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## Screening for Severe Mental Illness in a Correctional Setting using the Brief Jail Mental Health Screening Tool

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Screening for Severe Mental Illness in a Correctional Setting using the Brief Jail Mental Health  
Screening Tool

Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Nursing  
Practice at the University of Kentucky

By

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Lexington, Kentucky

2022

## **Abstract**

BACKGROUND: Prisoners who are detained in jails and detention centers have higher rates of Severe Mental Illness (SMI) compared to the general population. However, SMI is often unidentified in this population, largely due to lack of assessment using effective SMI screening tools and lack of knowledge among prison staff about the prevalence of SMI and the importance of identification in the correctional setting. Prisoners with SMI often act out violently against others and themselves. Current standard practice for SMI screening varies significantly across jails. Many jails use standard medical questionnaires which help obtain a brief medical history but often miss the history of SMI. The Brief Jail Mental Health Screening (BJMHS) tool is a valid and reliable tool that can identify prisoners with SMI in correctional settings. Advantages of this tool include: it can be used with both men and women; and it does not require a trained health professional to administer the assessment.

PURPOSE: The purpose of this study was to evaluate the use of the BJMHS tool to identify SMI in a jail setting and facilitate early mental health intervention for prisoners who screened positive for SMI based on the BJMHS tool.

METHODS: This study design was cross-sectional. Data was collected through chart audits to extract baseline, and post-intervention assessment, through screening and referral of eligible participants using the BJMHS tool. This occurred over a two-month period from November 2021 through January 2022. During the first 30-day period prisoners who met inclusion criteria in the study were screened by the PI using the BJMHS tool within the first 48 hours of their arrest. Records were audited at the close of the study to assess whether prisoners who screened positive for SMI were referred. At the close of the study period a separate 30-day period evaluating the

current practice of behavioral screening using two questions on the standard medical questionnaire (SMQ) were reviewed.

**RESULTS:** There were 181 prisoners booked into the jail during the 30-day screening period. 100 of the 181 prisoners were eligible to participate in the study, 89 of which agreed to participate. More than one-quarter (28%; n= 25) screened positive for SMI using the BJMHS screening tool. Of the 25 prisoners who screened positive for SMI, 10 were lost-to-follow-up before an intervention could occur due to release from custody. The remaining 15 (n=15) were offered a mental health intervention, and eight (53%) were restarted on medication. Among the remaining seven prisoners, three (20%) were initiated medication and the other four prisoners (27%) received suggestions for alternative therapy. Among the prisoners who were screened with the BJMHS tool, 28% screened for having SMI, compared to only 3% utilizing the SMQ (p<001).

**CONCLUSION:** Over one quarter of the participants in the study screened positive for SMI utilizing the BJMHS tool. The standard practice was able to identify only 3% of the prisoners as having SMI, compared to 28% of the prisoners who were screened with the BJMHS tool. This suggests that the BJMHS tool is effective at identifying prisoners for SMI and is likely more effective than the facility's current practice.

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## **Dedication**

This project is first and foremost dedicated to my family: My husband Marcus, who would not allow me to stop; and to my beautiful daughter Olivia, I hope, having watched both your parents obtain doctorate degrees, that we have shown you hard work and persistence is always worth it. To my furry ladies, Mabel and Marla, who sat ever vigilant, quietly beneath my feet during the long hours, without a single complaint, even though many walks were missed.

My brother, my best friend, my biggest and fiercest advisor in life, Clinton Forbes: You always coached me through landing this plane, even when I had tears running down my cheeks. Destinee Rein, my ride or die during this program. You were my person, the answer to my questions and the support I needed when I felt I was alone. I don't think I could have done this without you.

Lastly, and most significantly, this is dedicated to the memory of my father. I have yet to master the art of living without you, and many times, in my quietest of moments, I often say to myself, "If you could only see me now."

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## **Background and Significance**

### **Problem Statement**

Psychiatric disorders within the U.S. prison population represent a growing public health crisis with significant social, clinical, and economic implications. The National Commission on Correctional Health Care estimates that 15% to 24% of U.S. prisoners suffer from severe mental illness (SMI). Undiagnosed mental illness places prisoners at increased risk for recidivism, rule violations, violence against medical and security staff, prisoner-on-prisoner assaults including rape, and exploitation (Baillargeon et al., 2009). Carson (2021) reported that between 2001-2019 suicide in jails increased nationally by 19%. Prisoners who suffer from SMI commit suicide at higher rates and suicide remains the leading cause of death within jails, and the fifth leading cause of death in prisons (Noonan & Ginder, 2013). Unless prisoners can be effectively identified as needing mental health intervention, those who suffer from SMI can go undetected in correctional settings. There is a need to be able to identify reliable tools to screen prisoners who suffer from SMI. Ford (2010) reports that screening is a valuable means to identify those with SMI, however identifying effective ways to screen prisoners remains the weakest link and varies considerably across correctional settings.

