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# Does Homelessness Increase the Risk of Readmission in Acute Care Patients Diagnosed with Schizophrenia

Lindsey N. Marek

Abilene Christian University, lnm16a@acu.edu

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## ABSTRACT

This thesis attempts to answer a research question: Does homelessness contribute to the readmission of acute psychiatric admission with those diagnosed with schizophrenia? A quantitative, retrospective study was conducted using a sample of one hundred and thirty-six patients who were admitted to an acute care hospital in Texas between the dates of January 01, 2015 through December 31, 2016. Data were collected from existing patient records of an acute care hospital located in Texas. The results show that homelessness was a significant predictor in treatment readmission. More specifically, homelessness was a contributing factor of readmission due to being suicidal. It is recommended that acute schizophrenia clinics should pay attention to special needs of homeless patients. Collaboration between the clinics, group homes, and community is also recommended. Considering the limitations of this study, further study needs to verify its findings.

*Keywords:* homelessness, admission, readmission, schizophrenia,  
treatment

Does Homelessness Increase the Risk of Readmission in Acute Care Patients Diagnosed  
with Schizophrenia

A Thesis

Presented to

The Faculty of the Graduate School

Abilene Christian University

In Fulfillment

Of the Requirements for the Degree

Master of Science in Social Work

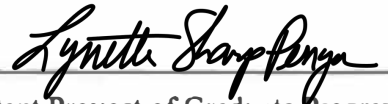
By

Lindsey N. Marek

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This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Council of Abilene Christian University in partial fulfillment of the requirements for the degree

Master of Science in Social Work



Assistant Provost of Graduate Programs

Date

4-27-2017

Thesis Committee



Dr. Kyeonghee Jang, Chair



Rachel Slaymaker, LMSW



Natalie Reeves, MS, LPC-S

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## CHAPTER I

### INTRODUCTION

#### **Problem Statement**

An increasingly important issue for the past two decades is a high prevalence of schizophrenia patients among homeless individuals in the US (Folsom & Jeste, 2002). According to Ogden (2014), Western countries estimate approximately 42% of homeless persons diagnosed with schizophrenia. This problem requires that one must look at the relationship between schizophrenia and homelessness. This might be due to the characteristics of this mental disease and the challenges among homeless patients.

Schizophrenia is a mental health disorder diagnosis that causes paranoia, delusions, and hallucinations (American Psychiatric Association, 2013). Schizophrenia is considered a serious issue. According to Nemade and Dombeck (2008), approximately 1% of the population worldwide are diagnosed with schizophrenia including 1.2 percent of Americans, which equals an estimated 3.2 million people. Nemade and Dombeck suggest that 1.5 million individuals would be diagnosed with schizophrenia in 2010 around the world, and 100,000 of these people would live in the United States (Nemade & Dombeck, 2009).

Psychiatric diagnosis occurs when physicians can identify disorders such as schizophrenia to suggest admission and treatment goals/plans. Types of admissions include involuntary admissions such as orders of a protective court under powers of detention or voluntary admission into an acute care hospital (Campbell, Canalies, Wei,

Totten, Macaulay, & Wershler, 2015). Saz-Parkinson and colleagues (2011) state that the admission rate of schizophrenic patients increased between 1980 to 2009 from 3.71 admissions per 10,000 patients to 5.89 admissions, and the prevalence rate of patients who received inpatient treatment decreased each year 78% during the same time (Saz-Parkinson, Medel, Cedel-Garcia, Casellote, Bouza, & Amate, 2011). Factors such as medication compliance, stable living conditions, support systems, and reasons for admission can contribute to treatment readmission for patients (Chi, Hsiao, Chen, Lee, Tsai, Lee, Chen, & Yang, 2015).

Readmission is common for schizophrenic patients. On a study of patients with psychiatric circumstances as well as other medical problems at the Center for Health Policies and Health Services Research, Greene (2015) reported a high prevalence of readmission. Approximately 16.5 percent of individuals who have not been diagnosed with a mental illness would readmit within 30 days, though about 21.5 percent of people diagnosed with a mental illness will readmit. In the previous year, three to five percent of patients who were diagnosed with a mental illness readmitted more often within 30 days, versus patients without a psychiatric diagnosis. The researcher Chi and colleagues (2015) argued that readmission could be reduced if adequate interventions were provided. Other researchers (Chi et al., 2015) paid attention to “a costly consequence of relapse” among schizophrenic patients and emphasized the importance of pinpointing persons who are at a high risk of being readmitted by delivering interference to help reduce readmission rates (Chi et al., 2015).

Homelessness seems to be a high-risk factor of a schizophrenic diagnosis, which creates a challenge when trying to manage treatment. In turn, these facts often lead to

treatment readmission. Homeless populations have limited access to health care so that the treatment of cohesion and stability of care tends to be rather weak, which, in return leads to self-neglect and the fear of being institutionalized (Auquier, Tinland, Fortainer, Loundou, Baumstarck, Lancon, & Boyer, 2013, p. 1). Timms (2005) reported that the association between schizophrenia and homelessness has been recognized relatively recently despite its long-time association. Timms (2005) regarded schizophrenia as a biopsychosocial phenomenon and homelessness as a social and political phenomenon. Schizophrenia, homelessness, and readmission are all impacted on each other or by each other. Homelessness does not cause schizophrenia, though being homeless can exacerbate symptoms of schizophrenia (Horsell, 2006). Schizophrenic symptoms can lead to homelessness, and then a patient can become readmitted. Being admitted can cause a schizophrenic patient to become homeless. These variables are impacted by each other as this creates a reoccurring cycle.

### **Purpose of Study**

The aim of the study is to examine the effect of homelessness on readmission in schizophrenia. The primary research question of the study is the following: Does homelessness contribute to the readmission of acute psychiatric admission with those diagnosed with schizophrenia?

In order to answer this question, a literature review was conducted using bibliographic resources of Abilene Christian University's online library. Although there was a broad range of articles presented while researching the terms "schizophrenia," "homelessness," and "readmission," there is a need for further research that addresses some concerns in previous studies. There is limited research regarding homelessness,

schizophrenia, and readmission. After exploring the literature, many articles included discharge information and treatment recommendations. Other concerns include inadequate sampling methods and the lack of documentation of the sample procedures (Toro, Wolfe, Bellavia, Thomas, Rowland, & Daeschler, 1999). In sum, the literature review has found a limited amount of research readily available on treatment readmission of patients diagnosed with schizophrenia. In order to bridge the research gap, the present study utilized an empirical research method to examine if homelessness was a factor to the readmission rate of adult patients diagnosed with schizophrenia who are released from an acute care hospital setting. To understand this association better, the study also explored other readmission factors that have been identified from the literature.

