

Mental Health Characteristics of Detainees in the Wake County Jail

Final Project Report

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Executive Summary

Background

Increases in the rate of incarceration in the United States has disproportionately affected adults with mental illnesses and estimates suggest that approximately 2.1 million persons with serious mental illness enter U.S. jails annually. Given the high rates of mental health problems among inmates, correctional health care standards recommend universal mental health screening at the time of intake. In 2008, Wake County Jail implemented the Brief Jail Mental Health Screen at intake to identify those at need for further mental health evaluation, either immediately or as soon as practical, in accordance with House Bill 1473 - Section 10.49 (f).

For such routine mental health screening to have a positive effect on Wake County Jail operations, care and outcomes for those with mental health problems, and public safety, the BJMHS screening results must be used in meaningful ways to inform jail practices, policies, and decision-making. For instance, knowledge of the patterns of mental health symptoms among the population detainees at the time of booking should be used to inform system-level policies and decision-making regarding the allocation of resources, including staffing and facilities, prioritization of detainees for further mental health evaluation, and strategies for classification that are cost effective and promote public safety. Consequently, there is a need to establish the baseline for the Wake County Jail, including the number of people with mental illnesses booked into jail, their length of stay once incarcerated, their treatment needs, and their rate of re-arrest.

Project Overview

This project, which supports Wake County's participation in the Data-Driven Justice Initiative and the Stepping Up Initiative, aimed to help the Wake County Jail operate more efficiently and promote public safety, but also to improve the care and outcomes of those with mental health problems. Our overall goal was to develop a better understanding of the mental health needs of detainees booked into the Wake County Jail.

Using the data available in the Wake County Jail, the NC State project team conducted analyses to answer five specific research questions that will provide the baseline for understanding the burden placed on the Wake County Jail related to mental health problems. These were:

1. What is the prevalence of potential mental health problems among jail detainees at intake?
2. Do potential mental health and substance use problems co-occur?
3. Do charge type and number of charges at booking differ as a function of potential mental health problems at intake?
4. Does length of stay differ as a function of potential mental health problems at intake?
5. What are the characteristics of the 90th percentile frequent fliers of Wake County Jail and EMS services, with associated high HMIS interaction?

Methods

All methods were reviewed and approved by the NC State University Institutional Review Board. Our analytic sample included administrative data on all bookings into the Wake County Jail

processed from January 1st, 2013 through June 30th, 2016. Data were available for a total of 67,658 bookings for 38,012 unique persons detained in the Wake County Jail during the study period. Data were provided to the NC State project team in three datasets: 1) administrative information collected from detainees at intake (e.g., demographic, charge information) and release (e.g., release date); 2) medical screening data (e.g., reporting of medical conditions, medication, etc.) from assessments completed upon booking; and 3) results all screenings completed using the BJMHS at intake.

Primary measures of interest included: *demographic characteristics* (age, sex, race), *potential mental health problems at intake* (positive screen on the BJMHS and/or referral for mental health evaluation), *potential substance use problems* (current intoxication, signs of withdrawal, and/or self-reported use), *criminal charges* (number of charges, charge type), *booking number* (number of bookings during the study period), *length of stay* (days between booking and release), and *frequent fliers* (identified by the SAS project team as having more than three jail bookings or two EMS encounters, with associated high HMIS interaction, during the 20-month period for which both data sets were available).

Overview of findings

Almost one-quarter of bookings into Wake County Jail were for individuals identified as having potential mental health problems. A greater proportion of bookings for women – about 1 in 3 – than men – about 1 in 5 – resulted in positive screens on the BJMHS and/or referrals for further mental health evaluation. These rates are in keeping with estimates of the number of detainees who present with symptoms of serious mental illness, such as schizophrenia, bipolar disorder, or major depressive disorder, at jails across the United States. However, a small proportion of positive screens on the BJMHS did not result in referral for further mental health evaluation.

The prevalence of mental health problems among detainees in the Wake County Jail appears to be increasing over time, with higher rates of bookings for detainees identified as having potential mental health problems across all months of FY2015-16 relative to FY2013-14 and FY2014-15. There additionally was some evidence that the late spring (May) through summer (August) months may be periods of time that require increased allocation of resources for assessing, managing, and treating inmates with mental health problems.

