunity to promote positive values of the counseling profession via advocacy at community and systemic levels (Holland, 2021; Curtis, 2006). More specifically, counselors in leadership roles in inter-

professional settings may advocate by playing active roles to ameliorate systemic barriers that coalesce to inhibit quality of life of vulnerable and underserved community members.

Stigma and subsequent discriminatory outcomes are realities for many individuals experiencing mental health problems (Markowitz, 2011). Individuals challenged with persistent or acute mental illness have double the risk of suffering from a lower socioeconomic status and comprise ten to twenty-five percent of incarcerated inmates (Santillanes, 2020; Watson, 2013). Furthermore, once an individual becomes criminalized, recovery from mental illness becomes even more challenging (Ritter, 2010). A lack of competency among professionals in contact with individuals experiencing mental health problems who are also at risk for becoming criminalized may perpetuate or enhance deleterious outcomes for those in urgent need of access to mental health services.

The American Counseling Association (ACA), through its Code of Ethics, has set an imperative tone towards counselor advocacy: “When appropriate, counselors advocate at the individual, group, institutional and societal levels to examine potential barriers and obstacles that inhibit access and/or growth and development of clients” (ACA, 2005, p.5). At times, the traditional and structured format of individual, group, or family counseling is inadequate to affect ecological dynamics that are powerful and sometimes oppressive influences in the lives of those in urgent need of services (Greenleaf, 2009). Involvement with the implementation and functioning of a Crisis Intervention Teams (CIT’s) represents an opportunity for counselors to practice advocacy at the community (local) and systemic (judicial) levels. CIT programs function to promote dignity, reduce stigma, increase competency across professions, and improve the health outcomes of individuals at risk for unnecessary criminalization (Santillanes, 2020; Watson, 2013). To ensure effective stewardship of the resources that support CIT programs and

ascertain best outcomes for CIT partners and participants, outcome research is needed (Pelfrey, 2020; Watson, 2012).

### **Research Questions**

To expand the body of knowledge surrounding psychiatric boarding, specifically the potential impact of a CIT program, this study will answer the following three research questions:

#### **Research Question One**

Do psychiatrically boarded emergency department patients who receive CIT intervention have shorter lengths of stay in the emergency department compared to those who do not receive CIT intervention?

#### **Research Question Two**

Is the length of stay reduced for pre-CIT psychiatric boarders versus post-CIT psychiatric boarders?

#### **Research Question Three**

Does the effectiveness of the CIT participation on psychiatric boarding length of stay differ as a function of the presence of suicidal features, alcohol level, or insurance status?

### **Study Specific Definitions of Terms**

#### **Criminalization**

The act of identifying the legal boundaries of activities and behavior. An individual may be the object of criminalization based upon the judgment of the legal personnel, including law enforcement officers, who are witness to or interpreting the violation of legal boundaries in the larger situational context.

#### **Crisis Intervention Team (CIT)**

A community-based, collaborative mental health jail diversion program. Also known as the “Memphis Model,” CIT programs consist of voluntary training of law enforcement officers and partnerships with community mental health providers, mental health advocacy groups and community healthcare agencies.

### **Length of Stay (LOS)**

The entirety of time spent as an enrolled patient in a healthcare treatment setting. This is calculated in emergency departments by subtracting time of triage from time of discharge.

### **Emergency Department (ED)**

A community healthcare setting licensed to provide emergency healthcare evaluation and stabilization. ED’s are distinct from other departments and are bound by EMTALA laws.

### **Emergency Medical Treatment and Active Labor Act (EMTALA)**

The 1986 law, sometimes referred as COBRA law, detailed the requirements of medical providers in regards to refusal to treat patients and the transfer of patients to another treatment setting. All hospital emergency departments are governed by EMTALA laws in that EDs must evaluate and medically stabilize all patients who present regardless of insurance status.

### **Mental Health Treatment Facility**

A care center designated to addressing mental health issues that often involve multiple day treatment protocols for stabilization necessary for effective lower levels and less restrictive levels of care.

### **Psychiatric Boarding**

The total length of stay in emergency departments for mental health consumers who are dispositioned for transfer to a mental health treatment facility (Nolan et al., 2014).

### **Law Enforcement Officers (LEO)**



Public safety personnel that work in official government capacity to enforce law, including by use of force or arrest if necessary. In some communities, police departments and personnel are the primary front line responder staff, while in other communities, such as rural locations, sheriff department personnel work in front line roles as well. In the Chesapeake Virginia CIT program, both police officers and sheriff department staff may become certified CIT officers.

**Seclusion**

In healthcare, refers to the intentional restriction of an individual from exiting a treatment area or campus of a healthcare facility, and separation by physical barrier of that individual from other persons. As restraint typically encompasses seclusion and due to legal concerns, the practice of seclusion by healthcare provider is rare except by judicial order.

**Restraint**

In healthcare, refers to any provider intervention that restricts or impedes free movement of the patient. Legally, restraints by healthcare providers must be for purposes of safety or harm reduction. Restraints can range from mechanical such as apparatuses that attach to limbs and secured to structures; to physical such as holds by staff; to less intensive restrictions, such as bed railing in up position.

**Deinstitutionalization**

The system level phenomenon of mental health service changes that reduce centralized treatment from in-patient and long stay, intensive interventions towards less restrictive interventions in communities. The term is often associated with the ongoing reduction of state hospital psychiatric beds. The term may also refer to the impacts on the mental health consumer

who is accustomed to long term, institutional based care and is challenged by the adjustment to the general public milieu.

**Elopement**

In emergency medicine, the term refers to the unannounced departure of an ED patient to a location outside of the ED treatment area. Elopement is differentiated from an Against Medical Advice (AMA) discharge in that in an AMA discharge the patient notifies ED treatment providers of intent to leave the services of the ED against the recommendation of the ED providers and usually signs an official document indicating that the patient is aware of the potential consequences of leaving against the advice of the provider, yet chooses to leave in spite of these recommendations.

**Insurance Status**

Refers to the presence or absence of any healthcare coverage, including Medicare, Medicaid, private insurance or any other variation.

**Memorandum of Understanding (MOU)**

A written, formal agreement between two or more parties describing the structure of the partnership including delineation of responsibilities, roles and expectations.

**Voluntary Status**

An individual is considered voluntary for treatment if he or she provides informed consent and is determined to have capability to provide such consent. An individual is considered involuntary if he or she refuses treatment or the person is determined incapable of providing consent.

**Positive Alcohol Screening**

Refers to a blood test screening for alcohol. A threshold 0.01 mg/ml of alcohol in the bloodstream allows for the presence of nominal levels of alcohol due to secondary sources.

## **Chapter 2**

### **LITERATURE REVIEW**

Psychiatric boarding of individuals in hospital emergency departments (ED's) is a phenomenon that has persisted and increased at an alarming rate in the United States in recent decades (Nordstrom, 2019; Major, 2021; Nordstrom, 2021; Simpson et al., 2014). There are multiple, unresolved systemic factors that have contributed to this dilemma that are primarily rooted in under-resourcing of mental health services (Tucci, 2015). The consequences of psychiatric boarding are numerous and pervasive, ranging from increased crowding in ED's to imminent public safety implications (Lane et al., 2021; Nicks, 2012).

There have been multiple program and policy-based attempts to alleviate psychiatric boarding at the local community level (Major, 2021; Nordstrom, 2021; Hefflefinger, 2014; Stephens, 2014). Some programmatic interventions have yielded significant improvements, others have appeared less effective. Programmatic interventions have ranged from collaborative efforts to offer emergency psychiatric alternatives such as creation of a “dedicated regional psychiatric emergency service” (Zeller, 2014), while others have been structured around changes in the internal healthcare delivery systems such as the creation of a mental health critical decision unit that allows for patients in crisis to receive concurrent treatment and evaluation while needed resources are further clarified. The implementation of new programs in healthcare delivery such as those just mentioned, often result in unintended consequences that may be counterproductive or helpful (Timmons, 2010).

Crisis Intervention Teams (CIT's) are localized community collaborations involving public mental health providers, advocacy groups and law enforcement personnel aimed at improving access and safety outcomes for individuals in mental health crisis (Watson, 2017;

Compton, 2008). In many CIT programs, local healthcare facilities are involved with providing a discreet CIT assessment center whereby law enforcement can transport individuals in mental health crisis to a functional assessment, support and observation area that is separate from ED's (Bratina, 2018; Dupont et al., 2007).

One important goal of CIT's is to improve the competency of law enforcement officers (LEOs) who come in contact with individuals experiencing mental health related difficulties (Compton et al., 2008). Another important goal of CIT programs is to enhance access mental health services for potential consumers in need of such help (Bratina, 2018; Dupont et al., 2007). While procedures within CIT programs may vary, systematic collaboration among CIT community partners ideally enhances efficiency of mental health access from point of contact to final treatment location.

An emergency department often serves as a first or second point of contact for persons needing urgent mental health services. Therefore, the implementation of a CIT program in close proximity to an ED may provide an alternative to emergency departments as a psychiatric assessment venue thereby alleviating psychiatric boarding problems. Additionally, as grant-funded CIT programs often provide additional on-site staffing, the response time for initiating and completing mental health evaluations in nearby ED's is improved, thereby reducing boarding time on the front end of the process.

This chapter discusses the definition, emergence, contributing factors and problematic consequences of psychiatric boarding in the modern era. Furthermore, CITs as a collaborative programmatic effort to improve outcomes for persons with mental health crises is explored in detail. Finally, the implications for the implementation of a CIT on psychiatric boarding are discussed.

### **Psychiatric Boarding Defined**

Boarding in healthcare has traditionally referred to the holding of patients in units while awaiting transfers to appropriate treatment environments (Nordstrom, 2019; Major, 2021; Bender, 2008). The delays in transfers are most often due to lack of treatment capacity. The term psychiatric boarding was initially presented in literature in the context of structured living environments, similar to halfway houses, for individuals who have been deinstitutionalized from long term psychiatric hospitals (Jones, 1983). In the following decade and since, psychiatric boarding has been used to describe the altogether different phenomenon of individuals awaiting mental health treatment for extended periods in hospital emergency departments (Oliver, 2015).

Despite increased incidence of psychiatric boarding and subsequent problematic consequences, there has remained variability in the definition. For example, Alakeson, Pande & Ludwig (2010) characterized psychiatric boarding as pertaining to individuals staying overnight in an emergency department awaiting transfer to an acute care psychiatric unit. Later, Nicks and Manthey (2012) further delineated specific length of stay thresholds to more accurately identify an individual who qualifies as being boarded versus waiting.

Misek (2015) suggested that the term should only apply to persons in an ED with a length of stay greater than overall national average for all ED patients. While this application is appealing in that it differentiates between situations in which individuals experience an exceptionally long wait and those with wait times that would be expected for the process of evaluation and transfer can be completed, there are two primary reasons that this approach to the definition is problematic.

First, national averages for lengths of stay in ED's vary over time, creating a moving target and disagreement over what constitutes longer than expected ED visit (Oliver, 2015).

Second, the time-oriented definition does not account for the likelihood of generally longer ED stays for individuals with primary mental health problems. For example, persons who will eventually be dispositioned for transfer to a mental health facility are more likely to have been intoxicated upon arrival, have altered mental status, be resistant to medical evaluation, and have numerous co-morbid medical problems when compared to persons who are treated in emergency departments for non-mental health related concerns (Nicks & Manthey, 2012). Therefore, the average LOS for individuals with mental health related problems tends to significantly exceed LOS for persons being treated at an ED for non-related health issues (Warren et al., 2016).

The presence of these modifying features, which occur with higher frequency among mental health consumers, supports the use of a more encompassing definition for psychiatric boarding. Nolan et al. (2014) suggested that psychiatric boarding would apply to all instances of mental health-related ED visits in which individuals are awaiting psychiatric disposition or transfer to a mental health facility without consideration for a distinct time-related criterion. This definition is appealing in that it is unaffected by changes in average length of stay over time and captures the essence of the problem under study: Length of stay in emergency departments of individuals in need of access to in-patient psychiatric treatment. Therefore, this definition will be utilized for the purpose of this study.

### **Psychiatric Boarding Trends and Contributing Factors**

The increase in long stays in EDs for individuals with primary mental health problems has coincided with increased demand for mental health services coupled with incremental, and persistent reduction in resources (Nordstrom, 2019; Major, 2021; Nordstrom, 2021; Stephens et al., 2014). Most notably, there has been a dramatic reduction of facility-based treatment capacity since the onset of the deinstitutionalization movement several decades ago (Oliver, 2015;

Alakeson et al., 2010). Deinstitutionalization was driven primarily by human rights concerns and severe financial costs associated with long term stays at state facilities (Zun, 2012). These concerns and challenges associate with long-term or acute facility-based mental health treatment remain. Therefore, this trend has continued on in recent years, and projects to continue into the foreseeable future (Warren et al., 2016).

Despite increased public and political attention to the widespread problem of mental health treatment being under-resourced, in-patient mental health capacity continues to contract (Sisti, 2015). The National Alliance on Mental Illness (NAMI) reported that twenty-eight states slashed mental health funding by nearly \$1.6 billion from 2009 to 2012 with the majority of those funding cuts realized by continued reduction in state hospital beds (Kutscher, 2013). Nationally, the estimated total number of acute psychiatric beds available decreased from 50,509 in 2005 to 38,847 in 2013.