## CHAPTER II

### LITERATURE REVIEW

#### **Schizophrenia Readmission**

The word ‘schizophrenia’ was first developed by Eugene Bleuler in 1911 (Smith, De Witt, Frazsen, Pillay, Wolfe, & Davies, 2014). Schizophrenia is interpreted from the Greek expression skhizein which suggests “to split,” and the word phren which means “mind” (Smith et al., 2014). Schizophrenia is perceived as a complex and puzzling disorder where symptoms can affect an individual’s cognitive capacity to the extent of disturbance of social relationships and readmission for treatment (Smith et al., 2014). The Diagnostic Statistical Manual (2013) provides the definition of schizophrenia. However, the American Psychiatric Association (2013) and National Institute of Mental Health (2015) have different perspectives of schizophrenia. All three resources suggest that schizophrenia is related to the impact of cognitive functioning. The American Psychiatric Association (2013) defines schizophrenia spectrum, as well as other psychotic disorders including schizotypal personality disorder, as abnormalities which include negative symptoms such as delusions, hallucinations, disorganized thoughts, and gross motor skills (American Psychological Association). The National Institute for Mental Health (2015) states schizophrenia is a continuing and oppressive mental health diagnosis that influences individual’s behaviors, feelings, and thought processes (National Institute for Mental Health, 2015). Individuals that are diagnosed with schizophrenia feel as if they have “lost touch with reality” (National Institute for Mental Health, 2015). The American

Psychiatric Association (2013) states that schizophrenia is a “chronic brain disorder that affects about one percent of the population” (American Psychiatric Association, 2013, para. 1).

The National Institute for Mental Health (2015) mentions that schizophrenia symptoms usually begin between the ages of sixteen and thirty and sometimes include trouble thinking and concentrating, delusions, hallucinations, and lack of motivation (National Institute for Mental Health, 2015). Patients who have been diagnosed with schizophrenia, in addition to acute care treatment, need an active intervention program which is an important aspect of their care, especially when first diagnosed, to reduce treatment readmission (Chi et al., 2016).

Episodes of schizophrenia are distinguished into real and unreal experiences in which the patient is unable to identify. The American Psychiatric Association (2013) believes these symptoms collapse into categories including Positive, Negative, and Impaired Cognition symptoms. The National Institute of Mental Health (2015) provides information about positive and negative symptoms. Positive Psychotic Symptoms include hallucinations. Patients who experience hallucinations have delusions, inflated perceptions, and actions. Positive symptoms are mental illness actions that are not generally visible in stable healthy individuals (National Institute for Mental Health, 2015). The individuals with positive symptoms may “fall out of touch” with all aspects of reality. Hearing voices, defined as auditory hallucinations “are the most common type of hallucination in schizophrenia” (National Institute of Mental Health, 2015, para. 8). The National Institute for Mental Health (2015) state that, negative symptoms are correlated with a separation of normal thoughts and behaviors (National Institute for Mental Health,



2015). Negative symptoms include a dull affect that decrease the amount of thoughts and emotions such as gestures, facial expressions, and tone of voice in people's lives (National Institute of Mental Health, 2015). Impaired cognition is the third category of symptoms of schizophrenia. Cognitive symptoms are perplexing, and sometimes are hard to recognize. Cognitive symptoms of schizophrenia include: a decline in functioning where the person can make decisions, poor attention spans, and using the information given by understanding and using it (National Institute of Mental Health, 2015).

Appropriate assessment and treatment are critical for determining the most accurate treatment for homeless patients who are diagnosed with schizophrenia (Auquier et al., 2013). Symptoms occurring with schizophrenic patients including delusions and hallucinations can significantly impact the goals, dreams, and plans of individuals. The impact of symptoms creates a hardship within relationships and causes a social withdrawal from the person. Relevant indicators to consider the complexity of the schizophrenia population are their health problems and needs (Auquier et al., 2013). Paranoia may be a contributing factor to why patients stop treatment due to not being able to cope with accepting help. Once patients become homeless, it is even harder for them to continue to engage with a support team or remain in treatment. These patients have a difficult time obtaining medication as well as being medication compliant. Schizophrenic patients often suffer from poor hygiene, lack of sleep, and can have episodes of psychosis occur more often.

Treatment is beneficial to understand as it is one of the key components when looking at readmission in mental health diagnosis and the homeless population. Treatments can include antipsychotics, psychosocial treatments, and coordinated

specialty care (National Institute for Mental Health, 2015). Antipsychotics include medications that are given by injection about once to two times a month as well as options of pills or liquids that are given daily (National Institute of Mental Health, 2015). Side effects can occur at the original state of an individual taking the medication though most will go away within a few days (National Institute of Mental Health, 2015). Medical teams such as physicians and nurses work together alongside the patient to find the best possible medication or drug combination for the patient as well as the correct dosage. After the appropriate remedy is found for the diagnoses, psychosocial treatments are helpful to aid in conjunction with the medication for the best treatment. Individuals diagnosed with schizophrenia who participate in regular psychological treatments, as well as learn to use coping skills to address changes they may face every day, are less likely to relapse or be readmitted (National Institute for Mental Health, 2015). Another treatment model to consider while treating patients diagnosed with schizophrenia is coordinated specialty care or CSC. This treatment model includes an integration of medication, therapy, case managers, family therapy, and education for the purpose of declining the client's symptoms of schizophrenia by improving the quality of life (National Institute for Mental Health, 2015). The NMH Recovery After an Initial Schizophrenia Episode or RAISE research project "is a large-scale research initiative that began with two studies examining different aspects of coordinated specialty care (CSC) treatments for people who were experiencing first episodes of psychosis" (National Institute of Mental Health, 2015, para. 25).

The American Psychiatric Association (2013) stated, there has not been a cure for schizophrenia though research is still continuing for development of treatments

(American Psychiatric Association, 2013). The symptoms of schizophrenia appear more often in early adulthood, and since it is more common for adults to develop schizophrenia it is rare for children to be diagnosed with schizophrenia though it can happen (American Psychiatric Association, 2013). Men and women show dissimilar arrangements of schizophrenic symptoms, for example, males reach a height of vulnerability between the ages of 18-25 years of age and females reach a vulnerability height twice between the ages of 25 to 30 years of age and then again around 40 years old (Nemade & Dombeck, 2008). Schizophrenia is one of the more severe and “weakening psychiatric disorders (1); because of disorders in vast functional areas (occupational, educational, mental and self-care), (2) it has a significant individual, social and economic pressure” (Vaghee, Salarhaji, & Vaghei, 2016 p. 139).