### **Context, Scope and Consequences of Problem**

In the 2002 Report to congress, the Commission on Correctional Health Care stated that most forensic settings continuously fail to provide quality mental health care and do not adhere to nationally accepted guidelines for mental health screening and/or treatment (Rich, Allen, & Williams, 2014). A study of prisoners by Fazel and Seewald (2012) reported that higher rates of mental disorders in prisoners continues to exceed that of the general population and many mentally ill prisoners are receiving inadequate treatment, or no treatment at all. The prevalence of SMI in correctional settings is roughly 50% of the population, compared to 10% of the public

population, and 28% to 52% of Americans who suffer from SMI have been arrested at least once (Fontanarosa et al., 2013).

There is no standard protocol for how jails screen newly arrested prisoners for SMI. Lack of universal screening tools and little guidance for how jails should screen for SMI has led to jails using standard general medical questionnaires. The facility that hosted this quality improvement project has an annual intake volume of 1,800 to 2,000 prisoners and does not use a screening tool that has been vetted by evidence-based practice to identify SMI.

The facility's current practice is that at time of custody, every prisoner must complete the booking process. The booking floor officer completes the booking process which can take between 15 to 60 minutes. The booking officer collects identifying demographic information such as age and gender. The final step in the booking process is the SMQ. The SMQ is a set of twenty-two medical questions read to the prisoner by the booking officer. These questions consist of current physical and mental health needs, e.g. 'Do you have any medical problems?' The SMQ asks two mental health questions, e.g. 'Are you suicidal or homicidal? Do you have any current mental health problems?' Though the facility medical questions are detailed there are only two questions related to mental health. The BJMHS tool has eight questions that have been studied to identify SMI in a jail setting.

Once the booking process is complete, the SMQ is emailed to the nurse for review. If the prisoner answers, "No," to every question on the SMQ, the prisoner is then cleared by medical to move to general population housing. If the prisoner answers, "Yes," to being suicidal or homicidal, they are interviewed immediately by the nurse for further assessment. If the prisoner answers in the affirmative to any other question on the SMQ, the nurse is required to see the

prisoner within 24 hours of booking. These prisoners are held in holding cells until the nurse can interview them and obtain a more detailed medical history.

Adults who suffer from SMI go to great lengths to hide their illness from staff or other offenders. Some may not be aware of their needs because of substance use, or inability to convey symptoms well (Reingle-Gonzalez & Connell, 2014). This can lead to officers, during the booking process, or nurses during the medical receiving screen, to miss a prisoner who could be identified with SMI. Because of this, a prisoner with SMI can slip through the process unrecognized and untreated.

Placing prisoners with unidentified SMI in general population cells increases risk for exploitation, violence, self-harming behaviors, and physical assault. Therefore, identifying SMI during the booking process is the best time to use a tool with good reliability and validity to detect SMI, such as the BJMHS tool. If jails initiated this tool during the booking process it could provide the earliest opportunity for staff to identify SMI in a jail setting and facilitate timely access to appropriate treatment.

### **Current Evidence Based Interventions and Strategies to Target Problem**

Evidence based treatment guidelines supported by the American Psychiatric Association recommend that all jails provide at minimum mental health screening, referral, evaluation, and crisis intervention (Steadman et al., 2005). The BJMHS tool is an evidence-based screening tool that can be used to identify SMI in a jail setting with a sensitivity rate of 65% to 75% and can be administered by security or administrative staff.

## **Purpose and Objectives**

### **Project Purpose**

The purpose of this study was to evaluate the use of the BJMHS tool within a jail setting to identify SMI in newly incarcerated prisoners.

### **Aims**

The specific aims were to:

1. Describe implementation of the evidence based BJMHS tool in a jail setting.
2. Evaluate SMI screening rates, SMI identification, and referral to mental health services with the use of the BJMHS tool.
3. Describe perceived facilitators and barriers encountered during project implementation and evaluation.

## **Theoretical Framework**

The framework used to guide this project was Kurt Lewin Change Theory (1947). This framework provided an in-depth approach to creating organizational change to complete this study. This theory provides a guide for making needed changes, such as the implementation of the BJMHS tool and navigating the process of the changes during the intake period.

Additionally, this theory assisted in facilitating changes that were then implemented and put into practice. There are three stages in this framework: unfreezing, change, and refreezing.

The first stage of this framework is labeled the *unfreeze* stage. This phase identifies the need for change, the adoption of new protocols, and allows new practices in the clinical setting (Manchester et al., 2014). Education is key during this stage in order to strengthen the motives to initiate the change which will occur. The second step is labeled the *change* stage. The change

stage allows the organization's trial and error to occur around new practices, and guide members toward these practices as more witness others performing them (Manchester et al., 2014). The final stage is the *refreezing* stage. During this stage the change has occurred, and the goal is to maintain the change. This step is a continuation of education, support, and initiatives to maintain organizational change.