Recent data painted a worrisome picture in terms of psychiatric boarding trends in the United States. In 2012, Congress was briefed regarding a survey of 6,000 ED administrators, 75% of whom reported recent incidents of patients boarding for psychiatric reasons for twenty four hours or longer, and 10% reported patients recently boarding for one week or longer (Hefflefinger, 2014). Mental health related visits to EDs increased nearly two percent between 1992 and 2002 (Zun, 2012), and in 2010, 12% of all ED visits were due a mental health related complaint (SAMHSA, 2012). According to a Schumker Group Report (2010), 60% of ED managers reported a compromise in care for all patients being treated in the ED due to the delay of psychiatric transfers.

There is a large disparity in terms of boarding times for ED patients boarding for medical versus psychiatric conditions. Weiss et al. (2013) reported psychiatric boarding to be double the



boarding times for patients awaiting medical admission. Shortages of psychiatrists, ongoing mental health related stigma, economic downturns, large portions of the population lacking insurance, and lack of public education and prevention in mental health have all been implicated with increase in demand on EDs as a common point of first contact for individuals urgently in need of or seeking access mental health intervention (Nolan et al., 2014; Zeller, 2014). Due to the growing disparity between need and capacity, service and access gaps in mental health have expanded. EDs have often been default providers when healthcare service gap dilemmas are present in communities, but are inadequate substitutes for specialized healthcare treatment. The impact of the national psychiatric boarding dilemma on EDs illustrates the problematic nature of the over-reliance on ED's to compensate for healthcare resource gaps.

### **Individual Predictors of Psychiatric Boarding**

Negligible amounts of quantitative research has been conducted to illuminate variables that determine whether or not an individual might be more or less likely to experience psychiatric boarding (Santillanes, 2020; Nolan et al., 2015). There are several aspects of the complex phenomenon of psychiatric boarding that have posed challenges to researchers seeking to better understand this problem. Region-specific differences such as socio-demographics, availability of and structure of mental health resources, and mental health laws that impact psychiatric dispositions and transfers have made it difficult to produce study results that are reliable and valid (Chang et al., 2011). In 2008, the U.S. Department of Health and Human Services published a literature review that summarized the scope of the problem of psychiatric boarding and contributing factors (Bender, 2008). However, much of the authors' conclusions were based upon sparse quantitative data available at that time and subsequently, tentative associations and

conclusions were drawn. A primary recommendation that emerged from the study was that more rigorous research was needed to develop a better understanding of the phenomenon.

A few studies investigating predictors of psychiatric boarding have since been completed and have posited correlational variables of interest (Pelfrey, 2020; Tyuse, 2021; Bratina, 2018, Kubiak, 2017; Chang et al., 2012; Weiss et al., 2012; Change, et al., 2011; Funkenstein, 2013; Pitts et al., 2014; Park, 2009). However, the studies did have limitations, and very little consensus regarding relationship between boarding outcome and patient variables has emerged. One larger study (Nolan et al., 2015) did not hypothesize relationship outcomes prior to data analysis and simply sought out correlations based upon the variables available in the sample database.

Subsequent studies that did hypothesize relationships between individual variables and psychiatric boarding prior to data analysis lacked uniformity in assumptions such as the inclusion criteria that defines the occurrence of psychiatric boarding, and also had other significant differences in sampling and context that posed difficulties in making meaningful comparisons between study outcomes and identifying themes. These studies have illustrated that psychiatric boarding needs to be better defined and is prone to the influence of confounding variables. With these limitations in mind, we will explore in more detail some of the variables that were found to influence psychiatric boarding in academic literature.

### **Insurance Status**

Misek, deBarba, and Brill (2015) found that being uninsured increased the likelihood of both the occurrence of psychiatric boarding and the overall length of stay in emergency departments for patients being boarded. In this retrospective cohort study completed in two “suburban” ED’s over a period of two calendar years, 671 individuals met boarding criteria. The mean boarding

time was over twenty-seven hours for the uninsured in contrast with less than twelve hours boarding among those with insurance, Medicare, or Medicaid. While all patients that were dispositioned for psychiatric transfer were likely to require boarding, 72% of Medicare/Medicaid beneficiaries were boarded versus 95% of those who were indigent.

Financial and insurance status was not found to be a predicting variable of psychiatric boarding in multiple other studies (Chang et al., 2011; Weiss et al., 2012, Funkenstein, Malowney, 2009). However, it is important to note that these studies were conducted in Massachusetts which enjoys an only 2.6% uninsured population rate due to the healthcare insurance and delivery system in that state. The Massachusetts rate is several times smaller than uninsured rates among the general adult population in the United States, which was 13% among non-elderly adults as at the end of the first quarter of 2015 (National Center for Health Statistics, 2016). Also, researchers have demonstrated many times over that being uninsured negatively impacts and delays access to acute mental health services (Jones et al., 2014; Roll et al., 2013).

### **Presence of Suicidal Ideations**

Research investigating factors related to psychiatric boarding have demonstrated that suicidal ideations has been positively correlated with boarding incidence across various contexts. The presence of a suicidal feature was shown to increase length of stay for patients who were both voluntary and involuntary for in-patient psychiatric treatment (Tyuse, 2021; Stephens, 2014; Wilson et al., 2015). Nolan et al. (2015) conducted a large-scale retrospective study across hospitals serving vastly different socioeconomic classes, population densities, demographic make-ups and legal environments and determined that documentation of the presence of suicidal thoughts was positively associated with both the incidence and duration of psychiatric boarding. Other studies did not measure suicidal features as a variate due to inadequacy of database or due

to the variable not being related to the study hypothesis (Tyuse, 2021; Weiss et al., 2011; Misek, 2014).

The presence of suicidal features is strongly associated with the decision to admit an individual into a psychiatric in-patient facility (Tyuse, 2021; Way, 2001). However, there are many other related and discreet clinical features that might result in recommendation for psychiatric facility admission versus a less restrictive treatment option (Castle, 2012). Due to the risk implications associated with suicidal ideation, its potential presence as a feature across multiple psychiatric diagnoses, and previous positive relationship to boarding, this variable warrants further investigation in the context of psychiatric boarding

### **Positive Alcohol Screening**

The presence of alcohol in the blood of patients in emergency departments has been positively associated with longer lengths of stay in emergency department for psychiatric and non-psychiatric patients (Pitts, 2008; Sun et al., 2013). Instances of patients admitted to emergency departments with alcohol intoxication or associated injury accounted for eight percent of all visits in 2008 (Cunningham et al., 2010). Patients that have alcohol in their systems take longer to stabilize in ED's, are often less cooperative with testing and are more difficult to evaluate both medically and for mental health purposes (Nordstrom et al., 2012).

Weiss et al. (2012) found that patients with psychiatric illness in emergency departments who tested positive for alcohol stayed an additional six hours versus those who were not screened for alcohol or tested negative. The presence of a positive alcohol result on a toxicology test appears to be a global risk factor for visiting emergency departments and length of stay, and, therefore warrants further investigation associated with psychiatric boarding outcomes due to high level co-occurrence with other mental health features and diagnosis.

### **Consequences of Psychiatric Boarding**

The problem of ED psychiatric boarding has garnered recent attention of the public and media, prompting lawmakers in some states to take concrete action to criminalize some instances of the activity (Bloom, 2015). As previously illustrated, persons who present to the ED with mental health challenges often spend an inordinate amount of time awaiting the appropriate services. As a result of these excessive lengths of stay, there are multiple undesirable outcomes associated with psychiatric boarding of patients for both the individual receiving care, the local community and the provider facility (Nicks, 2012).

#### **Implications for Communities: Public Safety**

Widespread psychiatric boarding has contributed to adverse public health and public safety outcomes (Lane et al., 2021; Major, 2021; Nordstrom, 2021; Zun, 2012). Individuals boarded in EDs for mental health concerns are more likely to be at risk for harm to themselves and others compared to the general ED consumer population (Baksh et al., 2014). It stands to reason that having a high incidence of psychiatric boarding increases the risk exposure to other consumers in the emergency department in which the individual is boarded. In fact, it has been demonstrated that risk of deleterious public safety outcomes, such as assault or suicide attempt, increases the longer an individual is boarded (Tyuse, 2021; Hefflenger et al., 2013). Furthermore, due to these safety and additional civil liberty concerns, Washington state lawmakers outlawed extended psychiatric boarding in emergency departments for involuntary patients (Bloom, 2015).

Many of the psychiatrically boarded consumers in EDs are involuntary for needed mental health treatment, or at best they are ambivalent for such services (Tucci et al., 2015). EDs typically do not possess adequate physical infrastructure, staffing capacity, and staff competency to successfully detain or restrain individuals in psychiatric crisis for extended periods (Zun,

2012). Moreover, in many states there are legal limitations to the extent which hospital staff may respond with force or hold an individual against their will in order to safeguard from elopements (Nolan et al., 2015). In some cases, one to one staffing (i.e., one staff assigned for continuous monitoring of one patient) or “sitters” are assigned. Some facilities have constructed special sections or units of their EDs that are equipped with locks, cameras, and other security features (Zeller, 2014). Despite the implementation of various combinations of the aforementioned strategic interventions, it is relatively common for psychiatrically boarded patients to attempt to elope from emergency departments (Hoot, 2008).

There have been well-documented incidents in which patients who eloped from EDs have shortly thereafter harmed other community members (intentionally or inadvertently), harmed themselves, or both (Falvo, 2007). For instance, eloped patients with mental health disturbances have immediately proceeded to walk into traffic in roadways adjacent the facility (Welch, 2011). Others who have successfully eloped acted out on violent urges toward targeted parties, while some have completed suicide. And while there are many who elope with no resultant harm, some simply evade intervention from officials for several days or longer, managing to stay under the radar, only to later resurface in the same emergency department after having engaged in exceedingly risky behaviors resultant from unresolved mental health crisis. Therefore, programmatic level interventions that reduce the incidence and duration of psychiatric boarding should help to ameliorate associated public safety risks.

### **Implications for Communities: Law Enforcement and Overcrowding**

Off duty law enforcement officers (LEOs) have been increasingly employed for security and deterrence purposes in emergency departments (Zaffar, 2013). However, it is frequently necessary for on-duty law enforcement personnel to play an essential role in maintaining the

safety of individuals who are, or eventually will be, boarded in an emergency department for mental health reasons. A LEO may transport an individual in crisis and hand off care to ED staff (Short, 2014). If the patient later becomes agitated or violent during the course of boarding, LEOs may be required to return to the ED to assist to subdue the individual or even arrest and take into custody the person if a significant event has occurred. In some states, LEOs are required to maintain custody of individuals who are involuntary for mental health services or incapable of providing consent for the duration of time boarded in the ED, or until a secure treatment facility has been identified to accept the patient.

Many communities are stretched thin concerning the quantity of law enforcement officers and emergency personnel available to respond to crisis quickly at any given time (Tully, 2015). Delays in response of emergency personnel can result in disastrous outcomes for community members in need, and may pose additional risks for emergency personnel who need back-up for safety reasons. The appropriation of LEOs to assist in custodial roles of mental health patients boarded for long periods in hospital EDs reduce the capacity and efficiency of law enforcement to response to other community crisis.

### **Implications for Facilities: Financial Impacts of Psychiatric Boarding**

It is sometimes appropriate and even necessary for mental health consumers to be evaluated and treated at EDs for purposes of differential diagnosis, stabilization, emergency medication for agitation, and other needs that can be uniquely addressed at an ED in comparison to other settings (Janiak, 2012). It has been established that individuals with a history of serious mental illness (SMI) are at higher risk for concurrent medical complications, both chronic and acute, when compared to persons without SMI (Himmelhoch et al., 2015; Roshanaei-Moghaddam, 2009). Additionally, it is often important to rule out underlying medical etiology

for acute psychiatric disturbances, such as altered mental status due to head trauma, stroke or medication reaction. EDs offer the advantage of capability to provide a thorough medical evaluation and medical stabilization in lieu of free standing or satellite mental health crisis evaluation settings (Janiak, 2012).

However, in many cases a trip to the ED for psychiatric evaluation is unnecessarily cumbersome and financially inefficient to both the consumer and the facility. Individuals who are younger, not manifesting signs or symptoms of medical problems, or have had recent unremarkable medical evaluations may be best served by mental health crisis evaluation programs that bypass emergency departments. Rigorous debates among providers, consumers and advocacy groups related to the subject of medical clearance in the ED of patients with primary psychiatric problems has generally resulted in recommendations for a conservative, case-by-case approach. This is illustrated in state-sponsored guidelines such as those offered for the state of Virginia by the Virginia Hospital and Healthcare Association (2014).