More than one-quarter of bookings into Wake County Jail were for individuals identified as having potential substance use problems. The rate was slightly higher for men (27%) than for women (24%). These estimates are considerably lower than those reported in national surveys of jail inmates, which find that more than half of men and almost two-thirds of women have drug use problems. Nonetheless, consistent with the pattern of results reported in national surveys, we found evidence that potential mental health problems co-occur with potential substance use problems. Specifically, the percentage of bookings for which detainees were identified as having potential mental health problems at intake was higher among those identified as having potential substance use problems – almost 1 in 3 – relative to those who were not identified as having potential substance use problems – about 1 in 5.

There was some evidence that potential mental health problems were associated with higher rates of charges for lower level offenses, and lower rates for higher level offenses. There also was some evidence that potential mental health problems were associated with more charges.

However, the differences were relatively small. These findings are consistent with the notion that persons with mental health problems may be arrested for behaviors that are considered “nuisance crimes” and point towards opportunities for jail diversion. At the same time, they suggest that there may be escalation that occurs during the arrest process that leads to increases in the prevalence of assault charges.

Overall, the average length of stay in the Wake County Jail was about three weeks. There was a significant, but small, increase in length of stay associated with potential mental health problems: 24 days versus 21 days. Certain items on the BJMHS were associated with even longer lengths of stay. In particular, reporting two or more current psychiatric symptoms (items #1 – 6) was associated with even longer average lengths of stay (28 days or 4 weeks), as was reporting a past psychiatric hospitalization (item #8) at the time of booking (25 days).

Compared to the overall population of jail bookings, the 90th percentile frequent fliers were twice as likely to be identified as having potential mental health problems at intake. They also were much more likely to be identified as having potential substance use problems at intake. Additionally, they tended to have fewer charges, their charges were less severe, and their lengths of stay were shorter compared to those of the overall population of bookings. But, the 90th percentile frequent fliers were booked more times and their lengths of stay increased over time.

Recommendations

Based upon key findings of our project, we have 13 specific recommendations towards the goal of reducing the burden on the Wake County Jail due to mental health problems. These are:

1. Re-administer the BJMHS for all detainees at the time of classification.
2. Use the BJMHS decision rules to inform priority among those referred for further mental health evaluation and to inform classification.
3. Establish a clear protocol for intake staff regarding steps to follow when an inmate screens positive on the BJMHS.
4. Conduct training for staff on the administration of the BJMHS and the decision rules.
5. Develop and implement a communication protocol to enhance communication and information sharing between staff at intake, classification officers, and medical staff.
6. Implement an integrated approach for assessing and treating jail inmates with co-occurring mental health and substance use problems.
7. Implement a standardized and validated tool to support universal screening of substance use at intake.
8. Conduct ongoing Crisis Intervention Training (CIT) for law enforcement officers, as well as detention officers and other jail staff.
9. Explore post-booking diversion options that involve identifying detainees with mental health problems after they have been booked into the Wake County Jail and diverting them to a crisis unit or other community treatment setting.
10. Leverage the NC SOAR initiative to train and link homeless detainees with mental health problems with SOAR case managers to expedite access to SSI/SSDI benefits.
11. Implement suicide, violence, and/or recidivism risk screening instruments.
12. Implement a trauma-specific screening tool and/or add trauma-specific items to the existing screening protocol.
13. Use a mental health screening tool to identify female detainees with potential mental health problems at intake that is specifically designed for women.

Background

Over the past 30 years, the population of prisons and jails in the United States has nearly quadrupled (Pew Charitable Trusts, 2009). This increase has disproportionately affected adults with mental illnesses. It is estimated that approximately 2.1 million persons with serious mental illness enter U.S. jails annually (Steadman, Osher, Clark Robbins, Case, & Samuels, 2009) and that somewhere between 10% to 25% of jail and prison inmates have serious mental illness (National Research Council, 2014). Serious mental illness is defined as a serious mental, behavioral, or emotional disorder of a sufficient and specified duration (according to diagnostic criteria) that results in serious functional impairment, which substantially interferes with or limits one or more major life activities (Center for Behavioral Health Statistics and Quality, 2016). Examples of serious mental illnesses include schizophrenia spectrum, bipolar, major depressive, posttraumatic stress, and other anxiety disorders. A recent special report on findings of the 2011–12 National Inmate Surveys conducted at 358 jails across the United States (Bronson & Berzofsky, 2017) indicated that approximately 26% of jail inmates met the threshold for serious psychological distress, more generally, in the past 30 days and that 44% reported a history of a broad range of mental health problems.