This study utilized the framework during the unfreezing stage by identifying the areas where change was needed at intake screening. Instead of moving prisoners to general population housing following the security screening, new prisoners who met inclusion criteria were screened for SMI utilizing the BJMHS. This tool allowed early assessment to determine whether prisoners with SMI could be identified. During the change phase when prisoners were identified with SMI utilizing the BJMHS, these prisoners were offered early intervention, thus decreasing hostile working situations, or abuse of vulnerable prisoners. In the refreezing stage the use of the BJMHS tool could be anchored into the intake process to sustain change in early intervention through mental health screening.

### **Review of Literature**

A comprehensive review of the literature was completed using PubMed, CINAHL and Cochrane databases. The goal of this literature review was to focus on barriers to identifying SMI in correctional settings, and screening tools used in this population. Key words used in the search included: *prisoner, correctional healthcare, jail, prison, detention center, mental health, severe mental health, screening, and barriers*. The search was limited to articles written about incarcerated adults at least 18-years-old, written in English and published between 2005 and 2021. Exclusion criteria were studies in a language other than English, studies in adolescent populations and forensic settings to determine fitness to stand trial were excluded. Each study

reviewed was chosen for quality of evidence, sample size, and inclusion criteria. Nine studies were selected based on the relevant research associated with mental illness and screening in correctional settings. Types of studies reviewed include cross-sectional, qualitative, prospective, literature reviews, systematic reviews, and meta-analysis.

### **Synthesis of Evidence**

Of the nine studies synthesized for this quality improvement project, all had a common goal to identify which screening tools were more effective in early detection. A study by Martin et al., (2013) identified 22 different screening tools, the BJMHS tool was in the top five screening tools which appeared to be the most promising. Of the 22 screening tools, sensitivity rates were evaluated between several different screening tools throughout the studies. The Correctional Mental Health Screen for Men (CMHSM) showed a sensitivity rate of 74% to 95% in identifying mental illness in men compared to the BJMHS tool that identified 73.5% of men with SMI . The Jail Screening Assessment Tool (JSAT) had a higher sensitivity to identify SMI in prisons and jails compared to both the BJMHS tool and the CMHSM, with a sensitivity rate of 84% to 95%. However, the JSAT requires administration by a nurse or qualified mental health professional. The BJMHS tool has stronger evidence in identifying SMI in jail settings, in both genders with a sensitivity rate of 65% to 75% and can be administered by security or administrative staff. It was for these reasons that it was selected for this study.

More than half of the studies support that screening in jail settings must be brief. A study by Steadman et al., (2005) identified that screening needs to be brief with explicit decision making related to scoring the screening tool, as correctional and classification staff have limited time to spend with each prisoner. A study by Loudon, Skeem and Blevins (2013) supports that

the most ideal screening tools for detention settings must be brief, easily administered, sensitive to mental health disorders, and have predictive utility for men and women.

These studies ranged from prospective and retrospective studies, cohort studies, a systematic review, and cross-sectional studies. The BJMHS was able to correctly classify 74% of men and 62% of women who met the criteria for psychotic disorders (Ford, Trestman, Wiesbrock, & Zhang, 2007). The findings between studies identified barriers such as little guidance of which screening tools to utilize. The strength of these studies supports that creating collaboration between security and medical staff can, and does, provide offenders with early intervention.

### **Summary of Evidence**

These studies collectively support that screening tools must be brief, as correctional staff only have a limited amount of time to spend with each prisoner (Bakesheey et al., 2012; Loudon et al., 2013; Steadman et al., 2015; Reingle-Gonzalez, & Connell, 2014). This review identified three top tools that could be appropriate for the study site; the BJMHS tool was selected. This tool can take one to two minutes to complete, has been used in a jail setting, can identify SMI, be administered to both male and female prisoners, and does not have to be administered by a mental health professional.

### **Gaps in Knowledge**

The American Psychiatric Association has recommended that jails provide mental health screenings with referral for treatment, intervention, and crisis management. Gaps in knowledge that exist include, which screening instrument developed is the most effective and should be used. To date, screening for mental health in correctional settings varies significantly. This is more significant in jails where prisoners have shorter confinement times. Numerous factors such

as sex, race/ethnicity/culture, jail versus prison populations, as well as staff qualification and training can impact the utilization of screening tools. Standardized assessment tools exist; however, they are underutilized in correctional settings. Identification of SMI can lead to early intervention and better prisoner outcomes.

This study addresses the literature gap by analyzing the use of the BJMHS tool in a jail setting. The study focuses on whether a screening tool can be integrated into daily practice, and by using an evidenced-based screening tool, can this tool identify prisoners suffering from SMI at a higher rate than the facility's current practice. There are several evidence-based screening tools which are available and can be implemented within correctional settings. The decision on which tool can be integrated into current practice lies with the facility.

## **Methods**

### **Design of Study**

This project used a cross sectional study design to evaluate the use of the BJMHS tool. At the conclusion of the 30-day study, a chart audit was completed. The PI collected data from the mental health survey in prisoners who identified as having SMI through screening with the BJMHS tool. The chart audit was used to review the mental health survey which is completed by the psychiatric RN following the BSMHS tool. Focus was placed on the recommendations section of the note and provider consultation note of the psychiatric RN. Audit of the jail tracking software was used to gather demographics, such as, sex, age, and race of prisoners within the study.