Many mental health consumers, especially those with a history of SMI, are uninsured, under-insured, or facing serious financial hardship (Ollove, 2015). The addition of costly and sometimes unnecessary medical testing and procedures in EDs can add up to large bills for service passed on to consumers (Nordstrom, 2012). Facilities are unlikely to be reimbursed for these services, and are forced to absorb the cost or attempt to write it off. Due to EMTALA law and social contracts with their respective catchment communities, EDs are not going to turn away individuals for evaluation and stabilization for any financial reason (Donofio et al., 2014).

Another financial implication of psychiatric boarding for provider facilities is loss of revenue (Zeller, 2013). Depending upon demand at any given time, each hour boarded represents hundreds of dollars in lost revenue opportunities for utilization of billable services by other



consumers waiting to be seen. For EDs with high volume of visits and high prevalence of psychiatric boarding, even a modest reduction in average boarding time may contribute significantly to the bottom line due to effects on both cost and revenue.

### **Implications for Facilities: Resource Strain and Risk Management**

Psychiatric boarding in emergency departments not only imposes strain on the fiscal health of the provider system due to volume impediments and reduced billable services among psychiatric boarders, but also escalates the stress on nursing staff who may feel confounded by and unprepared to meet the unique needs of ED mental health patients (Zun, 2012). As the average length of stay for a psychiatric boarding patient is significantly longer than medical patients (Rhodes et al., 2016), staff are often left to provide care for patients who are frustrated, distressed, agitated, stressful to interact with, and beyond the scope of practitioners' clinical expertise. These types of situations likely compound tension for all staff involved, who are also attending to patients with various types and stages of medical crises.

The often chaotic, excessively stimulating environment of an emergency department coupled with the consumer's mental health crisis and the staff's lack of resources and competency to be therapeutically address unique patient needs can serve up a recipe for disastrous risk management outcomes (Lane et al., 2021; Alakeson, 2010). Throughout the boarding period, agitated patients are prone to become increasingly physically aggressive placing staff members at risk of being physically injured (Kutscher, 2013). While exact numbers are unknown, Ryan and Bowers (2006) note that staff or nursing injuries after restraining a patient are common, and these injuries have ranged from minor levels such as abrasions or contusions to disastrous injurious resulting in permanent disability (Simpson, 2014).

Risk management problems in the ED related to mental health boarding extend beyond staff injuries. There have been many documented incidents of patients having been severely injured by staff during restraint (Zun, 2012). In the past, improper restraint of agitated patients has resulted in patient deaths, prompting regulators to impose strict regulations on the threshold to impose restraint, limitation of timelines for restraint, types of restraint that may be applied and the documentation that is required to demonstrate compliance and justify use (Simpson et al., 2014). Also, many ED patients with primary mental health related concerns have suicidal features as a primary complaint (Jones, 2014). Patients who are not adequately screened for suicide, do not notify staff of suicidal urges, or are left unsupervised even for brief periods of time have attempted and completed suicide in emergency departments (Oliver, 2015). The longer a patient boards with features of agitation or suicidality, the longer and more severe the risk exposure for the treating facility.

### **Implications for Facilities: Customer Satisfaction**

Healthcare facilities are increasingly affected by customer satisfaction outcomes (Leonard, 2015). Certain aspects of the level of reimbursement of care for Medicare recipients is calculated according to Patient Satisfaction Scores (P-SAT). P-SAT is determined by random surveys administered to consumers who received services at a facility (Jones-Nosacek, 2015). The scores are averaged and the results are not only used to determine a tier of reimbursement, but are also available for view by public, thereby having marketing implications. Facilities that are boarding mental health consumers at high volume and for long periods are at risk for lower P-SAT scores due to disturbances in milieu and workflow for other patients and their family members. Once a patient and their family have had a perceived negative experience at a

healthcare provider, they are less likely to return for services and less likely to recommend services at the same facility (Pitt et al., 2016).

### **Implications for Consumers: Quality of Care**

In addition to strains on staff in terms of competing for human resource capacity, ED psychiatric patients represent a population that poses unique behavioral challenges for staff in emergency departments. As Zun (2012) points out, not only do psychiatric patients take up more nursing time, but such patients tend to elicit negative feelings from nurses. Psychiatric patients' presentations, which often includes intoxication, vague complaints, or difficulty voicing their complaints, presents impediments for nurses to gather information necessary for triage and assessment, which also reinforces negative feelings (Alakeson, 2010). Some patients are viewed as morally or otherwise deficient, even abhorrent. This tends to be more prevalent in cases in which staff perceive the patients are prevaricating, are conditionally suicidal, suspected to be manipulating or are drug seeking (Lane et al., 2021; Clarke, 2014). These negative attitudes detract from staff objectivity while evaluating and providing care for mental health patients. As such, many hospitals have implemented training for nursing staff, but as Zun (2012) notes, these trainings have been "limited at best." Thus, the standard of care for psychiatric patients in emergency departments is often not fully realized.

The majority of staff who are interacting with patients in emergency departments are not trained mental health professionals. Most emergency room physicians, nurses, and support staff have minimal training in dealing with those who are having mental health disturbances (Nicks et al., 2012). In fact, some staff have not completed a psychiatric rotations during clinical training, or they have had minimal exposure (Nicks, 2012). Furthermore, staff are often ill prepared to appropriately refer out those who are experiencing a mental health episode (Nicks, 2012). The

lack of expertise in early identification of behavioral health problems and subsequent treatment referral processes creates inefficiency in the throughput of patients with mental health problems, thereby contributing to an increase boarding times (Clarke et al., 2014).

Staff may unknowingly experience countertransference in dealing with behavioral health patients in the emergency department (Shattell et al., 2014). This may sometimes contribute to inappropriate power struggles with patients and a tendency to impose unnecessary restrictions, causing a cascade of escalating behavioral effects. Staff may avoid interactions with patients who are manifesting mental health symptoms out of fear of patients or minimal competency in providing therapeutic interventions. This avoidance may result in insufficient patient-staff interactions, substandard medical assistance, and the reinforcement of stigma and worthlessness experienced by the patient (Bender et al., 2008).

### **Implications for Consumers: Medication Errors**

In addition to staff issues related to psychiatric patients in emergency departments, patients are also at significantly higher risk for medical errors, including medication errors. Bakhsh and colleagues (2014) report that 40% of psychiatric patients boarded in an emergency department experienced a missed or incorrectly timed medication dose. Additionally, due to the nature of the population being served, it is often difficult to obtain the correct medications, as patients fail to report them, provide inaccurate reports, or these medications are not recorded during the initial assessment at an emergency department (Zun, 2012). Many of the errors associated with psychiatric patients do involve at-home medications (e.g. medications taken prior to the mental health crisis) and these medications treat chronic medical conditions, not psychiatric concerns (Bakhsh, et al., 2014). These findings support the use of a multi-dimensional approach to psychiatric care which includes properly trained emergency department

staff, pharmacy support, and communication between a patient's primary care and psychiatric providers (Hefflefinger, 2014).

### **Implications for Consumers: Restraint**

Staff members in emergency departments often deal with agitated patients. While agitation is not necessarily unique to patients experiencing a mental health difficulty, it is common, especially if a patient is intoxicated (Kutscher, 2013). To deal with agitation, a common solution is chemical or physical restraint, as the agitated patient is often a risk to themselves, other patients, and ED staff (Simpson, 2014). There is little research delineating the type of patient, position of restraint or the manner of restraint with regards to psychiatric diagnoses (Zun, 2012). What is known is that physical restraint or physical seclusion for psychiatric patients may induce fear, humiliation and powerlessness (Simpson, 2014). Further negative effects of restraint including patient injuries (Nicks, 2012), over use of medications to sedate patients, and worsening agitation (Zun, 2012).

Restraint and seclusion type of control, however, are often the only available resources for staff when dealing with an agitated patient (Simpson et al., 2014). Even more concerning is the use of seclusion, which was reported to be used in 27% of emergency departments, according to Zun and Downey (2005). Of those patients who were secluded, more than a third of patients experienced a complication such as difficulty breathing or problems with circulation. Thus, physical restraint and seclusion tend to be methods which can be harmful to psychiatric patients. Additional research is needed to determine how such methods can be reduced or eliminated, reducing stress for both staff and patients. The longer a patient is boarded in the emergency department, the more likely they are to experience seclusion or restraint (Nordstrom, et al.,

2012). Therefore, the reduction of boarding in EDs will have a positive impact on incidence and outcomes associated with restraints of mental health consumers in these settings.

### **Additional Implications for Individuals in Need of Mental Health Services**

To this point we have exposed and described several troubling consequences of psychiatric boarding for the community, provider, and consumer. Some additional, less obvious, yet significant consequences associated with this dilemma will be discussed before exploring CIT programs and how they might positively impact psychiatric boarding. These consequences include boarded patients not receiving relevant psychiatric care during the boarding period, and harsh realities of a lack of privacy and control experienced by the mental health consumer who finds himself or herself in the ED needing mental health services.

As previously discussed, patients with primary mental health complaints who are being boarded in the emergency department, experience less overall quality of care compared to the non-psych medical patient. Additionally, compared to their medical patient counterparts, psychiatric patients in the ED receive minimal, if any, stabilization of symptoms while waiting (Nordstrom, 2019; Major, 2021; Nordstrom, 2021; Tucci, 2015). The extent of psychiatric specific treatment that is received while boarding is generally limited to the judicious use of psychotropic or sedating medications to control unsafe behaviors (Stephens et al., 2014). The patients, while boarding for many hours and sometimes days, are not otherwise receiving psychopharmacological or other therapeutic interventions such as what might be received at the eventual treatment environment (Jones, 2014).

Many emergency departments are underserved in regards to access to mental health treatment consultants (Oliver, 2015). As such, patients are disadvantaged in regards to access to an expert that might provide appropriate interventions, advocate on behalf of the patient, and

guide the staff through the necessary steps to ensure the best possible outcome for the consumer. Furthermore, due to ED safety policies for patients with mental health complaints, patients who are already feeling vulnerable, have their clothing and belongings removed and placed in examination rooms that lack in comfort and are set apart from other ED patients (Shattell et al., 2014).

To compound upon the issues of discomfort and vulnerability, emergency departments are notoriously high traffic, with exposure to a multitude of staff members of different disciplines, first responders, and community members in close proximity. While privacy laws provide standards in regards to the limitation of sharing of patient private healthcare information (PHI) (Moscop, et al., 2013), an emergency department is not a private social microcosm. Patients may perceive they are on display for others (Shattell et al., 2014). Some patients are placed on close watch with a dedicated staff member at arms-length, while others are on constant eye view by camera or security. These conditions may contribute to escalation of symptoms, at times causing patients to be in more distress when they leave than when they had arrived (Rhodes et al., 2016).

### **Crisis Intervention Teams (CIT)**

Emergency departments have frequently been used as a first-line option for the evaluation of individuals experiencing psychiatric emergencies (Hefflefinger, 2014). In many cases, community members in mental health crisis are accompanied by or transported to emergency departments by LEOs who have responded to incidents in the community (McKenna, et al., 2015). Sometimes the individual is willingly dropped off for evaluation by police, while other times the individual is involuntarily held and remains in custody of law enforcement for the entirety of the psychiatric boarding period. It is not uncommon for officers to be a constant

presence in emergency departments due to such situations, and police have expressed frustration over this role (Shattel et al., 2014), as it limits the ability of police to be responsive to other situations in the community due to officers being tied up in the ED.

The above scenarios illustrate some of the many different circumstances in which law enforcement and mental health consumers intersect. As deinstitutionalization has escalated, these encounters have become more commonplace (Bonfire, 2014). Due to the inadequacy of public mental health resources, police departments, similar to emergency departments, have adopted the primary responsibility of first contact intervention for individuals in such crisis (Canada, 2012). In many communities, street officers have become the de facto mental health crisis intervention specialist in the modern era. Unfortunately, training and resources have been woefully inadequate to rise to the level of need.

Historically, criminal justice system outcomes related to persons with mental health problems have left much to be desired. The prevalence of persons with serious mental illness among the incarcerated exceeds 20% according to 2009 data (Steadman, 2009). Previous estimates suggest that 10 to 20% of all police contacts and emergency calls involve individuals with serious mental illness (Tartaro, 2021; Watson, 2012). Perhaps most staggeringly, one fourth of all individuals fatally shot by police had mental illness according to the Treatment Advocacy Center (Snook, 2015), and an individual who has mental illness is 16 times more likely to be killed as the result of an interaction with police versus those without mental illness.

Numerous initiatives and programs have been introduced in response to the undeniable need for law enforcement and judicial system to more effectively respond to this complex challenge (McGuire and Bond, 2010). The CIT model has become the centerpiece of



programmatic efforts nationwide, even internationally, to improve outcomes for persons with who are at risk of becoming criminalized as a result mental health challenges (Tyuse, 2021).

The Crisis Intervention Team (CIT) program, also known as the “Memphis Model,” is a collaborative partnership between law enforcement and community mental health stakeholders for the purpose of improving outcomes for individuals with mental illness who come into contact with law enforcement officers (McGuire, 2011). At minimum, CIT programs typically involve a training curriculum designed to improve officer competency in responding to calls in the community that are mental health related. Many CIT programs join forces with local community mental health providers (most often public agencies) who assist in the officer training, assist with real-time advising of CIT certified field officers, provide evaluations for consumers that are involved in CIT processes and coordinate access to mental health services for CIT consumers (Compton, 2017). When possible, it is highly advantageous for a local healthcare agency to also join CIT partnerships and provide a secure physical infrastructure that is ideally staffed twenty-four hours with LEOs and community mental health crisis workers.