Homelessness can lead to treatment readmission. Stigmas are not a direct factor of schizophrenia and readmission. However, it can prevent people from obtaining treatment. Stigmas prevent people diagnosed with schizophrenia from accessing resources and the types of support needed to help manage and receiving treatment (Ogden, 2014). It is also common for family and friends to conceal and diminish public awareness. Ogden (2014) stated that mental illnesses have been correlated with stigmas which are a response to environments of housing and are affected by a person’s identity. Stigmas against individuals who are homeless and diagnosed with schizophrenia prevent people from receiving adequate treatment.

Readmission is a common problem for people diagnosed with schizophrenia. Studies have shown that about eighty percent of patients readmit within a five-year time frame from the first occurrence of psychosis and approximately 20 percent proceed

through treatment experiencing relapse within one year (Chi et al., 2016). The percentage rises in individuals who are undergoing treatment from sixty to seventy percent for patients who are not undergoing continuous treatment (Chi et al., 2016). Effects of relapse and readmission related to the diagnosis of schizophrenia focus on aspects such as medical conditions, chemical dependency, and medication management (Smith et al., 2014). The high rate of schizophrenic disorders in patients who are homeless in the United States creates a high rate of readmission.

### **The Relationship between Schizophrenia and Homelessness**

Patients are often diagnosed with schizophrenia between the ages of 18-31, and homelessness does not typically occur suddenly. The increase in the prevalence rate of schizophrenic disorders among individuals who are homeless remains unclear (Buhrich, Hodder, and Teeson, 2003). The Coalition for the Homeless (2009) stated that around sixteen percent of the single, adult, and homeless populations suffer from some sort of mental illness. The study of Buhrich, Hodder, and Teesson (2003) in Sydney, Australia researched schizophrenia in homeless people and the current prevalence including historical trends. Two hundred and ten homeless men and women living in the seven largest shelters in inner Sydney, Australia were culled for potential psychosis. The individuals who were screened positive for psychosis were referred to the psychiatrist to determine if the diagnosis was indeed schizophrenia. The aim was to assess the prevalence of schizophrenia included in the shelters for the homeless and compare it to the current prevalence rates in the same shelters since the year 1983 (Burich et al., 2003). New South Wales had a downsizing of the largest psychiatric hospitals and this continued for three decades with numbers falling from 100,000 to 225 in 1962 and 45 in 2000

(Burich et al., 2003). Buhrich and colleagues (2003) believe that when a patient is discharged from the hospital and returns home is usually welcomed by the patient, family, and health care workers overseas and in New South Wales. The researchers then decided one way to determine whether the hospital bed closures had led to an increase of homeless mentally ill patients was to determine whether the rate of schizophrenia in the same shelters had changed over time. There were three hundred and fifty beds for men and fifty-seven beds for women. The emergency shelter offered meals as well as other necessities for the individuals to reduce the risk of homelessness. The study used the Brief Psychiatric Rating Scale (BPRS-E) and was fulfilled for all participants with possible schizophrenia.

Buhrich and colleagues (2003), determined that the prevalence rate for the possibility of being diagnosed with schizophrenia in men is twenty-three to thirty percent. The prevalence for women was 46-50 percent which compared to 33% in 1989. The researchers decided that the prevalence of schizophrenia had remained steady over the past two decades despite the deinstitutionalization that was ongoing over the same period.

Current research studies examine the rates of homelessness of schizophrenic patients and how to utilize treatment and resources. Homeless people with mental illness do not need to be admitted into an acute care setting, however, they can live in their communities with supportive housing per the 2003 U.S. Department of Health and Human Services report (National Coalition for the Homeless, 2006). The National Coalition for the Homeless (2006) states that around twenty to thirty five percent of single, adult, homeless populations suffer from a mental illness. The National Coalition

surveyed 44 million Americans who have a mental illness; they found that 22 percent are homeless at any given point of time (National Coalition for the Homeless, 2006).

### **Homelessness as a Result of Schizophrenia**

Homelessness can occur because those diagnosed with schizophrenia may be unable to accomplish daily tasks and life skills, such as maintaining their finances. Housing instability may complicate overall health of the schizophrenic homeless population. When these patients do not have proper health care, they become even more unstable. The homeless population with mental disorders typically remain homeless for extended periods of time and have problems staying in communication with family and friends causing a strain on their relationships (National Coalition for the Homeless, 2006).

Barriers to employment, poor health, and legal issues are all factors for homelessness in mentally ill individuals. Individuals who are homeless with mental disorders require resources, access to treatment, and rehabilitation services to diminish the interruption presented by their condition; however, most people that have a mental disorder do not need hospitalization, and fewer individuals need long-term care (National Coalition for the Homeless, 2006). Low-income people with mental health problems are at an increased risk of homelessness, and a variety of approaches must be taken to help these individuals obtain and retain a stable living arrangement (National Coalition for the Homeless, 2006).

### **Homelessness Impacted by Schizophrenia Readmission**

Only a few researchers would dispute that homelessness can have a large negative impact on the quality of life in individuals who are diagnosed with schizophrenia

(Timms, 2005). Results from Folsom and Jeste's (2002) research concluded that in homeless individuals the rate of schizophrenia, described in 33 published reports and represented eight different countries, ranged from 2 to 45 percent (Folsom & Jeste, 2002). Folsom and Jeste (2002) found that in their methodology, the prevalence rate was four to sixteen percent and the average prevalence rate was eleven percent. What Folsom and Jeste (2002) found was that schizophrenia was more prevalent among the homeless population than the population as a whole. The prevalence rate suggests that homelessness is a cause of readmission in schizophrenia. Although there is a circular relationship between homelessness and schizophrenia, the present study focuses on whether homelessness causes readmission in schizophrenia so that it answers the research question and therefore information for better intervention strategies is necessary to prevent recurrence. Other factors are also related to schizophrenia readmission. Factors such as social and family support, employment, housing, and psychiatric treatment all affect the outcome of individuals diagnosed with schizophrenia (Timms, 2005). Genetic dispositions are also factors that contribute to schizophrenia readmission.