Given these high rates of mental health problems among inmates, correctional health care standards recommend universal mental health screening in jails (National Commission on Correctional Health Care, 2014). Accordingly, many states require the use of standardized screening instruments at intake to meet these standards. In 2007, the North Carolina state legislature passed House Bill 1473 - Section 10.49 (f) that specifies the obligations of the State to the mental health of inmates. Following this legislation, as of January 1 2008, jails throughout North Carolina were required, within available State and county resources, to use the Brief Jail Mental Health Screen (BJMHS) (Steadman, Scott, Osher, Agnese, & Robbins, 2005) to assist in the identification of male inmates at booking and the Correctional Mental Health Screen for Women (CMHS-W) (Ford, Trestman, Wiesbrock, & Zhang, 2007), female inmates with mental illness at booking. The intent of this legislation was to identify inmates who should be referred for further mental health evaluation, either immediately or as soon as practical. The use of the BJMHS continues at the Wake County Jail today.

The implementation of universal mental health screening protocols is a step in the right direction towards reducing the number of people with mental health problems in the Wake County Jail. Yet, for such a strategy to have a positive effect on jail operations, public safety, and the care and outcomes for those with mental health problems, the results of mental health screenings must be used in meaningful ways to inform practices, policies, and decision-making in meaningful ways. For instance, knowledge of the patterns of mental health symptoms among the population detainees at the time of booking should be used to inform system-level policies and decision-making regarding the allocation of resources, including staffing and facilities, prioritization of detainees for further mental health evaluation, and strategies for classification that are cost effective and promote public safety. Further, information regarding the specific mental health needs of an individual detainee at the time of booking should inform their classification within the Wake County Jail, their referral for further mental health evaluation, and the implementation of strategies to promote their safety.

To date, there has been relatively limited integration of the results of the BJMHS screens completed at intake into the day-to-day practices and system-level policies regarding those with mental health problems who are booked into the Wake County Jail. Additionally, there is limited data sharing from the managed care organization for public behavioral healthcare in Wake County to the Wake County Jail. As a result, there is relatively little known at the population level about the prevalence, correlates, and consequences of mental health problems among detainees in the Wake County Jail.

Establishing the baseline for the Wake County Jail - including the number of people with mental illnesses booked into the Jail, their length of stay once incarcerated, their treatment needs, and their rate of re-arrest - is the critical next step (Haneberg, Fabelo, Osher, & Thompson, 2017). For these reasons, Wake County sought to leverage the data available within the Jail to examine these issues and to provide the foundation for efforts that will lead to the implementation of evidence-based strategies to reduce the burden placed on the Wake County Jail related to mental health problems.

Project Overview

Lead by Dr. Sarah L. Desmarais, Associate Professor of Psychology at NC State University, this project was designed to provide the content and statistical expertise necessary to examine the results of mental health screenings conducted at intake to the Wake County Jail and to identify strategies to reduce the burden placed on the Jail related to mental health problems.

Dr. Desmarais is a forensic psychologist and internationally recognized for her work on the assessment and treatment of criminogenic risks and behavioral health needs in justice-involved individuals. She has consulted for behavioral health and criminal justice agencies within the United States and abroad on the implementation and evaluation of evidence-based strategies to reduce violence and recidivism among individuals with behavioral health problems. Her co-investigator, Dr. Eric B. Laber, is an Associate Professor of Statistics at NC State University. He contributed his expertise in the development of practical yet mathematically rigorous methodology for data-driven decision making. He has worked to develop and evaluate behavioral interventions in the context of chronic disease, risk prevention, and addiction. He has a track record of successful collaborations with industry including Cisco, Quintiles, JMP, and the American Institute of Research, among others. Drs. Desmarais and Laber were supported by two graduate research assistants, Evan M. Lowder (Psychology), and Lin Dong (Statistics).

This project, which supports Wake County's participation in the Data-Driven Justice Initiative (<http://www.naco.org/resources/programs-and-services/data-driven-justice>) and the Stepping Up Initiative (<https://stepuptogether.org/>), aims to help the Wake County Jail operate more efficiently, but also to improve the care and outcomes of those with mental health problems. Our overall goal was to develop a better understanding of the mental health needs of detainees in the Wake County Jail.