Many CIT programs are grant-funded, and as such require accountability by way of reporting and evaluation to determine the value and impact on the community (Taheri, 2014). This need for accountability, coupled with the expansion and flourishing of CIT programs nationwide, has prompted researchers to conduct numerous studies to determine outcomes of various CIT programs. While empirical research is expanding, a limited number of studies have measured CIT program outcomes (Watson, 2012). Examples of CIT program outcomes which have been studied include jail diversion as a result of CIT programs, the use of force in CIT incidents (Morabito, et al., 2012), the competency of CIT certified officers (Comptom et al., 2014), cost impacts (El-Mallack, 2014), and accessibility of mental health services for CIT

participants (Blevins, 2014). However, to date, there has not been any published studies examining the impact of a CIT partnership on the healthcare agency partner, such as hospitals and emergency departments.

### **History of Crisis Intervention Teams: The Memphis Model**

CIT Programs grew out of an incident within the Memphis Police Department following a police shooting involving a mentally ill person. In 1987, police officers shot Joseph Dewayne Robinson, a 27-year-old man who was threatening to kill himself with a knife and obviously suffering from a mental health crisis (Cross et al., 2014). After repeated attempts to make Robinson drop his knife, Robinson became more agitated and moved towards the officers while brandishing the knife. Robinson was then shot eight times and killed, prompting a response from the community to develop an intervention system more appropriate for those experiencing mental health crises (Cross et al., 2014). As such, a collaborative relationship between Dr. Randolph DuPont of the University of Tennessee and Major Sam Cochran of the Memphis Police Department was forged, producing a program involving law enforcement personnel, mental health professionals, and mental health/patient advocates with the goal of redirecting appropriate individuals to mental health treatment rather than the criminal justice system (Compton, 2008). In 1999, Deane and colleagues conducted a survey which indicated that of the 174 departments surveyed, 45% had specialized responses to deal with mentally ill people while only 6% used a police-based response consistent with CIT. Other departments were noted to have hired mental health consultants to assist with calls or employ a mobile crisis unit that does not involve law enforcement (Compton, 2008). More recently, CIT has been recognized not only by the community, but also the academic literature as being the most promising and increasing type of partnership between law enforcement and mental health treatment providers

(Compton, Bahora, Watson, & Oliva, 2008). As of 2013, it is estimated that nearly 2,700 police departments in the United States have employed CIT (Compton, et al., 2014) while the Memphis CIT Center reports nearly 3,000 member programs across the United States (*CIT Center*, n.d.).

When adopting the CIT method, several cities have further refined and tailored the principles of the program to fit community needs. These include formal agreements among partners for the purpose of prioritizing those being transported by CIT officers, to less formal agreements in which patients experiencing mental health problems are given preference once they arrive at crisis centers (Watson & Fulambarker, 2013). In Philadelphia, officers have access to mental health crisis centers as an alternative to a local emergency departments. These locations provide a therapeutic setting for police to take those having a mental health episode but are not suspected to require emergency department clearance or appear to need hospitalization. These centers then work with consumers to provide medication refills, referrals to mental health providers, and other resources (Watson & Fulambarker, 2013). In another example, the city of Chicago was unable to comply with a central tenant of CIT in which consumers are dropped off quickly and officers can return to duty in a relatively short amount of time. Thus, the city was able to generate an agreement in which several emergency facilities have memorandums of understanding (MOU) with the police department to provide priority for those officers transporting consumers experiencing mental health difficulties to emergency departments (Watson & Fulambarker, 2013). These examples lend further support to the tenant that CIT can be developed and implemented effectively within various health systems and communities.

### **CIT Program Goals and Objectives**

The central goals of the CIT Program are to “increase safety in encounters and when appropriate, divert persons with mental illnesses from the criminal justice system to mental

health treatment” (Watson, 2013; Tartaro, 2021, p. 2). Additionally, goals include reducing injuries to officers, reducing risk of harm to the person in crisis, promoting decriminalization of individuals with mental illness, reducing the stigma associated with mental disorders, and using a team approach when responding to crises (Jines, 2013). The training program seeks to reduce arrests and increase the number of those who complete mental health treatment (Borum, 2010).

The CIT program is a pre-booking diversion program. Those participating in the CIT program include law enforcement officers, mental health treatment providers, and local hospital systems willing to house psychiatric patients (Lord, 2011; Major, 2021). LEOs, including police dispatchers, work to identify those suffering from a mental health crisis, and then transport them safely to a mental health treatment center (Watson, 2013). The critical relationship between law enforcement and mental health treatment providers works to build more efficient treatment and prevent unnecessary arrests (Lord, 2011).

### **Critical Components of CIT Programs**

The effective functioning of CIT programs is dependent upon the integration of multiple core elements (Cochran, 2011). These components are critical to successful implementation of CIT programs and are essential in order to sustain day-to-day and long-term operations. The components may be integrated to varying degrees dependent upon the needs and resources of the communities in which the CIT program is located. The following section will provide an overview of these elements including a discussion of their purpose and significance.

#### ***Role of Local Law Enforcement***

The core focus of CIT training is improving the competency and skill of law enforcement personnel. LEOs, in their role on a CIT team, serve as the first contact point for those who are experiencing a mental health crisis. Officers volunteer for the program and undergo specialized

training with mental health professionals (Compton et al., 2008; Lord, 2011). The volunteer status versus required CIT training status was considered critical to the success of the Memphis model at its conception. The CIT training was theorized to be more impactful and effective for officers who were interested or passionate about helping those with mental health difficulties in the community (Compton, 2017; Bonfire et al., 2014). This self-selection method was also suggested to be more cost effective, which is an important consideration due to finite sources of funding for CIT programs, such as grants.

According to DuPont, Cochran, and Pillsbury (2007), a goal of the CIT model would be for 20 to 25% of a police department's patrol division to be trained, as these officers are likely the first officers to respond to a situation. In many districts, especially those with established CIT programs, 50% or more of officers have volunteered and completed CIT certification training (Ritter, 2010). Further, emergency dispatchers are often trained in order to identify a call that would qualify for CIT intervention, obtain additional information that will be helpful for first responding officers to know, and then dispatch a CIT trained officer (Dupont et al., 2007; Lord, 2011).

### ***CIT Training and Curriculum***

CIT includes a forty-hour, officer level education course consisting of “didactics/lectures, onsite visitation and exposure to several mental health facilities, intensive interaction with individuals with a mental illness, and scenario-based de-escalation skill training” (Cross et al., 2014, p. 532). Skills are presented using fifteen training modules, given in order. The modules include information about psychotropic medications, specific diagnoses such as Post-Traumatic Stress Disorder, Traumatic Brain Injury, Personality Disorders, and disorders of childhood/adolescence (Jines, 2013). There are several modules focused on cultural awareness,

suicide prevention, and verbal de-escalation techniques (Ritter et al., 2010). Finally, LEOs become more aware of the partnership between the criminal justice system and those treating mental illness in the local community. Training, according to Jines (2013), increases officers' compassion, communication, and effectiveness during interactions with those who suffer from mental illness.

Empathy, communication and compassion reported by LEOs increased by not only through didactic information, but engagement in role plays, visits to mental health facilities, and opportunities for discussion with individuals with mental illness (Canada, 2012). Officers are trained with scenario-based de-escalation skill training using verbal de-escalation techniques to practice in-vivo prior to returning to duty (Cross et al., 2014). Once back on duty, officers who have completed the CIT training program are noted to use less force than non-CIT officers, feel more confident in their abilities to identify those with mental illness, and more confident in how to respond in situations involving mentally ill people (McKenna et al., 2015).

**Community mental health agency role.** The involvement of public mental health agencies in CIT programs is essential for several reasons. Stakeholders from these groups are often initiate and work within CIT programs (Watson, 2012). Staff in public mental health agencies, consisting of counselors, social workers, and psychologists, and other mental health professionals, identify pathways and facilitate access to funding sources such as grants, are dispensation of resources and reporting outcomes to financiers. Furthermore, agency staff, including counselors, facilitate CIT education and training with LEO partners (Chopko, 2011).

Mental health agency workers also function in critical roles in the day-to-day operations of CIT programs (Kohrt et al., 2015). After initial contact has been made by law enforcement with a community member, and the officer has determined that a treatment setting might be more

beneficial than an arrest, individuals in mental health crisis are then transported to a designated CIT mental health treatment center (Ritter et al., 2011). An array of mental health professionals, such as professional counselors, are prepared to guide a “hand off” between law enforcement officers and mental health professionals (Pelfrey, 2020; Tyuse, 2021; Watson, 2013).

Mental health professionals then work to quickly to provide an assessment, brief interventions to stabilize the crisis to the extent possible, and then either refer to local behavioral health providers or facilitate in-patient treatment if their safety continues to be a concern (Cross et al., 2014). Assessment outcomes of CIT participants may result in a variety of outcomes, including outpatient and sub-acute mental health services. Such services may prevent future interactions with law enforcement and reduce the likelihood of escalation to acute episodes due to mental illness (McGuire, 2010). This approach of collaboration between law enforcement and local mental health providers has been lauded by the National Alliance on Mental Illness (NAMI) and other advocacy groups as an effective strategy that enhances outcomes for the officers and community members, while also improving dialogue and trust (Taheri, 2016).

### **CIT Assessment Center Purpose and Benefits**

Collaboration between law enforcement and mental health workers would likely be enhanced by having a formal CIT assessment center. While many cities use emergency departments in local hospitals, a local center dedicated to those who are identified by police officers as suffering from mental illness and in a crisis situation is desirable alternative due to several advantages for both consumers and providers. For consumers, the available of a CIT Assessment Center provides a space that offers more privacy, comfort, and safety when compared with an emergency department. Also, the staff that co-occupy CIT assessment centers are specifically trained in mental health competencies versus ED staff who often are not. For law

enforcement, the presence of a staffed CIT assessment center vastly improves efficiency in that officers can transfer custody of individuals that need assessment, then return to duties elsewhere in the community. For mental health agency workers who provide the crisis evaluations at CIT assessment centers, efficiency impacts are realized as they do not have to travel from one location to another to evaluate patients, and can also perform other needed duties in the adjacent medical facility more efficiently. The National Alliance on Mental Illness (NAMI) has been especially supportive of CIT programs with dedicated assessment centers for all of these reasons, especially due to a more humane capacity and environment for mental health consumers in crisis when compared to emergency departments (Taheri, 2016).

### **CIT Implementation and Procedures**

CITs, as previously discussed, may take on many forms and functions depending upon the specific community needs and resources in support of the CIT program. However, there are some general commonalities regarding implementation of CIT programs that are helpful to describe to enhance the contextual understanding for the reader. Prior to implementation, a sufficient number (preferably minimum of twenty-five percent) of the local law enforcement community have completed training and become CIT certified (Compton et al., 2010). A “cross-mapping” process that systematically identifies intersection of community needs and partnerships has been completed (Watson, 2012). MOUs are typically crafted by all partners and approved by legal counsel (Blevins et al., 2014). Procedural manuals are on-hand and well understood at time of implementation. Any related CIT assessment center infrastructure has been readied for use by time of opening. Also, mental health support resources for law enforcement are available, typically via local emergency mental health community providers.



Many CIT programs train ancillary staff that are involved in any portion of CIT procedures (Jines, 2013). For example, it is common to train police dispatchers in CIT programs to recognize a possible mental health related-call and locate an available CIT officer to respond to the scene. Once the officer has responded on scene, the officer will employ skills and competencies acquired by the CIT training to determine what actions are prudent (Canada, et al., 2012). CIT officers are encouraged, or in some states even required, to contact the local community mental health provider to be advised as to how to proceed with the community member. Once a course of action is decided, the officer will transport the individual to the appropriate assessment setting when indicated where a clinician will provide a level of care evaluation and facilitate a viable referral. When necessary, the individual may remain in custody of police, especially if uncooperative or involuntary. In other cases, the police may remain nearby for support.

## **CIT Outcomes Research**

### ***Competency of CIT-trained LEOs***

A significant focus of research has been assessing police competency in dealing with mentally ill individuals after completing the CIT training. Compton et al. (2008) noted several major research findings within CIT programs. First, officers trained in the CIT model reported feeling well-prepared to deal with those who are mentally ill when compared to untrained officers (Compton et al., 2008). Second, officers were noted to feel more confident in their fellow officer's training, when the fellow officer has been trained using the CIT model. Finally, officers trained in the CIT method reported feeling more positive towards mental health workers, when compared to areas which do not have a CIT program (Tartaro, 2021).

Officers tend to show significant, meaningful change in their beliefs about the origins of mental illness (Tartaro, 2021; Ritter, 2006), and reduced “social distance,” or the feeling of stigma, towards the mentally ill (Compton et al., 2006). Studies indicate that officers have genuine attitude changes, which positively impact those who are mentally ill following completing the CIT training program (Tartaro, 2021; Tully, 2015).