### **Other Factors Related to Schizophrenia Readmission**

The demographic background and psychopathology variables predict that readmission among the youth population with mental health needs was researched in Ontario, Canada (Stewart, Kam, & Baiden, 2014). Stewart, Kam, and Baiden (2014) found that individuals who were diagnosed with schizophrenia were 2.14 times more likely to be readmitted than patients who were not diagnosed with schizophrenia. The statistic suggests that previous diagnosis of schizophrenia is a factor of admission. Only one protective factor found significant was education.

The research of Russolillo and colleagues (2016) investigated causes for admission and rates of hospitalization through the homeless populations, and previous studies have relied on self-report and survey data, minimizing the ability to examine clinically accurate data across multiple acute health care settings (Russolillo, Moniruzzman, Parpouchi, Currie, & Somers 2016). A ten-year follow-up based study (Chi et al., 2016) conducted research about factors associated with hospital readmissions in patients with schizophrenia after the first hospitalization between 2001 and 2010. The patients were recruited from the National Health Insurance Research Database and were compared with matched controls. The data included the factors of demographics, cost, and utilization of medical resources and was analyzed by the Kaplan-Meier method (Russolillo et al., 2016). Patients between the ages of 20 to 40 who were admitted to a psychiatry ward due to schizophrenia were eligible to participate in the study. Results found that schizophrenia had a high rate of readmission. Five hundred and seventy patients had been readmitted within ten years with a median time between readmissions being 1.9 years and 25% of the individuals were readmitted within four months of the first hospitalization. Chi and colleagues (2016) found hospital readmissions in patients with schizophrenia were associated with prognosis and identified people with high risks of readmission to lower the admission rate can be reduced by providing interventions. The factors of age, gender, or the length between the hospitalizations were not significant.

As mentioned above factors such as social and family support, employment, housing, and psychiatric treatment all affect the outcome of individuals diagnosed with schizophrenia (Timms, 2005). Other risk factors that may impact the risk of developing



schizophrenia include genes and environment. Though there are individuals diagnosed with schizophrenia who do not have family members who were also diagnosed with schizophrenia, scientists believe that schizophrenia can have a genetic disposition to run in families (National Institute for Mental Health, 2015). Research indicates no single gene can cause the disorder by itself however scientists believe that various genes increase the risk of schizophrenia (National Institute for Mental Health, 2015). Scientists have not yet determined if it is possible to use the information from genetic screening to predict who will develop schizophrenia and who will not. The interactions between genes and the different aspects of the individual's environment are necessary for schizophrenia to develop which include: exposure to viruses, malnutrition before birth, problems during birth, and psychosocial factors (National Institute for Mental Health, 2015). In conjunction with genes and environment, brain chemistry and structure may also be linking factors to the risk of developing schizophrenia. Research suggests a disproportion in the puzzling, corresponding chemical reactions of the brain associated with the neurotransmitters (substances that brain cells use to communicate with each other) dopamine and glutamate, that portray a function in schizophrenia, as well as problems before birth, may lead to faulty connections while the brain undergoes changes during puberty (National Institute for Mental Health, 2015). These changes could prompt psychotic symptoms in individuals who are defenseless to genetics and brain differences. A retrospective cohort study (Zhang, Harvey, & Andrew, 2011) investigated the predictors of the risk of readmission including the clinical variables such as the person's history, acuteness of their mental illness, the psychiatric exam, treatment methods, Health of National Outcome Scale score, and the admission reasoning (Zhang et al., 2011).

Other variables included the patient's involvement with the justice system, treatment plan, and family involvement (Zhang et al., 2011, p. 580). Regression analyses identified factors that elevated the risk of readmission: the amount of prior admissions, the inscribed decline of mental state previously to the admission, the risk of others at the time of approach, contact with the emergency department post discharge, alcohol intoxication on admission, and electroconvulsive therapy (ECT) during the initial admission (Zhang et al., 2011). Zhang and colleagues identified protective factors including a more proactive and assertive treatment in the community post discharge, involuntary treatment in the community, analyzing the individual service plan, and moving care to a new treatment team. The patient's socio-demographic attributes, a diagnosis of a primary psychiatric illness, the length of stay, or the clinical practice and care administered at the inpatient unit during the initial admission did not predominate the risk of readmission.

### **Conclusion**

Many research studies have focused on diagnosing schizophrenia and treatment. New research should focus on directly correlating treatment readmission and homelessness to help patients once they are discharged successfully. The research should be quantifiable as well as precise. Factors included in literature reviews such as homelessness, other risk factors such as genes and environment, and finally protective factors such as the previous history, scope of illness, diagnosis, a mental state examination, treatment, Health of the National Outcome Scale score, grounds for admission, further stay, should all be factors of future research including readmission risks. With the lack of research available, it is time to move forward and change the ratio of recurrence for readmission of schizophrenic patients.

## CHAPTER III

### METHODOLOGY

#### **Research Design**

This research study aimed to investigate if homelessness was a contributing factor to the readmission of acute care with those diagnosed with schizophrenia. To understand the effect of homelessness on the readmission more accurately, the effect other contributing factors also was examined. The design of the study was quantitative and retrospective in nature because it analyzed numerical data drawn from existing patient records of a hospital. Factors that have been identified in the literature and that can be found in the patients' records are included in the analysis. The discharge form in the patient's record was utilized to collect the following information: 1) patient's age; 2) gender; 3) housing status before admission including homelessness; 4) the number of readmissions to this hospital; 5) reason for admission including danger to self, danger to others, psychosis and other; 6) discharge destination such as home/group home, homeless, and other.

#### **Sample**

The inclusion criteria for this study are: being an adult (18-75 years), patients diagnosed with schizophrenia, and admission period (who were admitted during January 01, 2015- December 31, 2016). The research sample excluded patients who were admitted before and after these dates due to providing most recent data. No other

diagnoses were included in the research. The projected sample size included at least 100 patients desired for this study, and the final sample size concluded at 136 patients.

### **Data collection procedure**

After obtaining an approval of study from the Institutional Review Board of Abilene Christian University (See Appendix A), the data were collected. Data was collected by looking at the discharge form (See Appendix B) and medical records that were in the patient's record. Medical records were obtained from the medical records department. The discharge form consisted of the patient's Suicide Risk Assessment score, the reason for admission, service, treatment objectives, and outcomes, scheduled aftercare appointments, notes, and discharge in the care of (setting). This study also looked at how many times the patient readmitted to an acute care hospital in Texas. The principal investigator reviewed the patient's medical records who admitted between the dates of January 01, 2015 through December 31, 2016. Patient's rights were protected by not using any identifying information in the study.