A post group comparison was completed following the conclusion of the study. The same cross-sectional design was followed for the comparison group. A 30-day period was examined to determine if there was a significant difference in the facility's current screening practices against

the BJMHS tool at identifying SMI. This review of the post comparison group was completed using the jail tracking software to gather total number of arrests during a 30-day period.

Demographics were gathered from this software and a review of the facility's current standard screening tool was evaluated. A 30-day post comparison review was completed to determine which practice was significantly different.

### **Setting**

This quality improvement project took place at a county jail located in the outer bluegrass region of Kentucky. The facility has a capacity of 333 beds and detains prisoners from three surrounding counties. The facility also houses state inmates classified as level I, II and III, parole violators, controlled intake, and community level I inmates. This facility also holds a federal housing contract with the United States Marshall Service, which houses federal inmates from the western district of Kentucky and the southern district of Indiana. This is a secured facility and is not open to the public.

This detention facility utilizes a contracted medical agency, which is a civilian company, that operates within the facility to meet prisoners' healthcare needs while they are in custody. The medical agency personnel consist of one advance registered nurse practitioner (APRN), two registered nurses (RN), and six license practical nurses (LPN). The medical agency offers primary care, preventative care, and continuity of care services for adult prisoners. Services include: diagnosis and treatment of acute and chronic illnesses and injuries; adult and senior health maintenance; immunizations; minor procedures; counseling and behavioral/mental health services.

Prisoners are brought through a secured holding area and taken to the medical department to meet with the PI. The medical department is a clinic setting, with three exam rooms. For this

study, prior to being screened, prisoners were held in medical holding, which is a locked waiting room, until the PI led the prisoner to an exam room to obtain consent for the BJMHS tool. This was done outside of the booking process, as the PI was required to obtain consent for the prisoner to participate in the study.

### Congruence

The detention center is committed to maintaining care, custody, and control of all individuals housed within their facility, with an emphasis on holding prisoners, staff, and public safety as the utmost important value. The jail does this by following the Kentucky Department of Corrections and Kentucky jail standards. Both the medical provider and the jail work together and share a commitment to providing security and competent care to all prisoners detained at the facility. This project did fulfill both the medical provider and jail's shared values by providing prompt identification of SMI and referral to treatment.

### Stakeholders

Stakeholders for this project included prisoners, officers, medical staff, and jail leadership. Improving mental health screening can directly improve the overall daily operation of the facility. Making screening an essential part of intake could dramatically improve the safety of prisoners, officers, and medical personnel. Medical personnel are stakeholders as they will be responsible for directing resources for prisoners identified with SMI. Prisoners are stakeholders because early identification can lead to faster treatment and the delivery of mental health services such as medication and/or counseling.

### Site Specific Facilitators and Barriers

Facilitators within the detention center consisted of the jailer, chief deputy and major whose primary focus is to hold staff, prisoner, and public safety in the highest regard. Early

identification of SMI allows for early intervention. Intervention can decrease the risk of disruption of daily operations and safety of the facility. So, these people were motivated to identify SMI as a measure of improving daily safety in the facility for staff and prisoners. Facility barriers included the time allotted for the PI to interview prisoners. The time frame allowed to interview prisoners could not impact regular daily operations. Therefore, screening had to be completed between seven and eight o'clock in the morning, so it did not interfere with court proceedings. It is possible this early time period decreased the motivation for some prisoners to participate in this study.

## **Sample**

A total of 181 prisoners were arrested between November 6<sup>th</sup>, 2021, and December 6<sup>th</sup>, 2021, and thus available for eligibility screening. Inclusion criteria included newly incarcerated adult male and/or female prisoners, above the age of 18-years-old, arrested and booked into the detention center during the 30-day period. Participants could be of any ethnic background with a classification status of county, state, or federal incarceration. The exclusion criteria included: any male/female prisoners detained under immigration, customs and enforcement, weekend commitment orders, prisoners registered under home incarceration and prisoners who speak English as a second language. Prisoners who reported severe mental illness, previous mental health diagnosis prior to arrest, prisoners who had suffered from a traumatic brain injury, developmental disability, substance use and/or any prisoner who may have exhibited signs of impaired capacity, which was assessed at the initial screening during booking, were excluded from the study. The PI reviewed each prisoner's SMQ and arresting citation to see if the prisoner met inclusion criteria. A list of prisoners' who met inclusion criteria was given to the officer and each prisoner was then asked to come to the medical department, if the prisoner chose to come

the PI met with them and read the survey cover letter (Appendix B), which included an explanation that participation was voluntary, and they had the right to decline to participate without any consequences. Of the 181 prisoners, 100 met inclusion criteria and 89 agreed to participate fully in the study.