### ***CIT-related Jail Diversion Outcomes***

CIT programs show substantial changes in their communities’ arrest rates following the implementation of such diversion programs (Franz, 2011). In addition to changes in officers’ attitudes, changes in arrest rates and access to mental health services have also been affected by CIT program implementation (Bratina, 2018, Kubiak, 2017; Taheri, 2016). Although there is limited empirical support that CIT reduces overall arrest rates, there is evidence that arrest rates of those who are mentally ill decrease (Steadman, et al., 2000). Researchers have found CIT programs increase the number of transports to mental health facilities by CIT officers (Hanafi et al., 2008; Teller, 2006) and overall numbers of mental health calls to law enforcement (Teller, et al., 2006). Within interactions with mentally ill individuals, officers who have been CIT trained use less force and utilize more verbal de-escalation techniques (Compton et al., 2014), resulting in a 15% reduction in violent outcomes among officers who completed CIT training in one study (Bibeau, 2008). As such, departments with a CIT program reported a decreased use in high intensity police programs such as Special Weapons and Tactics (SWAT) teams (Cochran, 2000). These findings taken together demonstrate CIT has increased the use of community mental health programs, decreased force used when officers are interacting with individuals experiencing mental illness, and decreased the use of additional high intensity police forces. These outcomes likely reduce the financial burden of police departments, though there has been

limited empirical investigation of the cost or savings of implementing CIT programs for law enforcement.

### ***Additional Benefits of CIT Programs***

Researchers have shown CIT programs facilitate significant improvement of access to mental health services among consumers who would otherwise have been processed through the legal system or returned into the community (Blevins, 2014; Broussard, 2012; Compton et al., 2014; Franz, 2011; McKenna et al., 2015; Watson, 2017; Compton, 2017; Pelfrey, 2020). According to a meta-analysis performed by Taheri (2016), CIT programs under study demonstrated null effects on significant changes in arrests of those in mental health crisis and officer safety. In a previous study, however, Compton et al. (2014) demonstrated positive impacts on level of force used against mental health consumers by LEOs, decrease in arrests and increased mental health referral outcomes among the same group. Relatedly, Tully et al., (2015) reported that CIT trained officers are less likely to resort to the use of force and felt empowered to utilize alternative de-escalation skills.

In addition to outcomes of improved mental service access, jail diversion, and the safety of consumers and officers, cost impacts are an important consideration to discuss. Many CIT programs are grant funded; as such, the grant providers are interested in cost to benefit analysis (Cross, et al., 2014). Also, CIT programs do show promise to improve resource efficiency for all partners involved (Kohrt, et al., 2015; El-Mallakh, 2014). For example, El-Mallakh et al. (2014) determined a net annual cost savings of \$1,024,897 for the city of Louisville, KY in 2012 resulting from CIT-related outcomes of jail diversion, reduced in-patient psychiatric admissions from jails, and reduced dependence on acute and emergency healthcare resources. The study did

not take into account reductions in injuries (and associated costs) of officers and community members as a result of the CIT program.

### **Summary**

The primary purpose of CITs is to avoid unnecessary criminalization of community members who would instead benefit from mental health services by providing training to LEOs and having LEOs partner with community resources and mental health teams partnering in the community (McGuire, 2011). As is the case with many large scope community based public health programs, there are many secondary effects that are significant. There is a growing body of evidence to support CIT programs contribute to desirable outcomes related to the primary purposes of the program, and that CIT programs also result in positive impacts on other public health dilemmas.

CIT programs provide a more humane and efficient alternative to the status quo of psychiatric procedures in emergency departments. Further, CIT programs may positively impact dilemmas inherent with psychiatric boarding such as difficulty accessing needed mental health treatment, and providing a therapeutic environment while consumers are awaiting such services. This chapter explored the origins, dimensions and implications of psychiatric boarding and provided an overview of important features of CIT programs, including outcomes.

## **Chapter 3**

### **METHODOLOGY**

The purpose of this chapter is to specify the design, explain the research procedures, operationally define variables and describe the context for this study. This chapter includes the following sections: research design, setting, participant sampling, data collection procedures, analyses and limitations. The methodology is designed to determine if there is a significant impact on psychiatric boarding as a result of participation in the CIT program in the setting under study.

#### **Research Paradigm and Design**

The design of this study is non-experimental, retrospective and comparative. Outcomes were compared across participants of two cohorts from the same six-month treatment interval in an emergency department. The primary independent variable for this study is the status of Crisis Intervention Team Participation (CIT participant versus non-CIT) for patients in an emergency department who were psychiatrically boarded. The two cohorts were determined by the presence or absence of the independent variable: ED psychiatric boarders who are CIT participants and ED psychiatric boarders who were not CIT participants.

Prior research on psychiatric boarding has yielded variables of interest in regards to having a modifying effect on length of stay for mental health patients in the ED and on boarding outcomes. These variable included insurance status, presence of suicidal ideations, and presence of alcohol and will be treated as covariates for the purpose of determining significance (if any) primarily due to the independent variable versus significance due to the covariates.

The dependent variables under study are length of stay in the emergency department among psychiatric boarders and differences in psychiatric boarding times in the Emergency Department pre- and post-implementation of the CIT assessment center. Measuring these two outcomes assist to capture the overall impact of the CIT program on the boarding dilemma.

### **Setting**

The participants were identified via retrospective database review from patients treated at Chesapeake Regional Medical Center (CRMC) emergency department. For the purpose of determining significance in outcome related to length of stay post CIT program implementation, participants will be grouped into CIT and non-CIT participation for the 6-month period following the implementation of the Bridges CIT program.

### ***Description of Bridges CIT Program and Assessment Center***

The Bridges CIT Assessment Center serves the city of Chesapeake, Virginia, a suburban, mostly middle-class region of Hampton Roads consisting of nine planning districts. According to census data, the city of Chesapeake is comprised of approximately 230,000 individuals, is 51% female, 49% male, nearly 63% White, and 30% African American, with much smaller percentages of other races. Chesapeake has a median annual income of nearly \$66,000 dollars (*January 2020 population estimate - Chesapeake, Virginia, 2020*).

The Bridges CIT Assessment Center is the only dedicated mental health crisis assessment center in Chesapeake, and serves as access point for evaluation and referral for community members who have become participants in a CIT process. An individual may become engaged in the CIT process if they had interaction with a LEO in the community who determined the individual would benefit from mental health evaluation. The Bridges CIT Assessment Center provides an alternative to the ED as a secure space for the police to transport individuals in

mental health crisis for evaluation, and transfer custody of these individuals to on-site CIT officers when appropriate.

The Bridges CIT Assessment Center is located within the CRMC main hospital building. CRMC is a 310 licensed in-patient hospital with a dedicated high volume emergency department. CRMC is the only hospital medical center within the city of Chesapeake and also contains the only emergency department in the city. Due to the large geographic and population catchment area, the emergency department at CRMC is the highest volume civilian ED in the region (*Emergency Medicine*, n.d.)

The Bridges CIT Assessment Center was constructed for the purposes of enhancing efficiency for law enforcement, ensuring a confidential, therapeutic, and safe assessment environment for consumers. The location is in close proximity to the emergency department and easily accessed from an outside entrance. The area offers the advantage of privacy and buffering from stimulation versus the ED, as it is separated from other treatment areas.

### **Selection of Participants**

This comparative study required groupings according to the presence or absence of the variables according to the research questions and hypotheses. The pre CIT implementation cohort consisted of individuals psychiatrically boarded in the ED six months prior to the Bridges CIT program implementation, with inclusion or exclusion of psychiatric boarding based upon the same parameters for the inclusion or exclusion of the post CIT implementation group of individuals psychiatrically boarded. The primary independent variable under study was the status of CIT participation for psychiatric boarding patients during the six-month time interval post implementation of the CIT program. To determine significance related to the third research question, CIT participants were sub-grouped according to the presence or absence of suicidal

features, the presence or absence of positive alcohol screening, and by insurance status. This section will describe the discreet criterion by which these groups were identified in this study.

### **Inclusion Criteria: CIT participants versus Non-CIT participants**

The participants were initially divided into groups according to whether or not they were considered a CIT participant for the post-implementation time interval under study. CIT participation was determined by cross-referencing a list provided by CIT administrator, containing all CIT participants for the city of Chesapeake, against a database of CRMC ED patients who met boarding criteria during the same time period.

The inclusion criteria for the primary independent variable under study, CIT participation, required that the patient was involved with Bridges CIT staff at some phase of their mental health event. This includes: response to scene by CIT staff, triage to ED by CIT staff, transport to CRMC by CIT officer, evaluation by CIT mental health staff, or any combination of these above. The comparison group of psychiatric boarders were determined to not have had any contact with CIT staff at any phase of the event. For example, patients who were brought in by non-CIT emergency services (ambulance), patients who were brought in by family, or patients who walked into the ED on their own and did not encounter CIT staff.

### **Presence of Suicidal Features**

CIT participants for the 6-month period of post-CIT implementation were divided into groups based on the presence or absence of suicidal features to determine if the length of stay differed among these groups of CIT participants. Per earlier discussion, ED patients who were reported to have suicidal features demonstrated longer boarding times (Tyuse, 2021; Misek, 2015; Nolan et al., 2015). The criteria for the presence of suicidal features was determined by chart documentation that indicated the presence of suicidal features in the presenting complaint,



care provider documentation of reported or suspected suicidal ideas, reported or suspected suicidal behaviors related to the ED visit, or the documentation of suicidal features as a determinant of the patient recommendation for in-patient psychiatric transfer (hence the psychiatric boarding status).

### **Positive Alcohol Screening**

CIT members were grouped according to the presence or absence of positive alcohol screening. A positive alcohol screening, as previously defined, is generally agreed upon as any level above the threshold of 0.01mg/ml according to blood alcohol content (BAC) testing (Nordstrom et al., 2015; Rhodes et al., 2016). Each patient that presented to the ED with primary mental health problems was, per protocol of CRMC ED, ordered for BAC testing. There were some cases in which BAC was unavailable due to patient refusal or blood sample problems; therefore, there is some participant attrition. As anticipated by the primary researcher, the absence of this data did not unduly affect the statistical power to detect potential significant differences.

### **Insurance Status**

Researchers suggest that differences in length of stay among CIT psychiatric boarding patients vary as a function of insurance status (Misek et al., 2015; Stephen et al., 2015). The participants were grouped by insurance status either uninsured or insured. The insured group included participants with private insurance, public entitlement, and workman's compensation. The uninsured group possessed no type of coverage; private, public, or otherwise. The insurance status was determined by chart audit for the CIT psychiatric boarding patients during the retrospective time period of the study.

### **Sampling Procedure**

This section describes the procedures utilized for this study. This includes delineation of data collection procedures, maintaining anonymity to shield protected healthcare information (PHI), and procedures for the Institutional Review Board (IRB).

### **Data Collection Procedures**

The data utilized for this study was mined from an electronic medical record (EMR) database maintained by the CRMC. For the pre-CIT implementation psychiatric boarding group, the cohort was matched for time (6 months prior to and adjacent to CIT implementation), April 1 2015 through September 30, 2015. For the post-CIT intervention comparison groups, the cohort period was from October 1, 2015 through March 31, 2016. The time interval was chosen to provide adequate power for the methods of comparative analysis testing. The CIT assessment center opened on the first date of this time interval. The post CIT interval end point was set, in part, due to convenience, but also because the facility changed their EMR as of April 1, 2016. The EMR change may pose a threat to internal validity as the methods in which data is recorded and presented in the new EMR is expected to differ from the prior EMR. The post-CIT interval period yielded an overall sample size of 341 psychiatric boarding patients, 114 (33%) who were participants of CIT.

For the purpose of comparing the overall effect on length of stay for psychiatric boarding for pre- and post-intervention, the research team determined incidence of overall boarding during the six-month period prior to the CIT program and incidences of psychiatric boarding for the six-month period following the CIT program opening and compared respective mean length of stay for pre and post boarding groups. The psychiatric boarding status for the pre- and post-group was

determined by including all patients that were coded in the EMR for psychiatric transfer for each time period, respectively.

The detection of presence of absence of suicidal features among CIT participants post-CIT opening required manual auditing of each participant chart. Similarly, the detection of positive or negative alcohol screening status required manual review of test results for the CIT participant boarding patients. Insurance status were determined according to coding category and sorted respectively.

### **Protection of PHI**

As the database is protected under the Health Information Portability and Accountability Act (HIPAA), all data that may have increased the likelihood of identifying a participant was excluded or minimized. Patient names, dates of birth, specific ages, specific dates of treatment, addresses, providers, marital/relationship status, and other sensitive data were excluded. Demographic data such as race and age group were used to describe the sample. The demographic data was deidentified and categorized to analyze overall descriptive data for the study. Only the principal investigator, the research team and an on-site research assistant who is an employee of CRMC had access to view and analyze the database. The study database was password protected and stored in a secure thumb drive, which was secured when not in use by the research team. At the conclusion of the study, the database was only available to persons authorized under privacy law, namely, select employees of CRMC.