No identifying information was recorded to protect the patient's rights to confidentiality. The researcher borrowed a key to a filing cabinet from the medical records director to keep participant records in as well as the Excel spreadsheet while the principal investigator gathered data being that the key was given back at the end of the day to remain on site. The information gathered was recorded in an Excel spreadsheet then transferred into a statistical analysis system. Once transferred into the statistical analysis system the Excel spreadsheet was shredded in the medical records office. After the data was gathered and the project was complete, the statistical analysis was deleted.

The medical records director provided a report of adult patients diagnosed with schizophrenia disorder between the dates of 01/01/2015 to 12/31/2016 between the ages of 18-75 years old. The investigator then analyzed the discharge destination of adult patients to see if there was a difference in patterns among readmitted patients and those who did not readmit. Factors examined included home/group home, homelessness, and other on discharge destination form in the patient's record. Medical records remained in the medical records department, and only medical record personnel had access to these medical records. All data gathered was locked in a cabinet in the medical records department while research was being conducted. Though the investigator viewed identifiable information on medical history, no identifiers were revealed in the research project. Once data was gathered, it was transferred into a statistical analysis system using letters and numbers. The investigator requested two months of access to protected information to view medical records and one month of access to transfer data into statistical analysis system. All data was shredded in the medical records department.

### **Data Analysis**

Descriptive analyses were employed to examine the characteristics of the sample. Multiple regression analyses were conducted to see if homelessness was a significant predictor of readmission after controlling for the other factors included in the analyses.

## CHAPTER IV

### RESULTS

#### **Participants**

The sample for this study was comprised of 136 patients who were admitted between the dates of January 01, 2015 through December 31, 2016. The patients selected in the sample size were both female and male gender, between the ages of 18-75 years of age, and diagnosed with schizophrenia. Analysis showed results of 70 (51.5%) patients identified as male, and 66 (48.5%) patients identified as female. The average age of patients who readmitted were between the ages of 20-29 years of age. The number of readmissions was also a characteristic of the sample. The highest number of readmission for a patient included 7 readmissions. There were 42 patients who did not readmit, and the average number of readmissions included 59 patients (30.7%).

Table 1

*Characteristics of the Sample (N= 136)*

Variable	Category	N	%
Gender	Male	70	51.5
	Female	66	48.5
Age	18-19	5	3.6
	20-29	42	30.7
	30-39	37	27
	40-49	21	15.3
	50-59	25	18.2
	60-69	4	2.9
	70-79	2	1.5
Number of Readmission	0	42	30.7
	1	59	43.1
	2	27	19.7
	3	5	3.6
	4	3	2.2
	7	1	0.7

### **Descriptive Statistics of Overall Characteristics**

In order to understand the living arrangements for the patients who were admitted to the program, descriptive analyses were conducted. Table two presents descriptive statistics regarding the total occasions identified in the medical records. The occasions consisted of living arrangements before and after the admission that were identified from the records. The frequency for the ‘living arrangement prior to admission’ and the ‘living arrangement after discharged’ is an aggregated number of the living arrangements identified in the medical records during the two year time-period in this study between January 01, 2015 through December 31, 2016. The most frequent categories of living arrangements prior to admission include ‘Relative/Guardian’ (39.93%) and ‘Home, Apartment, Government Housing (Living Alone)’ (33.92%). A good portion of

admission records (15.19%) show patients were homeless before they were admitted. The least number of patients (1.77%) lived in another level of care, such as respite, nursing homes, state hospitals, or jail prior to discharge.

The most frequent categories of living arrangement after discharge 'Relative/Guardian' (38.38%) and 'Home, Apartment, Government Housing (Living Alone)' (32.75%). Homeless is the third frequent category of living arrangement after discharged, but the proportion is relatively small number (8.8%) compared to the Homeless prior to admission (15.19%).

In order to understand the major reason for admission, another set of descriptive analyses were conducted. The last portion of the table shows the reason for admission. The frequency for the 'reason for admission' is an aggregated number of the reasons identified in the medical records during the time period in this study. The most frequent category of reason for admission was due to psychosis which included paranoia, delusions, and auditory/visual hallucinations (39%). Though being medication compliant was a variable, there were no patients who were admitted for this one reason. The smallest portion of reason identified (1 %) was the "Psychosis, Suicidal, Medication Management" category.



Table 2

*Total Occasions Identified in the Medical Records*

Variable	Category	N	%
Living arrangement prior to admission	Home, Apartment, Government Housing (Living Alone)	96	33.92
	Group Home, Placement	8	2.83
	Relative/Guardian	113	39.93
	Friends, Against Medical Advice (Other Living)	10	3.53
	Respite, Nursing Home, State Hospital, Jail (Another Level of Care)	5	1.77
	Homeless, Shelter, Motel/Hotel (Homeless)	43	15.19
	Emergency Department (Early Discharge)	0	0
	Chart not found	8	2.83
Living arrangement after discharged	Home, Apartment, Government Housing (Living Alone)	93	32.75
	Group Home, Placement	16	5.63
	Relative/Guardian	109	38.38
	Friends, Against Medical Advice (Other Living)	13	4.58
	Respite, Nursing Home, State Hospital, Jail (Another Level of Care)	17	5.99
	Homeless, Shelter, Motel/Hotel (Homeless)	25	8.8
	Emergency Department (Early Discharge)	4	1.41
	Chart not found	7	2.46
Reason for Admission	“Psychosis- ie. Paranoia, Delusions, Auditory/Visual Hallucinations”	119	39
	“Suicidal, Depression”	62	20
	“Homicidal”	11	4
	“Med. Management (Non-Compliant)”	0	0
	“Suicidal, Homicidal”	11	4
	“Suicidal, Homicidal, Psychosis”	18	6
	“Suicidal, Psychosis”	42	14
	“Homicidal, Psychosis”	10	3
	“Psychosis, Med. Management”	22	7
	“Psychosis, Suicidal, Med. Management”	2	1
	“All of the Above”	0	0
	Chart not found	8	3

### **Major Variables for Each Patient**

A descriptive statistics analysis of major variables for each patient is included in table 3. These variables show the number of those homeless prior to admission, admission due to being suicidal, and admission due to being homicidal per person. Each variable was calculated by summing the number of cases where each patient was admitted due to the reason. The first part of the table shows the number experiencing homelessness prior to admission for each patient. This independent variable of this study was calculated by summing the number of cases where each patient was homeless before admission. According to this statistic, a majority of patients (n = 110, 80.3%) did not experience homelessness prior to treatment admission. A good number of patients (n = 17, 12.4%) experienced homelessness at least once prior to treatment admission. The total number of those whom experienced homelessness before admission per person include once (12.4%), twice (3.6%), and four times (0.7%). A good number of patients were admitted due to being suicidal: once (n = 52, 38.0%), twice (n = 24, 17.5%), three times (n = 8, 5.8%), four times (n = 1, 0.7%) and five times (n = 1, 0.7%). A good number of patients were admitted due to being homicidal: once (n = 17, 12.4%), and twice (n = 2, 1.5%).