To achieve this goal, the NC State project objectives were to work with the data available in the Wake County Jail:

- To clarify the prevalence of mental health problems among detainees at intake to the Wake County Jail.
- To identify strategies to improve the identification detainees with mental health problems in the Wake County Jail, as early in the detention process as possible.
- To develop a plan for prioritizing and informing classification and allocation of mental health assessment and treatment resources within the Wake County Jail, as well as staffing and other resources.
- To recommend strategies and interventions that will target key factors associated with risk of suicide and future incarceration among detainees with mental health problems.

Research Questions

Through consultation with key stakeholders from the Wake County government, the Wake County Board of Commissioners, and the Wake County Sheriff's Office, we developed five specific research questions to be answered in this project. These were:

1. What is the prevalence of potential mental health problems among jail detainees at intake?
2. Do potential mental health and substance use problems co-occur?
3. Do charge type and number of charges at booking differ as a function of potential mental health problems at intake?
4. Does length of stay differ as a function of potential mental health problems at intake?
5. What are the characteristics of the 90th percentile frequent fliers of Wake County Jail and EMS services, with associated high HMIS interaction?

By answering these questions, the NC State University project team will have the information necessary to recommend strategies to reduce the burden placed on the Wake County Jail related to mental health problems.

Methods

Study Approval

All study procedures were approved by the NC State University Institutional Review Board. All NC State University personnel involved in this project completed training for protection of human subjects in accordance with federal, state, and the Institutional Review Board regulations.

Data Sources

Administrative data on all jail bookings processed from January 1st, 2013 through June 30th, 2016 were queried by staff at the Wake County Jail and provided to the NC State project team in raw form. Data were provided in three datasets. The first dataset included administrative information collected from detainees at intake (e.g., demographic, charge information) and release (e.g., release date). The second dataset included medical screening data (e.g., reporting of medical conditions, medication, etc.) from assessments completed upon booking. The third dataset included the results all screenings completed using the Brief Jail Mental Health Screen (BJMHS; Steadman et al., 2005) at intake.

Study Sample

The study sample comprised information on 67,658 bookings to the Wake County Jail during the study period, representing 38,012 unique detainees.

Measures

Demographic Characteristics

Demographic measures included official records of *age*, *sex* (male, female), and *race* (Caucasian, non-Caucasian). Due to missing data, we could not include *ethnicity* (Hispanic, non-Hispanic) in our analyses.

Potential Mental Health Problems

The presence of *potential mental health problems* (yes, no) at intake to the Wake County Jail was measured using the BJMHS (Steadman et al., 2005). The BJMHS is an 8-item screening tool developed by Policy Research Associates to assist in identifying detainees with serious mental illnesses and other mental health problems at intake (see Appendix A). Three decision rules are designed to guide referral by jail staff: 1) detainee answers “yes” to question 7, indicating current use of prescribed psychiatric medication; 2) detainee answers “yes” to question 8, indicating prior hospitalization for psychiatric symptoms; or 3) detainee answers “yes” to two or more of questions #1-6, which measure a range of psychotic, manic, and depressive symptoms.

For the purposes of this report, detainees were identified as having *potential* mental health problems at intake if they met criteria for one of the three BJMHS decision rules and/or if they were referred for further evaluation by jail staff. Due to the absence of information on prior clinical diagnoses or current diagnoses based upon the results of standardized diagnostic assessments

or clinical interviews conducted by licensed mental health professionals, we are limited to discussion of *potential* mental health problems rather than discussion of mental *disorders* or *established* mental health problems.

Potential Substance Use Problems

Potential substance use problems (yes, no) were operationalized using a composite of four items from the BJMHS (1 item) and medical screen (3 items). Specifically, the BJMHS asks for the screener's impression regarding whether the detainee appears to be under the influence of drugs or alcohol. Items on the medical screen included: 1) whether the detainee appeared to be under the influence of alcohol barbiturates, heroin, or any other drug; 2) whether the detainee had any visible signs of alcohol or drug withdrawal; and 3) whether the detainee self-reported drug use.