### **IRB Procedures**

This principal investigator followed all required IRB protocols for the educational institution, Old Dominion University. CRMC study approval was predicated upon methodology and privacy protection review and documented permission of internal privacy stakeholders

within the organization including Health Information Management, and Director of Behavioral Health Services, who are responsible for the protection of patient medical records pertaining to mental health consumers and CRMC care recipients. Based upon safeguards to protect the privacy and security of the participant PHI, the principal investigator was able to obtain IRB exemption status from Old Dominion University.

### **Assumptions Check**

It is assumed that the criteria which determined CIT participation status was consistent for the duration of the time interval under study. The primary researcher did not determine the status of the presence of the independent variable, and depended upon cross referencing third-party data from the CIT partner that records CIT participation. It is also assumed that emergency department providers accurately reported the presence or absence of the co-variables under study: the presence of suicidal features, the presence of positive alcohol screening, and insurance status. A further assumption is that the two six-month cohorts representing pre- and post-CIT intervention were generally representative of psychiatric boarders in the setting under study. Finally, it is assumed that external factors that may threaten validity, such as emergency department procedures, the capacity of regional in-patient psychiatric beds, and legal procedures for transferring psychiatric boarders, were stable or had minimal variability for the time interval(s) under study.

### **Data Analysis**

To provide descriptive data concerning psychiatric boarding patients during the CIT post-implementation period under study, frequencies, percentages, means, and standard deviations were computed for the selected variables of this study. Inferential statistics were conducted to address each of the research questions. More specifically, analysis of variance (ANOVA) was

used to test for main effects and interactions. Effect size estimates will be presented for results reaching statistical significance ( $p < .05$ ); see Chapter 4 for full results.

**Research Question 1:**

The first research question for the present study was whether ED psychiatric boarding patients who received CIT intervention had shorter lengths of stay versus those who did not receive CIT intervention. A one-way ANOVA was performed to test the significance of differences between the groups. ANOVA was useful for this determination (Lavrakas, 2008), as there are two categorical groups (CIT and non-CIT) and a continuous variable (LOS) utilized to detect significant differences between group means.

**Research Question 2:**

The second question assessed if the length of stay among all psychiatric boarders significantly differed following the CIT implementation versus prior to the implementation. An ANOVA was performed to test the mean boarding time for the six-month period prior to the CIT implementation, compared to the mean boarding time for the six-month period post CIT.

**Research Question 3:**

The third question asked how the effectiveness of the CIT participation on psychiatric boarding length of stay (dependent variable) differed as a function of the presence of suicidal features, alcohol level, or health insurance status (independent variables). A factorial ANOVA was conducted to address question three.

## **Chapter 4**

### **RESULTS**

The aim of this study was to expand the body of knowledge surrounding the impact CIT intervention has on the length of stay in psychiatric boarding for patients by exploring various variables. The impact of CIT programs on psychiatric boarding was examined by analyzing the data to answer the following questions:

#### **Research Question One**

Do ED psychiatric boarding patients who received CIT intervention have shorter lengths of stay versus those who did not receive CIT intervention?

#### **Research Question Two**

Is the length of stay among all psychiatric boarders significantly different following the CIT implementation versus prior to the implementation?

#### **Research Question Three**

Does the effectiveness of the CIT participation on psychiatric boarding length of stay (dependent variable) differ as a function of the presence of suicidal features, alcohol level, or insurance status (independent variables)?

### **Description of Data and Sample**

The data utilized for this study was mined from an electronic medical record (EMR) database maintained by the Chesapeake Regional Medical Center (CRMC). The pre-CIT intervention comparison group consisted of psychiatric boarders from the April 1, 2015 to September 30, 2015 cohort with an inclusion criteria of stable for comparison with the post-group. For the post-CIT intervention comparison groups, the cohort period was from October 1, 2015 through March 31, 2016. Data was gathered and the research team manually retrieved

critical qualifying information specific to an individual's presenting issues as well as other key variables. The team accurately populated the data fields in areas of suicidal ideation, alcohol screening and insurance information. Pre-CIT implementation boarding was determined for the six month interval (matching for post-CIT interval) for the post-CIT psychiatric boarding group.

Data was then examined by the principal researcher for any visual inconsistencies consistent with data entry errors, missing information, or other irregularities. Seven participants had missing data and those categories were omitted from analysis when necessary to maintain validity. Next, the data was de-identified and prepared for entry into SPSS so field values could be properly examined. The primary researcher then processed and reviewed the descriptive statistics for any kurtosis or skewness finding minimal issues with the data. Following the cleaning process, the principal researcher assessed the initial correlation tables to assess variable factorability. The assumption of homogeneity of variance was not violated within the significance values for the variables because the  $p$ -values are greater than 0.05 ( $p > 0.05$ ) as assessed by Levene's Test of Equality of Variances. Additionally, to protect from a type I error, a Bonferroni correction was conducted.

The pre-CIT cohort sample consisted of 382 psychiatric boarders (see Table 1)

Table 1

*Frequency Distributions for Demographic Variables*

Pre CIT ( $N = 382$ )	$n$	%
Post ( $N = 341$ )		
Pre CIT Female	210	55
Pre-CIT Male	172	45
Pre CIT Black	138	36

Pre-CIT White	187	49
Pre-CIT Hispanic	11	3
Pre-CIT Non-Hispanic	365	96
Post-CIT Female	180	53
Post-CIT Male	155	46
Post-CIT Black	110	33
Post-CIT White	159	47
Post-CIT Hispanic	6	1
Post-CIT Non-Hispanic	320	94

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An overall post-CIT sample size of 341 psychiatric boarding patients were yielded from the data source for post CIT implementation (see Table 1). The sample consisted of 53% ( $n = 180$ ) female, 46% ( $n = 155$ ) male and 1% ( $n = 6$ ) gender unidentified patients. Of those individuals, 47% ( $n = 159$ ) were reported to be white and 33% ( $n = 110$ ) as black. Overall, 94% ( $n = 320$ ) were identified as non-Hispanic. The sample consisted of individuals ranging in age from seven to 90, with a mean age of 37 years old.

This sample size varied per variable due to missing information from seven participants. Of the overall samples, 34% ( $n = 114$ ) were participants of CIT during psychiatric boarding while 66% ( $n = 227$ ) had no exposure to CIT service. The chart review for included participants ( $N = 341$ ) indicated 87% ( $n=296$ ) presented with suicidal ideation and 13% ( $n = 45$ ) were non-suicidal cases. Additionally, 70% ( $n = 239$ ) had a negative screen for alcohol, with 30% ( $n = 102$ ) demonstrating a need for BAC assessment. Finally, 30.5% ( $n = 104$ ) were self-pay patients and 70% ( $n = 236$ ) were insured. The Length of Stay (LOS) for these patients ranged from 105



to 3,826 minutes. See Table 2 for descriptive statistics of study variables for participants in the Post-CIT implementation sample.

Table 2

*Post-CIT Frequency Distributions for Demographic Variables*

Variable ( $N = 341$ )	$n$	%
Non-CIT	220	66
CIT	114	34
Pos Screen	102	30
Neg Screen	239	70
Insured	230	70
Uninsured	104	30.5
Non-Suicidal	37	13
Suicidal	296	87

**Research Question One**

The first research question explored whether ED psychiatric boarding patients who received CIT intervention in the sample group had shorter lengths of stay versus those patients who did not receive CIT intervention. Since there were two categorical groups (CIT and non-CIT), and a continuous variable (LOS) utilized to detect significant differences between the group means, a one-way ANOVA was performed to test the significance (Table 3).

Table 3

*Means, Standard Deviations, and One-Way Analysis of Variance*

Measure	Non-CIT ( $n = 220$ ) LOS	CIT ( $n = 114$ ) LOS	$F(1, 333)$	$\eta^2$
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	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
CIT	838.59	583.597	616.61	463.015	12.43*	.036
Suicidal Features	855.99	596.264	622.36	456.311	.266	.001
Positive Alcohol Screen	1149.7	743.604	904.82	591.460	57.244**	.15
Insured	974.69	754.683	668.26	594.226	.656	.002

\* $p < .001$

\*\* $p < .000$

Data analysis yielded the finding that patients who received CIT intervention in the sample group had statistically significantly shorter lengths of stay versus those patients who did not receive CIT intervention. Analysis of the LOS for non-participants of CIT showed an average length of stay of 14 hours ( $M = 839$ ) during their treatment compared to those who participated in CIT who had an average length of stay of 9 hours and 45 minutes ( $M = 617$ , a mean difference of 4.21 hours ( $M = 253$ ), significant at the ( $p = .001$ ) with a medium effect size of .036 ( $\eta^2 = .036$ ) (Cohen, 1992).

## Research Question Two

The aim of the second research question was to address whether length of stay among all psychiatric boarders significantly differed following the CIT program implementation ( $N = 334$ ) versus prior to the implementation ( $N = 382$ ) (Table 4). An ANOVA was performed to test the mean boarding time of patients for the six-month period prior to the CIT implementation, compared to the mean boarding time of patients for the six-month period post CIT involvement. Results revealed the finding that the length of stay among psychiatric boarders for the six-month period before CIT implementation was 15.3 hours ( $M = 908$ ) and the length of stay for six-months after its inception was 12.7 hours ( $M = 763$ ), an average reduction of 2.4 hours ( $M = 145$ )

per boarder (Table 4). This finding was significant ( $p = .005$ ) yielding a small magnitude of effect ( $\eta^2 = .015$ ; Cohen, 1992). The findings reported that the length of stay among all psychiatric boarders was significantly shorter following the CIT program implementation versus prior to the implementation.

Table 4

*Means, Standard Deviations, and One-Way Analysis of Variance for Length of Stay by pre and post CIT implementation*

Measure	<i>M</i>	<i>SD</i>	<i>F</i> ( )	<i>p</i>	$\eta^2$
Pre-CIT LOS ( <i>n</i> = 382)	907.66	625.969	<i>F</i> (1,381)	.005	.015
Post-CIT LOS ( <i>n</i> = 334)	762.82	553.773			

### Research Question Three

The third research question evaluated if the effectiveness of CIT participation on psychiatric boarding LOS (dependent variable) differed as a function of the presence of suicidal features, alcohol level, or insurance status (independent variables). A factorial ANOVA was conducted to address this question, which allowed for a test of main effects as well as interaction effects between multiple variables (Lavrakas, 2008). The analysis of the effectiveness of CIT participation on psychiatric boarding LOS differed as a function of the presence of suicidal features yielded a finding that LOS does not significantly differ between both groups. Non-CIT participants with suicidal features spend an average of 14.5 hours ( $M = 856$ ) in care while those experiencing suicidal features who participated in CIT averaged a 10.5 hour stay ( $M = 622$  minutes), a difference of 4 hours ( $M = 234$ ), which does not differ significantly from the CIT / Non-CIT length of stay difference ( $p = .266$ ,  $\eta^2 = .001$ ).

The analysis of the effectiveness of CIT participation on psychiatric boarding LOS differed as a function of the presence of insurance status indicated that LOS does not significantly differ between both groups. Insured Non-CIT participation spend an average of 16.23 hours ( $M = 975$ ) in care while insured participants of CIT averaged 11 hours ( $M = 668$ ), a difference of 2.67 hours ( $M = 161$ ), with a significance level of ( $p = .418$ ) with a small effect size of .002 ( $\eta^2 = .002$ ) (Cohen, 1992).

The analysis of these data yielded a significant relationship between CIT participants with a positive alcohol screen. The non-CIT participants with a positive alcohol screen spent an average of 19 hours ( $M = 1150$ ) in care while those with positive alcohol screens who participated with CIT spend an average of 15 hours ( $M = 905$ ) in care, yielding a difference of 4 hours ( $M = 245$ ) which was significant ( $p = .000$ ) with a large effect size ( $\eta^2 = .15$ ) (Cohen, 1992).

### **Summary**

This study yielded findings that individuals who received CIT intervention at psychiatric onboarding had statistically significant shorter lengths of stay in care than those who did not. It also found that the onboarding process prior to the implementation of the CIT program was consistently longer than after implementation of the program. Finally, the effectiveness of the CIT participation on LOS was statistically unchanged in the presence of positive alcohol screen and variability of insurance status, but was significantly lower among those experiencing suicidal features during their participation with CIT.

## Chapter 5

### DISCUSSION

#### Research Question One

The analysis of the question of whether or not psychiatrically boarded emergency department patients who receive CIT intervention have shorter lengths of stay in the emergency department compared to those who do not receive CIT intervention yielded the finding that patients who received CIT intervention in the sample group had statistically significantly shorter lengths of stay versus those who did not receive CIT intervention, controlling for identified variables that have previously been demonstrated to impact length of stay. Results showed an average reduction in the length of stay of 4.48 hours. These results mirror findings reported by Lane et al., 2021 that regardless of other variables that typically impact a patient's stay in acute care, those exposed to the CIT intervention showed nearly 30% decreases in length of stay. This added to the well documented benefits of reduced arrests and use of force (Watson, 2017; Compton, 2017; Pelfrey, 2020; Tartaro, 2021; Morabito et al., 2012), specifically police attitudes toward mental health (Tartaro 2021). The benefits of increased transports to mental health care and decreased delays in access to necessary mental health care (Nordstrom, 2019; Major, 2021; Nordstrom, 2021; Blevins, 2014) has also been supported by this study. Lane et al. (2021) examined 19,212 admissions (14,261 unique patients) over 4 years with similar findings, noting that psychiatric boarding length of stay appeared to be associated with higher overall morbidity for admitted patients. Lane et al. (2021) did include illness severity as a variable in their analysis, but did not describe the CIT interventions in detail associated with reduced length of stay nor were insurance status examined. The present study confirms findings by Lane et al.