Table 3

*Descriptive Statistics of Major Variables (for Each Patient)*

Variable	Category	N	%
Homeless prior to admission	never	110	80.3
	once	17	12.4
	twice	5	3.6
	three times	4	2.9
	four times	1	0.7
Admission due to being suicidal	never	51	37.2
	once	52	38
	twice	24	17.5
	three times	8	5.8
	four times	1	0.7
Admission due to being homicidal	never	118	86.1
	once	17	12.4
	twice	2	1.5

**Effect of Homelessness**

A multiple regression analysis was performed to examine the effect of homelessness on readmission after controlling for other factors. Table 4 shows bivariate correlations among factors included in the regression model.

Table 4

*Bivariate Correlations among Predictors Included in the MLR*

	ReadmitNo (1)	Gender (2)	Age (3)	HomelessTotal (4)
1	1			
2	-0.096	1		
3	-0.061	0.185*	1	
4	0.307***	0.062	0.088	1

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 5 shows the results of the regression analysis. Tolerance values (.096 -.099) indicate the absence of multicollinearity issue. The overall regression model was statistically significant ( $R^2 = .113$ ,  $F = 5.579$ ,  $p = .001$ ) explaining the variance in (the Readmission Number) by (11.3%). The total number of those experiencing homelessness prior to admissions was a statistically significant predictor, ( $\beta = .32$ ,  $t = 3.884$ ,  $p < .001$ ). Age and gender were not statistically significant.

Table 5

*Predictors of Readmission Number*

Category	Predictors	b	Beta	t
	Constant	1.255		4.613
Demographic	Male	-0.216	-0.102	-1.225
	Age	-06	-0.071	-0.844
Predictors	Prior homeless (#)	0.453	0.32	3.884***
	$R^2$	.113		
	F	5.579***		
	Tolerance	.096	-.099	

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Additional analyses were conducted to examine the effect of homelessness on other factors. Table six shows that the overall regression model was statistically significant ( $R^2 = .09$ ,  $F = 4.368$ ,  $p = .001$ ) explaining the variance in the number of admissions due to being suicidal) by (9%). The total number of experiencing homelessness prior to admissions was a statistically significant predictor, ( $\beta = .283$ ,  $t = 3.389$ ,  $p = .001$ ). Age and gender were not statistically significant.

Table 6

*Predictors of Number of Admission due to being Suicidal*

Category	Predictors	b	Beta	t
	Constant	1.236		4.826
Demographic	Male	-.03	-.02	-0.019
	Age	-0.01	-0.13	-1.53
Predictors	Prior homeless (#)	0.373	0.283	3.389***
R <sup>2</sup>		0.09		
F		4.368		
Tolerance		.096	-.099	

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Unlike its impact on admission due to being suicidal, homelessness did not influence admission due to being homicidal. Table seven shows that the overall regression model was statistically significant ( $R^2 = .021$ ,  $F = 0.928$ ,  $p = .429$ ) explaining the variance in the Number of admission due to being homicidal by 9%. The total number of experiencing homelessness prior to admissions was a not statistically significant predictor. Age and gender were not statistically significant.

Table 7

*Predictors of Number of Admission due to being Homicidal (N=136)*

Category	Predictors	b	Beta	t
	Constant	0.218		2.01
Demographic	Male	-0.089	-0.111	-1.268
	Age	0	-.5	-0.06
Predictors	Prior homeless (#)	-0.044	-0.083	-0.953
R <sup>2</sup>		0.021		
F		0.928		
Tolerance		.096	-.099	

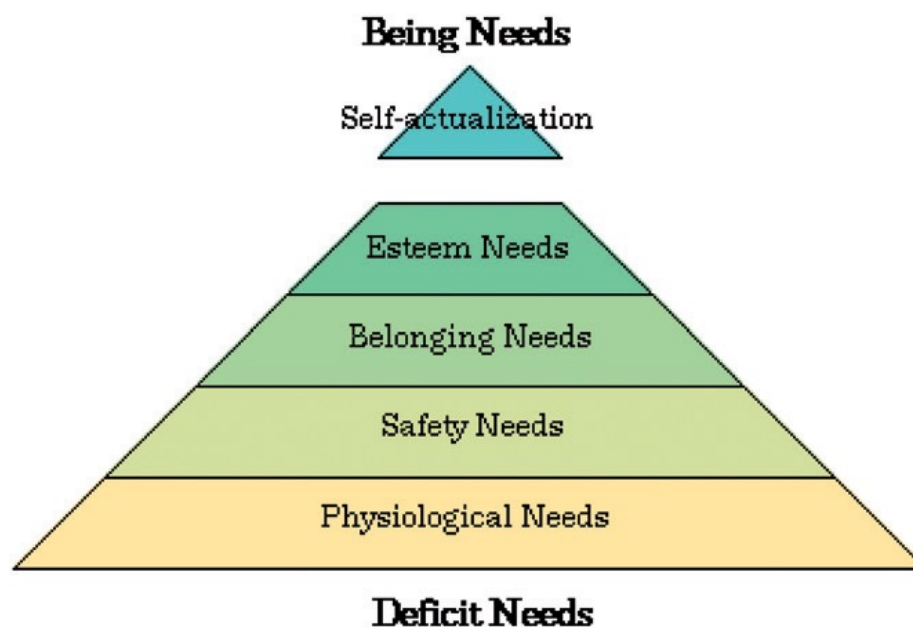
\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## CHAPTER V

### DISCUSSION

The purpose of this study was to research if homelessness was a contributing factor to the readmission rate of adult acute care patients diagnosed with schizophrenia. The sample included adult patients diagnosed with schizophrenia who were admitted between the dates of January 1, 2015, through December 31, 2016. Regression analyses found a significant effect of homelessness on readmission to the adult acute care hospital for any reason as well as on readmission specifically due to suicidal thought.