## **Procedure**

### Institutional Review Board Approval

Institutional Review Board (IRB) approval was obtained for this expedited study. Prisoners are considered a vulnerable population, therefore strict inclusion and exclusion criteria was required to protect the prisoners' right to privacy. Extra caution was followed to obtain consent using a survey cover letter which clearly communicated to the prisoners' right to refuse to participate without consequences.

### Description of Evidence-Based Intervention

The BJMHS tool was administered to 89 prisoners who met inclusion criteria and volunteered to participate in the study. Each of these prisoners were asked the modified BJMHS questions. Each prisoners' individual answers were recorded on the tool and every prisoner was given an interview number which was only known by the PI to provide privacy. The BJMHS tool was administered in the first 24-48 hours of the prisoner's arrest. The tool was administered by the PI in a medical exam room to provide privacy for screening. If the prisoner screened positive for SMI, the PI would place the prisoner's name on a psychiatric RN referral list for further assessment.

### Measures and Instruments

The BJMHS tool was designed to identify prisoners with mood and/or psychotic disorders. The BJMSH tool was developed by Policy Research Associates, with funding from the National

Institute of Justice. The reliability and validity of this screening tool has been established with Cronbach alpha score of 0.964 (Martin et al., 2013; Baksheev et al., 2012; Steadman et al., 2007; Steadman et al., 2005).

The BJMHS tool has eight questions and takes less than three minutes to complete. (See Appendix A) The BJMHS tool consist of eight yes or no questions. Questions one through six are the first set of questions and are designed to identify active mental health symptoms, e.g. ‘Do you currently believe that someone can control your mind by putting thoughts into your head or taking thoughts out of your head?’ Questions seven and eight are considered the second set of questions and assess previous mental health hospitalizations, and/or use of psychotropic medications. A prisoner is expected to be referred for further mental health evaluation if they answer yes to two questions in section one, or yes to one question in section two. The tool was designed to be administered by correctional, classification or medical staff and does not have to be administered by a trained mental health professional.

The initial data was recorded directly to the BJMHS paper tool, then the PI extracted data from the jail management software and medical record. All data were de-identified, and records were assigned a unique identification number known only to the PI through a crosswalk file system. Subsequently, the PI reviewed the pre and post data and then recorded information related to the DNP project variables on a data collection sheet. Next, de-identified data was entered by the PI onto an Excel spreadsheet for the purpose of data analysis.

### Data Collection

The PI completed a search utilizing the jail management software. The software was used to identify inmates who had been taken into custody in the past 24-48 hours of arrest. Each potential prisoner was screened to meet the inclusion criteria for the study. This was completed

by the PI through review of the arrest citation, which alerted the PI of the arresting agency the prisoner belonged to, the SMQ, the prisoner's classification status, and whether they met inclusion criteria for the study. The PI completed a handwritten list of the prisoners' names and current housing locations after they were deemed eligible to participate, based on the inclusion criteria. This list was then given to the security officer. The security officer went to each housing location and advised the prisoner that medical would like to speak with them. At that time, the prisoner could refuse to see medical. If the prisoner refused to be taken to medical by security the officer was instructed by the PI to proceed to the next prisoner on the list until the security officer had collected all the prisoners who agreed to be brought to the medical department. Once prisoners were taken to the medical department, they were placed in medical holding by the security officer. The security officer returned the handwritten list to the PI which was then destroyed by the PI.

The PI would walk to medical holding and call the prisoner's name. The prisoner was then led to the exam room to allow the PI to begin the interview. Prisoners were taken one at a time to provide individual privacy to each prisoner. When the prisoner sat down, they were given a duplicate copy of the survey cover letter (Appendix B). The prisoner was allowed to keep the copy of the survey cover letter. Once the prisoner had the copy of the survey cover letter the PI would read aloud to the prisoner the survey cover letter word for word. If the prisoner declined to answer the survey questions, the PI would walk the prisoner back to medical holding and alert the security officer that the prisoner was ready to return to their housing location. If the prisoner agreed to the survey, consent was obtained, and the prisoner was handed a duplicate laminated copy of the BJMHS tool. At this time, the PI would inform the prisoner that the BJMHS tool

would be read aloud to them. The PI instructed the prisoner that he or she was responsible to verbally answer yes or no to the eight-question survey, which lasted one to two minutes.

The PI told the prisoner that a check mark would be placed under yes or no, in ink on the paper copy of the BJMHS tool, in correspondence to the answer the prisoner gave. The PI advised the prisoner that the paper copy would always remain flat on the table to allow the prisoner to be able to physically observe the PI record their given answer by verifying that a check mark had been placed in the box of the prisoner's given response. If the prisoner screened positive for SMI, the prisoner's name was added to the psychiatric RNs referral list for further review following the end of the interview period each day.

During the second stage of data collection the PI accessed the prisoners' medical records to review whether the prisoners who screened positive for SMI were offered a mental health intervention. An intervention was defined as the psychiatric nurse interviewing the prisoner, a referral being made to an outside mental health clinic evaluating SMI, and/or the prisoner's medical record being forwarded to the APRN. This information was extracted from the prisoner's medical record under the mental health survey, completed by the psychiatric RN.