(2021) and Nordstrom (2021) regarding apparent CIT effectiveness in a local community-based sample.

### **Research Question Two**

The comparison of the mean boarding time for the six-month period prior to the CIT implementation to the mean boarding time for the six-month period post CIT involvement to determine whether the length of stay among all psychiatric boarders significantly different following the CIT implementation versus prior to the implementation yielded a finding that the length of stay among psychiatric boarders for the six-month period before CIT implementation was significantly greater than the six-months after its inception. The length of stay was on average 2.4 hours more prior to the implementation of this CIT program. Findings indicated that the reduction of stay was reduced for all patients, requiring less resources to achieve the desired level of safety among those exposed to services while increasing the availability of care for an additional 73 patients every six-months. The finding that all psychiatrically boarded patients received through the emergency department experienced reduced length of stay confirms similar results noted by several researchers (Watson, 2017; Compton, 2017; Pelfrey, 2020; Tyuse, 2021; Bratina, 2018, Kubiak, 2017; Kohrt, et al., 2015; El-Mallakh, 2014). The present study is a refinement of this line of research as I focused on the effects of one CIT program operating in one local hospital, with a highly diverse participant sample.

Warren et al. (2016) also focused on factors associated with length of stay for psychiatrically boarded patients, representing 9,247 admissions (6,335 unique patients) over 3 years. Their study was implemented at an academic hospital that typically sees 730,000 visits annually, and as the hospital where the study was conducted did not have a CIT program their population more closely resembles the pre-CIT cohort examined in research question two. The

average length stay for all participants in the Warren et al. (2016) was approximately 4.1 hours with 15% of their cohort reporting length of stay longer than 8 hours. In this study, the average length of stay in the pre-CIT implementation cohort was 15.3 hours, and the post-CIT cohort was 12.7 hours; these averages are both higher than Warren et al.'s (2016) study sample and would both be classified as prolonged by Warren et al. (2016). Though not assessed directly in this study, the sample for the present study may have on average presented with more severe issues.

A notable difference is that the present study is that both the pre-CIT and post-CIT cohorts had a higher percentage of patients who did not identify as White; non-White patients report receiving less quality care when trying to address their health needs and are more likely to be admitted through emergency departments to address mental health issues than White peers (Markowitz et al., 2017). Assessing the impact of CIT programs across racial and ethnic groups is an important area for continued research focus. The post-CIT data paralleled the study conducted by El-Mallakh (2014) in Louisville, Kentucky that showed similar benefits after deployment of CIT programs, among diverse population more similar to the present study.

### **Research Question Three**

The examination of whether the effectiveness of the CIT participation on psychiatric boarding length of stay differ as a function of the presence of suicidal features, alcohol level or insurance status allowed for an analysis of main effects as well as interaction effects between multiple variables (Lavrakas, 2008). This analysis found the effectiveness of the CIT participation on LOS was statistically unchanged in the presence of suicidal ideation (Tyuse, 2021) or variability of insurance status, but was impacted negatively, showing reduced positive affect of CIT participation. Considering the significant number of arrests that are correlated with alcohol consumption, this finding highlights its impact on treatment effectiveness as the primary

response of the CIT officer is to address the mental health need and not the alcohol impairment echoing (Franz & Borum, 2010) work related to arrest diversion. It could also speak to variables that could be addressed in CIT training for those scenarios where liability, safety and previous experience with intoxicated individuals may confound their decision-making or other processes. Further research may also expand upon these findings specifically related to the delay alcohol interaction may cause in psychotropic medication intervention, as a potential confounding variable. Franz & Borum (2010) examined the influence CIT programs have on the perceptions of law enforcement officers and the resulting impact on decision making, it does not specifically speak to alcohol related interactions and their resulting decision making. This study was able to augment that those findings with specific examination of alcohol related interacts providing foundation for future exploration of this dynamic.

### **Study Implications**

Results of this study suggest there are significant implications for stakeholders in the CIT community as well as the community at large. It highlights additional benefits beyond significant financial benefits to cities (Santillanes, 2020), efficiency and effectiveness of care delivery, patient experience improvement, and the reduction of burden on the legal system through arrests and punitive systematic interventions (Watson, 2017; Compton, 2017; Pelfrey, 2020; Tyuse, 2021; Bratina, 2018, Kubiak, 2017). The study builds upon the previous research listed within the study to focus specifically on the effectiveness of mental health care delivery when the variable of a CIT intervention is introduced (Nordstrom, 2019; Major, 2021; Nordstrom, 2021). Findings reflect the fact that whenever CIT is introduced, hospitalization length of stay decreases (Lane et al., 2021; Tyuse, 2021; Nordstrom, 2019; Major, 2021; Nordstrom, 2021). The only variability between various diagnoses and other confounding variable's that typically impact



acute hospitalization stay is when alcohol was introduced as a variable. There are implications for specific stakeholders.

### **Implications for Police Agencies**

When added to the existing data showing the effectiveness of CIT intervention to reduce negative police interactions and increase effectiveness of mental health interventions, placing agencies may benefit greatly from the expansion of their CIT responses. The increased effectiveness of reducing calls for service could provide significant improvements to staffing issues as well as unnecessary negative interactions as well as ineffective interventions through punitive avenues (Tartaro, 2021). This study affirms previous study findings in this area specifically related quicker initial treatment intervention through reduced wait times, a reduction in additional stressors introduced by the process and an overall increased level of effectiveness of intervention, all resulting in a reduced LOS for stabilization. Key stakeholders within policing agencies may be able to utilize data from the study and others to increase budget for CIT interventions as well as the development of screening and staffing specific to the needs of their CIT program. Community leaders, care providers, and the general public benefit significantly from CIT intervention when mental health related issues are present (Tyuse, 2021) which create more positive outcomes and experiences with both mental health care as well as law-enforcement.

### **Implications for Care Providers**

The mental health care community, specifically acute care facilities and hospital systems with emergency departments that are often used for mental health needs, would benefit from findings within the study that affirm the body of research that supports the efficiency and effectiveness of CIT intervention on the process of on boarding and the reduction of the length of

stay needs associated with its intervention (Nordstrom, 2019; Major, 2021; Nordstrom, 2021). Research supports the financial benefits for major hospital systems, but this specific study reinforces the findings of Tyuse (2021), Nordstrom (2021) and Major (2021), highlighting the effectiveness of CIT on reduced length of stay, expanding the body of knowledge surrounding its added effectiveness across a variety of variables and includes a pre-intervention and post-intervention finding. The system bridges gaps that have been filled by the criminal justice system and allows that system the ability to dramatically increase effectiveness and efficiency.

The effectiveness found in the CIT program examined in this study inherently reveals the importance of interprofessional interaction as this CIT program was deployed through a specific assessment center that was created to maximize the effectiveness of CIT intervention.

Counselors and other care providers have significant ability to streamline the process of onboarding and immediate intervention through screening, analysis, familiarity with the process and the empathic intervention early in the process.

### **Implications for Counselor Education Programs**

The counselor preparation process is critical to the effectiveness of fully maximizing the benefits of CIT deployment as counselors are specifically trained in many key modalities, delivery methods, screening processes and critical empathic communication. As a result, the continued emphasis must be placed on crisis response, threat analysis (Holland, 2021), suicidality, psychosis, substance abuse and necessary appropriate stabilization responses. The Counselor for the Accreditation of Counseling and Related Educational Programs (CACREP) has historically placed an emphasis on these skills (CACREP, 2016, Standard 2.5.j, 2.5.k, 2.5.l, 2.5.m.).

This study's findings from one CIT program intervention highlights the importance for counselor education programs to expand their training to equip counselors to effectively utilize their knowledge and skills outside of typical office environments as well through technology mediated care delivery modalities. In their draft of their proposed 2024 standards, CACREP (2001) expands upon their 2016 standards expanding standards for ethical, legal, culturally-responsive care delivery "across service delivery modalities" (CACREP, 2021, Standard 2.5.e., Standard 2.5.f., p.15). Additionally, CACREP (2021) demonstrates the importance of counselor preparation in the areas of adapting and accommodating counseling to client "culture, context and preference" (Standard 2.5.k., p.15) which speaks to their preparation for flexibility of care delivery useful within the CIT model of intervention. Counselor education programs could fulfill these standards and expand their preparation experience in the areas of improving the working alliance in interprofessional environments as well as increasing emerging counselors' knowledge about the process of stabilization from the perspective of other disciplines.

### **Strengths and Limitations**

A strength of the study is its findings and content under study have potential significant benefits to many stakeholders. It not only highlighted the benefits to those in need of acute care, but also the benefits of overburdened hospital systems, or emergency departments as the primary screening environment. This model demonstrates the effectiveness of assessment enhancement and efficiency when there is CIT involvement, especially in consideration of a co-located CIT Assessment Center. Care recipients also may be altogether diverted from ED's which further increases efficiency and significantly decreases costs. Beyond the significant benefit to stakeholders, a strength of this study it's Rich source of data which speaks to one community's

experience with a CIT intervention. It adds to the depth and breadth of the body of knowledge surrounding CIT interventions and efficiency of patient care for hospitals and medical facilities.

One of the primary limitations of the study is potential difficulties in generalizability as the sample extends to one community which may have a variety of variables including Training, Resources for the CIT department, community buy-in, and other factors. Those other factors may include confounding variables such as the severity of psychiatric symptoms. The sample provided in the retrospective study occurred prior to the time of a transition between Electronic Health Record (EHR) systems creating barriers for comparative analysis for potential future cohorts due to EHR structural differences. Another confounding variable that was not examined in this sample is their access to resources and other social determinants of health, such as housing. This variable would have required more extensive access to information not retrievable at the time of this study. While findings are significant and consistent with other studies from a more diverse population, specifics of this research maybe localized and other confounding variables may not have been detected.

There were multiple threats in this study to internal validity, the degree to which the researcher can draw accurate conclusions about the relationships between the independent and dependent variables (Flannelly, 2018). The primary threat to internal validity in this study, as in many studies that rely upon retrospective databases, was the ability to account for confounding variables. The primary researcher did not collect the data in this retrospective study. Therefore, threats to internal validity such as variations or errors in the recording of participant features that are salient to this study are a possibility. Due to the complexity of the setting, the lack of controls in the non-experimental design, and nature of the phenomenon under study including current limitations to the understanding of variables related to the problem of psychiatric boarding, it

was difficult to conclude with a high level of confidence that the significance of differences were not influenced by idiosyncratic contextual factors. The use of random assignment could not be utilized for the purpose of enhancing group equivalence, also due to the retrospective design. As a result, there is the possibility that confounding variables influenced the study results. For example, differences in psychiatric boarding according to specific diagnosis, the presence of various co-morbid medical problems, or the pattern of overall availability of in-patient psychiatric beds in the region at any given time are not well understood in terms of effect on boarding. An account of possible confounding variables is explored in the Discussion section.

Inferences are limited related to test outcomes comparing the pre-CIT length of stay for psychiatric boarders versus the post-CIT length of stay for psychiatric boarders. There may be additional population based and/or contextual variables related to the setting that may differentiate the pre and post groups that were not recorded or identified in this study.

Another potential threat to internal validity was researcher bias. Although the data were retrospective, the principal investigator was highly involved in the design, implementation and ongoing operation of the independent variable intervention, the CIT assessment center. The research team attempted to partner with the principal investigator. Furthermore, the principal investigator is responsible for detecting the presence or absence of variables by manual chart audit, while the other variables (CIT participation status and LOS) will already be explicitly determined and sorted. Due to privacy related to PHI, the external members of the research team possessed limited capacity to analyze the database for veracity and fidelity. However, a third party within the organization housing the database who was not privy to the study purpose, research questions, or hypothesis generated the raw database for the variables under investigation.

during the time interval under study. A sample from the coded variables was randomly extracted to test for reliability.

The external validity, or generalizability, of this study is threatened by the limited scope in terms of setting and time interval. The study participants were confined to one facility in a suburban area of Virginia. Ideally, numerous settings with heterogeneity and large numbers of participants would have been included to increase the power and generalizability of the study. Unfortunately, the principal investigator operated with a convenience sample, given limited access to data due to privacy concerns, and limitations of population variables within the EMR. Additionally, since the CIT assessment center (the intervention for which effect will be measured) was only open for 6 months at the onset of this study, the number of participants were limited compared to a longer post implementation period. It is also possible that the CIT program would have increased impact on boarding the longer it is in operation due to ongoing quality and procedural improvements, or regression may have occurred due to undetermined factors.