The first key finding is that homelessness was a significant predictor in treatment readmission. The literature review revealed that some of the identifying themes of homelessness as a correlation of schizophrenia, are due to not being able to accomplish daily tasks and maintaining budgeting skills with finances, as well as healthcare. The National Coalition for the Homeless (2006) stated that the homeless population including those with mental disorders typically remain homeless for elongated periods of time as well as having problems by staying in touch with family and friends by causing a strain on their relationships (National Coalition for the Homeless, 2006). As discussed in the literature review, people who are homeless with mental disorders need resources, access to treatment, and rehabilitation services to diminish the interruption produced by their condition (National Coalition for the Homeless, 2006). It is important to view the issue of homelessness from the Maslow's Hierarchy of Needs represented below (Best, Day, McCarthy, Darlington, & Pinchebeck, 2008).



*Figure 1.* Maslow's Hierarchy of Needs. Adopted from "The Hierarchy of Needs and Care Planning in Addiction Services: What Maslow can tell us about addressing competing priorities?" by D. Best, E. Day, T. McCarthy, I. Darligton, & K. Pinchebeck, K. p. 306 Copyright 2008.

One concern is the large populations of mental illnesses and homelessness. Best and colleagues (2008) found in Maslow's 1943 article that when the other needs are not fulfilled then the person is not meeting all physiological needs and the basic needs become non-existent and missing (Best et al., 2008). Physiological needs such as hunger, thirst, air and sleep are essential in living. Clothing and shelter are also necessary for survival to be protected from the outside elements. Once the physiological needs have been met individuals can move up to the next level, safety and security, which include individual, financial, and health/medical needs. Love and belonging are the third stage, which is interpersonal. These needs begin in childhood and when deficiencies occur, this

can adversely affect the person's ability to maintain relationships and support systems which are crucial in the lives of the homeless and mental health individuals. Maslow (2008) believes that everyone has a sense of belonging and all human beings want and need to be loved. Sometimes the need of love and belonging may prevail over the first two needs of physiological and security. Esteem needs come next in the pyramid which includes the need for individuals to have self-esteem as well as feel respected. The homeless population and mental health populations do not have a stable sense of self-esteem. A deprivation of both a lack of self-esteem and not feeling respected leads to an inferiority complex which leaves the person feeling weak and helpless. One result of this deprivation is suicidal ideations or attempts (Best et al, 2008). The last stage of Maslow's Hierarchy of Needs (2008) is self-actualization. This level includes the actualization of the person's full potential and realization accomplishment. For example, the homeless population and mentally ill may not be focusing on goals, future plans, and their fullest potential. Maslow (2008) believed that a person who had reached self-actualization lead to living a healthier life. Sumerlin (1997) states that "self-actualization requires boldness to engage in a project with a reduced fear of failure" (Sumerlin, 1997, p. 1109). These two populations need individuals to help them succeed in treatment and go forward living healthier lives. If the homeless population is provided resources and a support system, then there is hope for the homeless to reach success to the top of the pyramid and reach self-actualization.

The second key finding in the research included homelessness as a contributing factor of readmission and treatment readmission due to being suicidal. It is not uncommon for the homeless population to lose hope and begin having a sense of



hopelessness, which in return can lead to an elevated mortality level. Nilsson and colleagues (2014) state that homelessness is correlated with the deprivation of society, unhealthy living environments, substance abuse, violence, and medical needs that are not being met. Nilsson and colleagues also believe that patients who have multiple readmissions into acute care hospital settings, as well as short term living in homeless shelters, have an increased possibility of suicide (Nilsson et al., 2014). From 1999 through 2008, there were 32,158 people who had registered with the Homeless Registration. Nilsson and Colleagues (2014) found that overall 678 people had committed suicide and of these 43 (1.3%) were diagnosed with schizophrenia. A few key points that the research found were that Nilsson and colleague's study, like this study, confirmed that the homeless population have high levels of suicidal ideations, and a history of schizophrenia disorders is increasingly correlated with an increased possibility of suicide in homeless men and women (Nilsson et al., 2014).

### **Limitations and Strengths**

There are some limitations of this study. This study used a convenient sampling because data were collected from medical records during a certain period time at a single clinic located in Texas. Further, there were some missing data because some charts were not found. Therefore, there is limited generalizability of the findings to larger population who are patients of acute schizophrenia clinics. Second, our research model included a limited selection of predictors, and only one of them was found significant. The effect of homelessness could be different if other factors of readmission were included in the regression model. Further study is needed to understand the effect of homelessness when other important factors are included in the regression model. Another limitation is related

to measurement of variables in this study. Because several different physicians diagnosed the patients and documented the discharge notes, the data may be not reliable. Another measurement issue includes that the information about the prior living arrangement as well as discharge living arrangement may not be correct. The data was gathered from the discharge sheet which is not always appropriately documented. Some of the patients were not good historians, so information included in the document is subjective and could be inaccurate. The patients' living arrangements are self-reported so this creates a challenge for the reliability and validity of the report.

### **Implications for Practice**

The importance of professional development trainings on discharge procedures as well as the development of a more thorough discharge sheet is an implication for practice. These trainings and discharge sheets are two key components found in the collection of data for the statistical data analysis. There were various staff members who completed the discharge forms, and some lacked information. The researcher at some points had to dig to find the appropriate information to include in the data. These trainings would improve the collection of discharge information for future research, improve the discharge outcome, as well as strengthen the skills of the staff member.

### **Implications for Policy**

The United States has certain values of equality that contribute to equal opportunities, such as age, gender, disability, ethnic origin, color, race, religion, etc. (Horsell, 2006). When the homeless population is unable to access the resources that are necessary for this society they are then excluded as citizens and are deemed to lack the characteristics of being a US citizen (Horsell, 2006). Implications for policy are

necessary to put the policy to use for prevention of segregation or stigmatizing the populations of mental health and the homeless population.

Similar to Nilson and colleagues (2014), this study found that there were more men who were diagnosed with schizophrenia than the female population. However, there are more homeless shelters for females than there are males. This could be due to a perception of women being homeless with children, or women being more likely to be a victim of domestic abuse. However, the need for homeless shelters for men are crucial in the increasing amount of men that are homeless.