For the purposes of this report, detainees were coded as having *potential* substance use problems if they had a positive response on any of these four items. Self-reported alcohol use was excluded from this measure due to inconsistent reporting and recording of frequency and duration of use.¹ As a result, our results likely underestimate the prevalence of substance use problems. Due to the absence of information on prior clinical diagnoses, the results of biological tests (e.g., urine drug screens), or current diagnoses based upon the results of standardized diagnostic assessments or clinical interviews conducted by licensed mental health professionals, we are limited to discussion of *potential* substance use problems rather than discussion of substance use *disorders* or *established* substance use.

Criminal Charges

Criminal charge measures including *number of charges* associated with the index booking as well as *charge type*.

Number of charges was operationalized as the number of unique alleged offenses or violations for which a detainee was booked into Wake County Jail.

Charge type was coded consistent with the Federal Bureau of Investigation's Uniform Crime Reporting (UCR) Program. The National Incident-Based Reporting System (NIBRS) User Manual (U.S. Department of Justice, 2013) was used to code UCR offense categories. "A" level offenses corresponded to more serious, often felony-level offenses (e.g., assault, burglary, sexual offenses, etc.). "B" level offenses corresponded to less serious, often misdemeanor-level offenses (e.g., stolen property, disorderly conduct, etc.). See Figure 1 for full list of "A" and "B" level offenses. Traffic-related offenses are not included in the UCR offense categories, but were coded as a separate category due to their relatively high prevalence.

¹ Detainees' responses were recorded verbatim, resulting in over 5,000 unique text entries. After several rounds of coding, there were still over 2,600 unique text responses that remained. Ratifying these remaining text responses down to a usable set of codes will require manually analyzing each response. This process was not possible within the performance period of this project.

Figure 1. UCR “A” and “B” Offense Categories

“A” Offenses	“B” Offenses
<ul style="list-style-type: none"> •Animal Cruelty •Arson •Assault •Bribery •Burglary •Counterfeiting/Forgery •Destruction/Damage/Vandalism •Drug/Narcotic Offenses •Embezzlement •Extortion/Blackmail •Fraud •Gambling •Homicide •Human Trafficking •Kidnapping •Larceny •Motor Vehicle Theft •Pornography/Obscene Material •Prostitution •Robbery •Sex Offenses •Stolen Property •Weapon Law Violations 	<ul style="list-style-type: none"> •Bad Checks •Curfew/Loitering/Vagrancy •Disorderly Conduct •Driving Under the Influence •Drunkenness •Family Offenses (Nonviolent) •Liquor Law Violations •Peeping Tom •Runaway •Trespass of Real Property •All Other Offenses

Booking Number

Booking number was defined as the booking number for a unique person over the study period. To illustrate, a person who had three separate bookings over the study period would have one booking associated with booking number “1”, another booking associated with booking number “2”, and a third booking associated with booking number “3”.

Length of Stay

Length of stay was measured as the number of days between the booking date and release date associated with a specific booking.

Frequent Fliers

Frequent fliers were identified by the SAS project team as individuals who had more than three jail bookings or two EMS encounters, with associated high HMIS interaction, during the 20-month period of data that was available to SAS for analysis across the Wake County Jail, EMS, and HMIS datasets. These values represent the 90th percentile cut-offs for the number of interactions with Wake County Jail and total EMS utilization during the 20-month period, as determined by the SAS project team.

The SAS project team calculated the EMS utilization as [Total incidents] – [Number of Incidents within Episodes] + [Number of Episodes], where total incidents is the total number of distinct interactions with EMS during the 20-month period, number of incidents within episodes is the cumulative total incidents that fall within all identified episodes, and number of episodes is the total number of groupings of 4 or more incidents in a 30-day rolling window

Procedures

Data Acquisition and Cleaning

Datasets were transferred via the NC State University Velocity service, which provides secure and encrypted web-based delivery of large files. All three datasets were downloaded and imported in R statistical software for cleaning and analysis (R Core Team, 2015). Datasets were merged by booking IDs, which corresponded to a unique jail booking. In some instances there were sometimes multiple release dates associated with a single booking date (for a given booking ID). In these cases, we used a conservative approach of selecting the record associated with the most recent release date, resulting in the longest possible length of stay for that booking. Following the data merge, variables were recoded as necessary. The name IDs of frequent fliers were received from the SAS project team and these cases were flagged in our final analytic dataset.