A delimitation of the study is that covariates were identified by way of literature review of factors associated with psychiatric boarding, versus using archival data from the facility to determine setting specific variables that might differ from those in literature. This decision was made for the purpose of enhancing generalizability, so this research may determine congruence or incongruence with findings of variables that have previously been shown to impact psychiatric boarding, versus studying variables that may be idiosyncratic to the single study setting. A further delimitation is only one setting was under study to the lack of access to other locations, limiting the generalizability of the study results.

### **Recommendations for Future Research**

Future research may assess diversity components including social determinants of health surrounding CIT participation and effectiveness. While police attitudes toward mental health issues and their perceptions of those suffering from mental health related issues have been explored in research (Franz & Borum, 2010), exploration of community trust in members of the law enforcement community controlled by social determinants of health and socioeconomic status would have value for cities seeking to increase access of care and resources while improving police/community interactions. It would also be of benefit to explore similar relationships within a diverse cross-section of communities.

Variability between CIT programs and their effectiveness within similar communities could lead to further exploration of procedural and training differences in the CIT programs. This type of comparison would require specific data gathering and could utilize communities with similar EHR systems to be able to ensure data is speaking to the same phenomenon. Additionally, the findings of this study related to suicidality and alcohol could be expanded to include an examination of severity of psychiatric symptom and LOS with CIT intervention to gain an understanding of the target acuity, diagnosis and symptomology of clients who may benefit most from CIT interventions.

It is recommended that future research continue to be implemented regarding CIT interventions. Value may be found investigating the police - community relationship comparing communities with CIT intervention programs with those who do not have them, or have CIT programs but variations between CIT programs. It is believed that the reduction in negative interactions with law-enforcement and first responders could positively impact the community relationship between their agencies and their patrons. Factors related to the compassionate nature of CIT officers instead of the punitive nature of the judicial system may also play a role in

the police – community relational dynamic. Exploration of the benefits associated with a stronger working relationship between the mental health care community and law enforcement through CIT programs, specifically related to imminent threat reporting would expand the body of knowledge surrounding community threat mitigation (Holland, 2021).

It could be advantageous for CIT training programs to unpack specific techniques and training protocols to expand upon ones that are creating effective outcomes and evaluating the ones that are less effective with a given population of students. Also, the exploration of the selection process of CIT officers and those candidates buy-in to the mental health care process could yield significant results specific to enhancing the selection process and thus the effectiveness of CIT intervention within communities.

Additionally of interest is the significant body of research surrounding low socioeconomic status (SES) and mental illness with a vast majority of studies being designed and implemented through an advocacy lens, traditionally associated with professional Counselor identity. Many studies examine the struggle of low SES populations to find care for mental illness, examining the low SES variable as a barrier to care. Fewer studies explore the role mental illness has on the developmental and sustaining characteristics that contribute to low SES status and social determinants of health identified to impact health outcomes. There could be benefit from a meta-analysis of studies to provide more concrete percentages of this observed phenomenon and could provide insight on research motivating factors among those interested in mental health outcomes with low SES populations, or those more prone to be impacted by social determinants. This could also speak to a need to explore mental health researcher perceptions of the importance and role fiscal sustainability plays in access and treatment for those populations.



A final recommendation for future study related to the impact of a CIT program on psychiatric boarding in ED's would be related to potential impact of decreased incidence of boarding due to the presence of a CIT program enhanced with an Assessment Center that affords an opportunity to divert individuals in mental health crisis away from the ED further upstream in the intervention process.

### **Conclusions**

The results of this study support the hypothesis that length of stay is directly influenced by the intervention of a CIT program. Additionally, the study supports the idea that CIT interventions have a significantly longer-term impact on communities once they are introduced. Additionally, the study identifies that the length of stay for those receiving treatment is lower regardless of suicidal ideation or insurance status and it's only influenced by individuals under the influence of alcohol. Communities would benefit from the introduction of CIT intervention as would members of their community who are in need of mental health services. Additional research would benefit the process of on boarding CIT officers and training as well as creating community buy-in while increasing the effectiveness of treatment through a shorter period of time with less cost on systems surrounding individuals.

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## APPENDIX A: LETTER OF DETERMINATION FOR EXEMPT STATUS

OFFICE OF THE VICE PRESIDENT FOR  
RESEARCHPhysical Address

4111 Monarch Way, Suite 203

Norfolk, Virginia

23508 MailingAddress Office of

Research

1 Old Dominion

University Norfolk,

Virginia 23529

Phone (757) 683-3460

Fax (757) 683-5902

DATE: April 1, 2021

TO: Jeffry Moe

FROM: Old Dominion University Education Human Subjects Review Committee

PROJECT TITLE: [1741871-1] The impact of a crisis intervention team program on psychiatric boarding

REFERENCE #:

SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS

DECISION DATE: April 1, 2021

REVIEW CATEGORY: Exemption category # 4

Thank you for your submission of New Project materials for this project. The Old Dominion University Education Human Subjects Review Committee has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will retain a copy of this correspondence within our records.

If you have any questions, please contact Laura Chezan at (757) 683-7055 or lchezan@odu.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Old Dominion University Education Human Subjects Review Committee's records.

## APPENDIX B: VITA

### KURTIS HOOKS

903 South Oriole Dr Apt 201, Virginia Beach, VA 23451 | 757-536-9706 | [kphooks@msn.com](mailto:kphooks@msn.com)

**Proven Dynamic Leader- High Level Operations in Behavioral Health, Cross-systems Innovation, Public/Private Collaboration - to achieve Multi-Domain Outcome Patient, Provider Excellence**

### EDUCATION

**Ph.D.Candidate in Counselor Education:** Leadership Specialization  
Old Dominion University

**M.P.H. (Management)**  
Eastern Virginia Medical School

**M.S. Professional Counseling**  
Georgia State University

**B.S. Human Relations**  
Point University

### LICENSES, CERTIFICATES

Licensed Professional Counselor - S (LPC-Virginia)  
Approved Clinical Supervisor (ACS – National Board for Certified Counselors)  
Nationally Certified Counselor (NCC – National Board for Certified Counselors)

### AWARDS (SELECTED)

Practitioner-Supervisor of the year (Old Dominion University)  
Fellow, SAMHSA/NBCC (Doctoral)  
Hall of Honor, Point University

### RELATED EXPERIENCE

**CEO, Virginia Beach Psychiatric Center (Universal Health Services)** 2019 – present  
Operational Responsibility for the largest acute-care adult behavioral health facility VA –SELECTED DUTIES:  
Business Development, Community Interface  
Plant Operations, Capital Projects  
Health Informatics  
Revenue Cycle Planning and Development  
Clinical Programming  
Regulatory Compliance  
Risk Management  
Human Resources (300 employees)

Government Relations (local, regional, state)

Payor Relations/Contracts, Vendor Contract, Physician Recruitment and Contracts

**Director of Behavioral Health Services**

2015 –

2019

***Chesapeake Regional Medical Center (CRMC)***

Service Line Development, Program Evaluation, Administrative management, Clinical Supervision, Business Proposal Development, Performance Analytics, Vendor Contracts, Media/PR/Brand Ambassador, Budgeting, Physician and Staff Education, Quality Assurance, Risk Management, Policy Development, Behavioral Health Integration throughout continuum of services, Strategic Planning, Committee Head and participation, Survey Readiness, Collaboration with Community Partners

***Exemplary/Innovative Projects:*** Bridges CIT collaboration (reduced ED psych boarding and throughput significantly); ED-Initiated Opioid Treatment (first in state to adopt and implement Yale model); Doctoral and Practicum Behavioral Health Internship Program (Old Dominion University): No-cost behavioral health care integrated throughout Healthcare System (Med/Surg, Ambulatory, Palliative, Home Health, Pop Health, Cardiac Rehab, Cancer Treatment Center, etc) to enhance holistic care and Value Based Outcomes

**Director of Palliative Care**

2016-2017

***Chesapeake Regional Medical Center***

Program Development, Business Plan Proposals, Budget oversight, Admin/management

**Mental Health Consultant**

***Chesapeake Regional Medical Center, Emergency Department***

2010 - 2015t

Crisis Assessment, Crisis Intervention, Advocacy, Referral and Linkage, Consultation, Policy Development, Staff training, Statistical tracking and reporting

**Director, Assessment and Referral, Admissions, Court Services**

***Virginia Beach Psychiatric Center - (Psysolutions)***

2005-2009

Clinical and Administrative Supervision, Facility Administrator-on-Call, In-services, Trainings, Staff meetings, FTE management, JCAHO readiness, Commitment Hearings supervisor, EMTALA monitoring, Scheduling, Human Resources functions, Member of Governing Body and Medical Department, Contract negotiation and management, Statistical reporting, Crisis Hotline oversight, Business Development functions, Created Assessment forms and other documents, P & P development, Process and Safety Improvement

**Mobile Assessment Team Leader – Virginia Beach Psychiatric Center**

2002-2005

Scheduling, Quality Assurance, Clinical Supervision, New staff training, Statistical reporting, Crisis Assessment and Referral, Crisis Hotline management

**Assessment clinician, Mobile Assessment Clinician**

2000-2006

Face-to-face evaluation, Crisis Hotline triage, On-call Mobile Crisis Assessments (Emergency Departments, Schools, Detention Centers, etc.), Insurance Auth

**Mental Health Counseling Internship and Practicum**

1999-2000

**Atlanta Medical Center, Primary Care Physician Residency Training Program**

Individual, Group, Family Counseling, Physician Resident Training

**Internship and Volunteer, Teens at Work, East Point GA**

1993-1998

Mentoring activities with urban youth near Atlanta, GA

**PRESENTATIONS, PROJECTS AND MEDIA (SELECTED)**

*Invited Presenter, Virginia HealthCare Symposium, Panel Discussion – New Models of Healthcare Delivery Post-Covid, 2021*

*First Step Program – Collaborative Public/Private collaborative access enhancement for Substance use disorders, 2021*

*Clinical and Media Consultant: Virginia Beach Shooting Memorial (VBSTRONG)*

*Numerous News Media interviews – Behavioral Health Content, Frequent Media Presence (Hampton Roads)*

*Invited Presenter: Telemedicine Partners Summit: Telepsychiatry in Med/Surg settings: Capacity and elopement issues, Alexandria, VA 2018*

*Invited Presenter, Opioid Epidemic Update - VA Attorney General, FBI, DEA, (Chesapeake Regional Medical Center)*

*Feature in film role: Substance Use in the Workplace. Made for Dupont Global. (Served as expert in multiple scenes)*

*Invited Presenter, Hampton Roads Opioid Working Group: Multiple Events/Venues*

*News Interview (live followed by web chat): PTSD and Veterans Day in Hampton Roads*

*Invited Presenter, Virginia Counselors Association: Involuntary Mental Health Procedures in Virginia: What Counselors Need to Know (2015 2016)*

*Newspaper Pieces: The Virginia Pilot – Crisis Intervention Team, Opioid Epidemic, Behavioral Health*

*Presenter, Eastern Virginia Healthcare Coalition, “Mental Health in Virginia: Then, Now, the Future”*

*Presenter, International Association of Healthcare Security and Safety, Virginia Chapter, “Virginia Mental Health Code: Implications for Consumers, Communities, Hospitals and Medical Centers”*

*Crisis Intervention Team (C.I.T. mental health jail diversion) Developer, Virginia Beach (2008-2009): Facilitated first public-private partnered C.I.T. program including developed assessment location infrastructure and drop-off process, program development, crafted M.O.A., Security, Budgeting, First Responder Training and Protocols*

*Presenter, National Alliance for the Mentally Ill (NAMI) Suicide Awareness and Prevention Conference, "The Mental Health Crisis", Regent University*

*Hooks, K.P. "Consumer Characteristics and Linkage Outcomes: The H.P.R-V Reinvestment Project"  
Paper and Presentation presented at: Capstone Seminar, Eastern Virginia Medical School, Virginia Health Planning Region V Executive Directors Meeting, SAMHSA*

#### MEMBERSHIPS/ADDITIONAL EXPERIENCE (SELECTED)

- Chair – Behavioral Health Committee: Virginia Healthcare and Hospital Association (VHHA)
- Vice Chair – Steering Committee (VHHA)
- Virginia Chamber of Commerce Executive Healthcare Committee (invited member)
- Chair, Committee on Behavioral Health for Veterans, Service Members, Families (Hampton Roads Chamber)
- Adjunct Professor, Regent University – Graduate College of Counseling and Psychology
- Clinical Supervisor – Old Dominion University Graduate Counseling Program (Site)
- Board Member: HER shelter of Hampton Roads: <http://hershelter.com/>
- Virginia Healthcare and Hospital Association
- Healthy Chesapeake Non-profit Organization: Mental Health Services Development/Consultant
- Hampton Roads Opioid Working Group (FBI/Attorney General/DEA/Governor's office)
- SJ 47 Virginia Mental Health Reform Task Force
- American Counseling Association
- Virginia Counselors Association
- Crisis Intervention Team Coalition
- Behavioral Health Learning Collaborative of Hampton Roads: Brock Institute, Eastern Virginia Medical School
- Chi Sigma Iota (Graduate Counselors Fraternity)

#### REFERENCES

Available Upon Request

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