The third stage of data collection was completed by utilizing the jail management software to compare the following month's SMQ to the BJMHS tool. This was completed by the PI who retrieved data pertaining to total arrest, demographics, and review of the SMQ. The PI reviewed any prisoner's SMQ who answered yes to either of the two mental health questions, e.g. 'Are you suicidal? Do you have any mental health problems?'" Based on the SMQ, the PI screened to see if the prisoner would have been included in the study based on inclusion criteria. Then, based on the sample of those who would have met inclusion criteria, the PI checked to see if these prisoners were offered mental health interventions.

## Data Analysis

Descriptive analysis, including means and standard deviations or frequency distributions, was used to describe study variables. The chi-square test of association was used to evaluate differences in outcomes between screening methods. Data analysis was conducted using SPSS version 25, with an alpha of .05.

## **Results**

### **Demographics and Findings**

The study sample included a total of 100 prisoners who met inclusion criteria, of that sample 89 prisoners agreed to participate in the study. The majority of the sample was male (77.9%). The largest ethnic group representation was Caucasian (62%). The mean age comparison was 35.6 (Table 1). At the conclusion of the study, 25 of the 89 prisoners identified as having SMI with the BJMHS. All 25 of these prisoners were referred to mental health services (Table 3). Ten of the 25 prisoners were lost to follow-up before a mental health intervention could occur. Seven prisoners were released before the RN could meet with them, and three refused to be interviewed by the RN following the BJMHS. Of the remaining prisoners who screened positive for SMI (n=15), eight (53%) had a previous mental health diagnosis and were started on previous medication. Three prisoners (20%) did not have a reported history of SMI but after assessment they were started on psychotropic medication. Four prisoners (27%) were interviewed by the APRN and did not require psychotropic medication, but were offered alternative therapy measures, such as journaling, counseling, deep-breathing and coping strategies.

A post comparison of a separate 30-day period reviewed the facility's SMQ compared against the BJMHS tool. There were 143 prisoners arrested during the post comparison month.

Of the 143 prisoners it was determined that 97 would have qualified to be screened utilizing the BJMHS tool (Table 2). Of the 97 prisoners who were eligible to be screened based on study inclusion criteria, only three prisoners (3%) identified as needing mental health intervention based on the current SMQ. All three prisoners identified were offered a mental health intervention.

There was a statistically significantly higher portion of positive mental health screenings based on the BJMHS tool compared to the SMQ. Among the prisoners who were screened with the BJMHS tool, 72% screened for having SMI, compared to only 3% utilizing the SMQ ( $p < 0.001$ ), (Table 2).

### **Discussion**

The results of this study showed a significant increase in the number of prisoners identified with SMI using the BJMHS tool compared to the SMQ screening in the jail evaluated in this study. All the prisoners identified received behavioral health evaluation and treatment, excluding the 10 prisoners who were lost to follow-up. There was no statistically significant difference in age, gender, and race between the two groups. The BJMHS tool was able to identify 28% of the prisoners screened with the tool for SMI. This is clinically and statistically significant to support that this tool did identify more prisoners for SMI than the standard practice, which identified 3% of the prisoners as having SMI. A study by Steadman et al., (2005) reported that the BJMHS tool identified 65.5% of men who were screened to have SMI and 61.6% of women identified as having SMI through screening. A study completed by Baksheev and Ogloff (2012) used the BJMHS tool for screening and identified 69.7% of the prisoners correctly classified as having SMI. The BJMHS tool was below the average in this study, however this could be linked to sample and/or limitations in this study.

Prisoners are a unique and vulnerable population who face increased challenges, especially with mental health assessment, diagnosis, and access to treatment. Reingle-Gonzales and Connell (2014) reported that prisoners suffering from SMI will go to great lengths to hide their illness or symptoms from staff or other offenders. This could be why many prisoners who have SMI are missed using the two-question screen in the SMQ. This could be a reflection in the post comparison month where screening using the SMQ identified only 3% of the population as having SMI, compared to 28% of the population identified as having SMI using the BJMHS tool. The use of the BJMHS should more accurately identify SMI. This leads to security and medical staff missing prisoners who could be identified with SMI using the BJMHS tool. This is consistent with other studies that have found that using a standardized screening tool improved identification of SMI among the jail population. A recent study by O'Connor and Morris (2019) provides evidence to support the use of screening tools to improve referrals for prisoners who need mental health services. Screening prisoners for SMI prior to classification status did contribute to the initiation of mental health services (Geyti et al., 2018). Another study by Loudon, Skeem and Blevins (2013) provides evidence that screening for SMI in incarcerated individuals is the first step toward addressing prisoners' complex needs.