Data Analysis

First, we conducted descriptive statistics (i.e., mean, standard deviation, frequency) for each study variable. Descriptive results are presented primarily in tables and figures. *M* represents the mean or average. *SD* represents the *standard deviation* around the mean, which is a measure of variation or dispersion of values around the mean.

Second, we conducted bivariate comparisons of each study variable with potential mental health problems as the primary indicator. For comparisons involving dichotomous variables (e.g., referral decision), we conducted chi-squared tests of independence, denoted by the symbol χ^2 . Effect sizes for chi-squared tests are indicated by the Phi coefficient, denoted by the symbol Φ . Phi values of .1 indicate small, .3 medium, and .5 large effect sizes (Cohen, 1988).

Third, we conducted multivariable analyses to model several outcomes, including referral decision (yes, no), return to jail (i.e., recidivism) following an initial booking during the study period, and length of stay associated with each booking. Logistic regression was used to model dichotomous outcomes (i.e., referral decision). *Odds ratios (OR)* were used to interpret effects in logistic regression models and represent the likelihood, or odds, of experiencing the outcome (e.g., referred) associated with a single unit increase in the predictor variable. For dichotomous outcomes, the *incidence rate ratios (IRR)* represents the likelihood of experiencing the outcome for one group (e.g., detainees identified as having potential mental health problems) relative to a reference group (e.g., detainees not identified as having potential mental health problems).

Negative binomial regression was used to model count outcomes (i.e., number of jail bookings) and continuous outcomes (i.e., length of stay) because they reflect non-normally distributed data. *Incidence rate ratios (IRR)* are used to interpret significant effects in logistic regression models and represent a factor of the dependent variable associated with a single unit increase in the independent or predictor variable. For dichotomous predictors, the *IRR* represents a factor of the

dependent variable associated with one group (e.g., detainees identified as having potential mental health problems) relative to a reference group (e.g., detainees not identified as having potential mental health problems).

Fourth, we calculated descriptive statistics for each of the study variables within the subset of frequent fliers at the time of their first booking to Wake County Jail. These statistics were then compared to the characteristics of detainees across all jail bookings and the subset of bookings for detainees identified as having potential mental health problems at intake, when possible.

Except when specified, bookings served as the unit of analysis rather than examining unique persons booked into the Wake County Jail. Using bookings as the unit of analysis was specified by key stakeholders and reflects the primary focus of the NC State project to inform jail operations. As a result, characteristics of a given person who was booked multiple times into the Jail during the study period would have been captured across multiple bookings.

Statistical Significance

For all statistical tests, significant effects are indicated by a 95% probability level, corresponding to a p value less than .05. This threshold suggests there is less than 5% probability that effects – or differences observed between groups – are due to chance.

Results

Sample Characteristics

Demographic Characteristics

Across all bookings, average detainee age was 32.74 years (Range = 15 to 99) at intake. The vast majority of bookings – 4 out of 5 – were for men (80.2%, $n = 54,281$); about 1 out of 5 bookings were for women (19.8%, $n = 13,377$). Almost two-thirds of bookings were for African American detainees (61.1%, $n = 41,324$) followed by Caucasian (38.5%, $n = 26,067$), Asian (0.02%, $n = 163$), and American Indian/Alaskan Native (0.01%, $n = 37$). Data on detainee ethnicity was missing for a considerable percentage bookings (19.7%, $n = 13,312$); only 5.3% ($n = 3,597$) of bookings were for detainees identified as Hispanic.

Criminal Justice Characteristics

An average of 1.75 charges were associated with each booking (Range = 1 to 24) during the study period. Following each booking, the average length of stay in the Wake County Jail was about three weeks (21.66 days, on average, Range = 0 to 1,343). Across bookings, charges were typically for more serious (i.e., A-level) offenses than less serious (i.e., B-level offenses). To demonstrate, the most frequent UCR charge was assault, which was charged for 1 in 5 bookings (20.4%, $n = 13,827$). The next most frequent charge at the time of booking was larceny/theft (9.2%, $n = 6,207$). That said, the catchall B-level category of “all other offenses” was present for more than one-third of bookings (9.2%, $n = 6,207$).