### **Implications for Future Research**

Findings from the research in this study suggest some implications to further studies. The literature review yielded that there was limited research readily available. Future research that could be conducted from this research study would benefit by using a larger sample size. A larger sample size with a larger population has been one effect from various previous research studies. One recommendation would be to provide a more comprehensive as well as more community based services for homeless patients diagnosed with schizophrenia to reduce readmission rates. Crisis intervention, treatment teams, outpatient programs, and adequate discharge planning need to be made available in all communities for the homeless population.

To reduce readmission rates, more long-term care facilities would be beneficial so that social workers could help the patients apply for social security, food stamps, and housing. When patients are admitted into an acute care hospital setting, the average length of stay is 5-7 days (Nemade et al., 2008). Sometimes this is not an adequate length of time to explore all necessary resources for the patient. Group homes in the community

could also be more effective. If the group homes included activities during the day, healthier meal options, taking patients to treatment/therapy, and appointments it may be possible that improvement in patient care may result in fewer readmissions. Last, the group homes should be regulated and monitored by the state which does not always happen. There are also “homes” for individuals who have been diagnosed with IDD (Intellectual and Developmental Disability). This includes a payee who manages to pay for rent and managing budgets. As previously mentioned, the homeless populations may lack the life skill of managing finances; therefore, it may be beneficial for the development of homes for the mental health population as well as homeless population. Lastly, there are resources for individuals who do not have time to make an appointment for injections such as flu shots at local pharmacies and urgent care facilities, so that a “pop up tent” would be beneficial to this population for them to receive their injections. A mental health clinic is one facility that provides mental health services to the mental health homeless population (National Coalition for the Homeless, 2009). Though if a patient has never received services there before, they must be seen as an intake initially. To complete an application with intake and to be entered into the system, receive services, and obtain a case manager, the patient can only go on Tuesdays, Wednesdays, and Thursdays between the hours of 7:30 and 8:30am (Ahmed, 2016). This creates a challenge for medication management and not to mention transportation issues. Another limitation of this service is that it is first to come first to serve, and the facility only sees the first five patients per day (Ahmed, 2016). This can create a problem since the mental health, and homeless population has a lack of transportation and support systems. If communities had more family health centers that took all insurances or a sliding pay scale

based on income that offered comprehensive services that included injections, medication, routine, physicals, dental services as well as others offered to the mental health and homeless populations there would be a reduction in treatment readmissions. Injection-based medication management is a more long-term approach to medications, so it would be beneficial to the patient who is having transportation challenges, as well as the lack of a stable support system.

Most research has limitations like this one. When researching readmission rates, social workers should use a larger population including a broader age range, gender, and participants to gather more data to study. Subsequent studies might ask the following questions: In what ways do mental health clinics use resources for outpatient programs? How do inpatient/outpatient programs decide on the specific treatment plan for use?; How can acute care hospitals provide a more comprehensive discharge form so that data can be gathered for future studies?

### **Conclusion**

This quantitative, retrospective study provides empirical evidence that homelessness contributes to the readmission of acute psychiatric treatment. Homelessness was a significant predictor of readmission due to being suicidal, but not necessarily due to being homicidal. Given a large number of homeless patients are at risk of readmission in acute care, it is recommended that acute care facilities need to organize their discharge forms effectively and provide more long term resources for people who do not have stable housing. Additional recommendations should be made for group homes so that they can provide better services for medication management. This collaboration would be beneficial not only for patients, but also for the community. This study contributes to

social work research where there was limited research on the association between schizophrenia, homelessness, and treatment readmission. Given some limitations of the study, further research is needed to verify these conclusions. In spite of those limitations, this study can make contribution to social work research by providing information on the topic on which there is limited research. While this is a very specific topic, all the articles found were all specific in their nature and their research. There were many articles found that were based individually on schizophrenia, treatment of schizophrenia, readmission, and homelessness separately, though very few were composed of all the above.

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APPENDIX B

IRB Approval Letter

**ABILENE CHRISTIAN UNIVERSITY**

*Educating Students for Christian Service and Leadership Throughout the World*

Office of Research and Sponsored Programs  
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103  
325-674-2885



2/10/2017

**Lindsey Marek**  
**Department of Social Work**  
**ACU Box 27866**  
**Abilene Christian University**

Dear **Ms. Marek**

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled

(IRB# 17-010 ) is exempt from review under Federal Policy for the Protection of Human Subjects (45 CFR 46.101(b)(4)).

If at any time the details of this project change, please resubmit to the IRB so the committee can determine whether or not the exempt status is still applicable.

I wish you well with your work.

Sincerely,

*Megan Roth*

Megan Roth, Ph.D.  
Director of Research and Sponsored Programs

## APPENDIX B

### Discharge Form

**Transition Record / Discharge Orders & Instructions**  
 To be completed by Clinical Case Manager for patient discharge.

Patient Name: \_\_\_\_\_ Discharge SRA score: \_\_\_\_\_

Patient Contact Information			
ADDRESS	_____		
PRIMARY PHONE #		SECONDARY PHONE #	
EMAIL ADDRESS	_____		
OTHER CONTACT	_____		
EMERGENCY CONTACT	NAME	RELATIONSHIP	
	PHONE #		

Reason for admission:  Danger to Self  Danger to Others  Psychosis  Other: \_\_\_\_\_

SERVICE:  Inpatient Psychiatric  Inpatient Detox  Inpatient Rehab  Psychiatric Residential  Other: \_\_\_\_\_

Treatment objectives & outcomes: \_\_\_\_\_

Scheduled Aftercare Appointments				
APPOINTMENT TYPE	FACILITY and CONTACT NAME	ADDRESS and PHONE NUMBER	DATE	TIME
Therapy				
Psychiatric Med Mgt.				
Primary Care Physician				
Other (Family, Mental, NP, PHN, MHMR, CO)				

Notes / Instructions: \_\_\_\_\_

**Discharge in care of (Setting):**

- 01 - Home / Self Care, Group Home, Foster Care / Home, Residential Care, Outpatient, Partial Hospitalization PHP
- 02 - Patient sent to ER and Admitted
- 07 - Patient Left Against Medical Advice
- 21 - Jail / Law enforcement

- 43 - Patient discharged to go to a Government operated health care facility - (VA or Dernal)
- 65 - Patient discharged from CDRTC to admit to CCAcute
- Patient discharged from CCHP to admit to CCAcute
- Other: \_\_\_\_\_

Therapist Signature \_\_\_\_\_

Date / Time \_\_\_\_\_

SL 6.16

**\*\* Patient / Guardian Must receive a copy of this completed form. \*\***

Page 2 of 3