The demographics and setting remained the same between the study group and comparison group, yet the BJMHS tool was able to identify a higher population of prisoners who needed mental health services compared to the facility's current practice. Of the 25 prisoners who did identify as having SMI, not one was detected with the SMQ; therefore, no intervention was offered, based on the facility's current practice. There are other tools which have higher sensitivity rates than the BJMHS tool. These tools could also be evaluated in this setting and may identify even more SMI considering their higher sensitivity and specificity rates. Studies could

be conducted to identify whether these tools are more effective in jail settings. A comparison trial of the CMHSM and the BJMHS tool in this setting could be reviewed to determine if the CMHSM could identify men with SMI at a higher rate than the BJMHS tool. However, this leaves the issue on how to screen women in this setting. A difference between the BJMHS tool and the CMHSM is that the CMHSM is only administered to men and the questions are specific to men. Jails are co-ed, which leaves women without a screening tool. Like the BJMHS, the CMHSM tool can be conducted by anyone rather than requiring an RN or behavioral health specialist, which is an advantage in terms of having available resources. One tool administered to everyone would make the booking process more seamless, decreasing the officers time with each prisoner. Because of this, the BJMHS tool was used in this study, but future studies could evaluate the use of the CMHSM. Future studies need to be completed to compare both screening methods/tools on the same patients and see which one is better at identifying SMI.

### **Practice Recommendations**

The question is not whether screening tools work, its which ones work for which facilities, and which tools can be integrated into daily practice the fastest, with minimal cost, time, and training. For the jail setting used in this study it is recommended that the BJMHS be implemented as standard practice because of its effectiveness and ease of use, and its ability to identify SMI in both males and females. Implementation of the BJMHS tool should begin at this facility through an in-service training session. The officers booking inmates are responsible for screening prisoners and need to be taught how to administer the screening tool. This can be complete through a 30–45-minute in-service training session required for the booking officers. The first 30 minutes of the training can be used to increase education related to early identification for SMI. In a recent study Kois et al., (2020) supported that mental health training

related to identification and early intervention for correctional officers, directly impacts the safety of prisoners and officers. The second 15 minutes of the class can be used to educate officers on the BJMHS tool and how to administer the questions. Jail management software could place the eight BJMHS tool questions directly into the SMQ and all prisoners could be screened at intake during the booking process. This could be implemented by utilizing the jail management software to design a drop-down feature, thus allowing officers to ask the eight questions associated with the BJMHS tool. Following the booking process as it occurs now, the SMQ with the BJMHS questions would be emailed to the nurse to review. This would allow the nurse to review the SMQ with the BJMHS tool questions. The booking officer would move the prisoner into holding to allow the nurse to complete the mental health survey in order to guide early mental health interventions.

### **Limitations**

There were three significant limitations with this study. The early time for data collection, the strict inclusion criteria, and the length of the consent process. The jailer of the correctional setting allowed permission for the PI to conduct the study if daily function was not impacted by the PI completing the screening. Therefore, prisoners were usually screened between 7 am and 9 am. This could have been a factor for the 11 prisoners out of the eligible 100 prisoners who declined due to sleep disruption. 181 prisoners were arrested during the screening period, but due to strict inclusion criteria, only a sample of 100 were able to participate. During the comparison month, 141 prisoners were arrested, and each one was administered the SMQ. The BJMHS tool requires between one and two minutes to complete. Obtaining consent for the study could require between five and ten minutes prior to the tool being initiated, which may have decreased desire to participate.

## **Conclusion**

Severe Mental Illness of prisoners represents a growing public health crisis that has significant social, clinical, and economic implications. Attempting to balance human rights with public safety, poses unique challenges in correctional settings to identify SMI in this prisoner population. Prisoners who suffer from SMI commit suicide at higher rates, with suicide remaining the leading cause of deaths within jails, higher than the national average (Carson, 2021). Lack of clear guidance related to the use of valid and reliable screening tools to identify prisoners with SMI continues to be a barrier to care. Identifying which tools to select in prisoner populations based on setting, demographics and need will require continued research and training to address this growing concern. Each facility can choose from standardized tools depending on which screening tool best fits their facility screening practice.

The BJMHS is brief and effective, appropriate for males and females, and requires minimal use of resources to implement. The use of a valid and reliable screening tool to identify SMI should be standard practice in every correctional setting to decrease the number of times these prisoners slip through the process unnoticed, and untreated. Early identification of SMI leads to early intervention, which leads to improved prisoner and facility outcomes.

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## List of Tables

**Table 1. Demographic summary of study participants**

Table 1. Demographic summary of study participants

Demographics	Study Group (n = 181)	Standard Group (n = 143)
Sex, n (%)		
Male	141 (77.9%)	106 (74.1%)
Female	40 (22.1%)	37 (25.8%)
Race, n (%)		
Black	37 (20.4%)	19 (13.3%)
Hispanic	17 (9.4%)	14 (9.8%)
White	120(66.3%)	103 (72.0%)
Unknown	7 (3.9%)	7 (4.9%)
Age, mean (range)	35.6 (19-66)	37.3 (18-65)

**Table 2. Mental health screening outcomes by group**

Table 2. Mental health screening outcomes by group

No. inmates approached	Study Group		Standard Care group	
		100		97
Refused	11		0	
Mental health screening administered	89 <sup>a</sup>		97 <sup>b</sup>	
	n (%) positive	n (%) negative	n (%) positive	n (%) negative
	25 (28.1%)	64 (71.9%)	3 (3.0%)	94 (97.0%)
Chi-square test of association	$\chi^2 = 96.39, p < .001$			

<sup>a</sup> screened using the BJMHS

<sup>b</sup> screened using standard medical questionnaire

**Table 3. Summary of interventions for those who screened positive for severe mental illness in the study group (n=15)**

Table 3. Summary of interventions for those who screened positive for severe mental illness in the study group (n = 15)

Intervention	n (%)
Previous Dx. – Started meds	8 (53.3%)
New Medication	3 (20.0%)
Alternative Therapy	4 (27.0%)

\*Note: 10 of the 25 inmates were lost-to-follow-up before intervention could occur due to release prior to MH intervention (n=7) or refusal to meet with RN (n=3)

## List of Appendices

### Appendix A

## Brief Jail Mental Health Screening

Interview #
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### Section 1

Questions	No	Yes	General Comments
1. Do you <i>currently</i> believe that someone can control your mind by putting thoughts into your head or taking thoughts out of your head?			
2. Do you <i>currently</i> feel that other people known your thoughts and can read your mind?			
3. Have you <i>currently</i> lost or gained as much as two pounds a week for several weeks without even trying?			
4. Have you or your family or friends noticed that you are <i>currently</i> much more active than you are usually?			
5. Do you <i>currently</i> feel like you have to talk or move more slowly than you usually do?			
6. Have there <i>currently</i> been a few weeks when you felt like you were useless or sinful?			
7. Have you <i>ever</i> taking any medication prescribed for you by a physician for any emotional or mental health problems?			
8. Have you <u>ever</u> been in a hospital for emotional or mental health problems?			

<p><b>Referral Instructions: This detainee should be referred for further mental health evaluation if he/she answered:</b></p> <ul style="list-style-type: none"> <li>• <b>YES to item 7; OR</b></li> <li>• <b>YES to item 8; OR</b></li> <li>• <b>YES to at least 2 of the items 1 through 6; OR</b></li> <li>• <b>If you feel it is necessary for any reason</b></li> </ul> <p>Not Referred _____</p> <p>Referred _____</p>
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## **Appendix B**

### **Screening for Severe Mental Illness in Correctional Settings Using the Brief Jail Mental Health**

#### **Screening Tool**

#### **Survey Cover Letter**

As a researcher with the University of Kentucky, I am inviting you to take part in a survey about severe mental illness in newly arrested prisoners. I hope to learn whether severe mental illness can be identified following an 8-question survey.

Although you may not get personal benefit from taking part in this research study, your responses may help us understand more about prisoners who suffer from severe mental illness and whether screening individuals allows early identification. Some volunteers experience satisfaction from knowing they have contributed to research that may possibly benefit others in the future.

If you do not want to be in this study, there are no other choices except not to take part in the study. If you agree to answer the questions in the one-to-two-minute survey or choose to refuse to answer the questions of the survey, this choice will have NO impact on your jail, prison, or parole status. Completion of the survey is voluntary.

The survey will take about one-to-two-minutes to complete.

Although I have tried to minimize this, some questions may make you upset or feel uncomfortable and you may choose not to answer them. If questions do upset you, I can tell you people who may be able to help you with these feelings.

Your response to the survey will be kept confidential, excluding any statements made about wanting to end your life, plans to physically hurt yourself or the desire to hurt another person. If you are having these feelings/thoughts, I am required to report these to the psychiatric nurse. When I write about the study you will not be identified. Your responses to the survey will be anonymous to program faculty and security personnel, no names will appear or be used on research documents or be used in presentations or publications. The program faculty and security personnel will not know that any information you provided came from you, nor even whether you participated in the study. Your information collected for this study will NOT be used or shared for future research studies.

At the close of the study, I will complete an audit of your medical records. This audit will only occur if you answer yes to specific questions. If you answer yes to specific questions at the close of the study, I will access your medical record one time. I will enter the mental health survey note in your medical record and I will review the referral section of this note. I am trying to extract that there was a mental health referral complete.

This referral could be that the psychiatric nurse interviewed you, a referral was made to seven counties and/or your medical record was forwarded to the medical provider for further review. This information will be counted as a mental health referral which was provided to you following the survey questions. These referrals are also voluntary, and you have the right to refuse any referral offered to you, but even

if it was offered and you refused, I will still count it as a referral. If you do not answer yes to specific questions, I will not access your medical record.

I hope to receive completed surveys from 100 people, so your answers are important to me. Of course, you have a choice about whether to complete the survey, but if you do participate, you are free to skip any questions or stop the survey at any time. You will not be penalized in any way for skipping or discontinuing the survey.

If you have questions about the study, please feel free to ask; my contact information is given below. Thank you in advance for your assistance with this important project.