More than half of bookings (56.3%, $n = 38,063$) represented the first time a given person was booked into the Wake County Jail during the study period. Less than one-quarter of the bookings represented the second time a given person was booked into the Wake County Jail during the study period (18.6%, $n = 12,606$). The remainder of bookings (25.1%, $n = 16,989$) represented individuals who were booked three or more times into the Wake County Jail during the study period.

Looking at unique persons rather than bookings as the unit of analysis, we see that approximately two-thirds of detainees (66.9%, $n = 25,457$) were booked into the Wake County Jail just once during the study period. A notable minority – close to one-third (30.7%, $n = 11,690$) – were booked between two to five times during the study period. Individuals who were booked six or more times represented only 1.6% of the population of bookings during the study period; and those booked 10 or more times represented only 1.5% of the population of bookings. The average number of bookings for a given person during the study period was 1.78 (Range = 1 to 65).

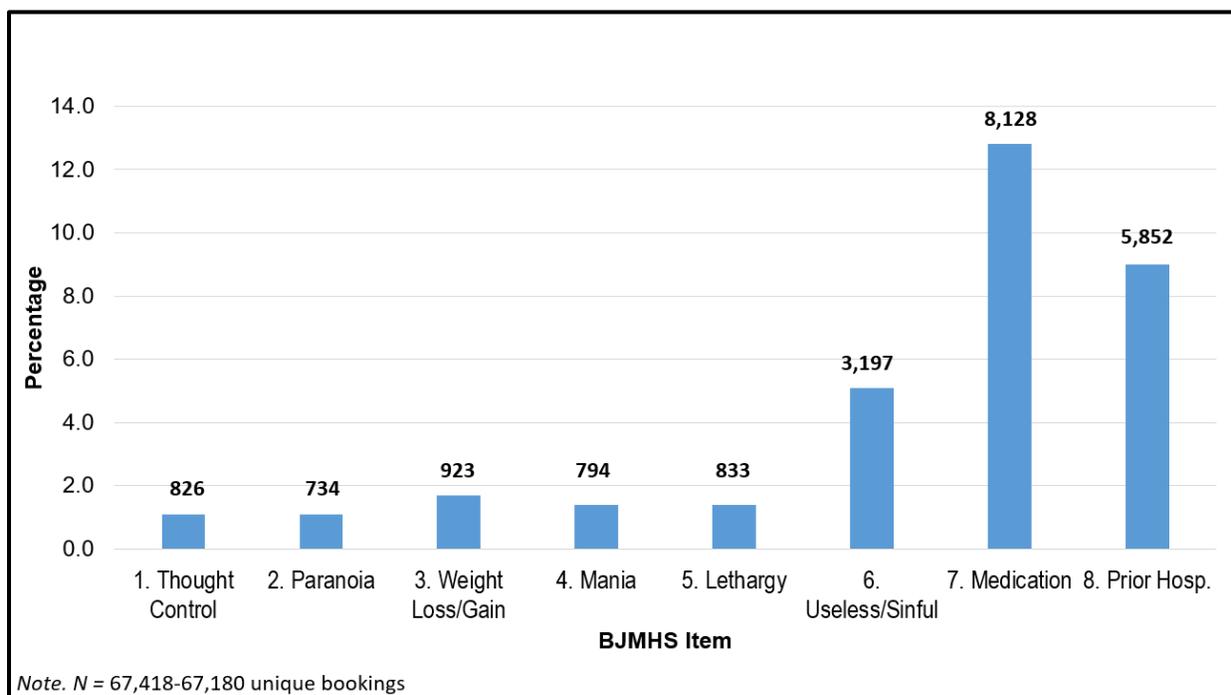
1. What is the Prevalence of Potential Mental Health Problems at Intake?

The Wake County Jail had 67,658 bookings with usable data over the study period (January 1st, 2013 to June 30th, 2016).

Mental Health Symptoms Self-Reported at Intake

Figure 2 shows the percentage of positive responses (i.e., yeses) to each BJMHS question at intake across all bookings. A current prescription for psychiatric medication was the most frequently endorsed BJMHS item (12.1%), followed by prior hospitalization for psychiatric symptoms (8.7%), and feeling useless or sinful (4.8%). Symptoms of thought control, paranoia, weight loss or gain, mania, or lethargy were each endorsed in less than 2% of bookings.

Figure 2. Prevalence of Mental Health Symptoms Self-Reported at Intake

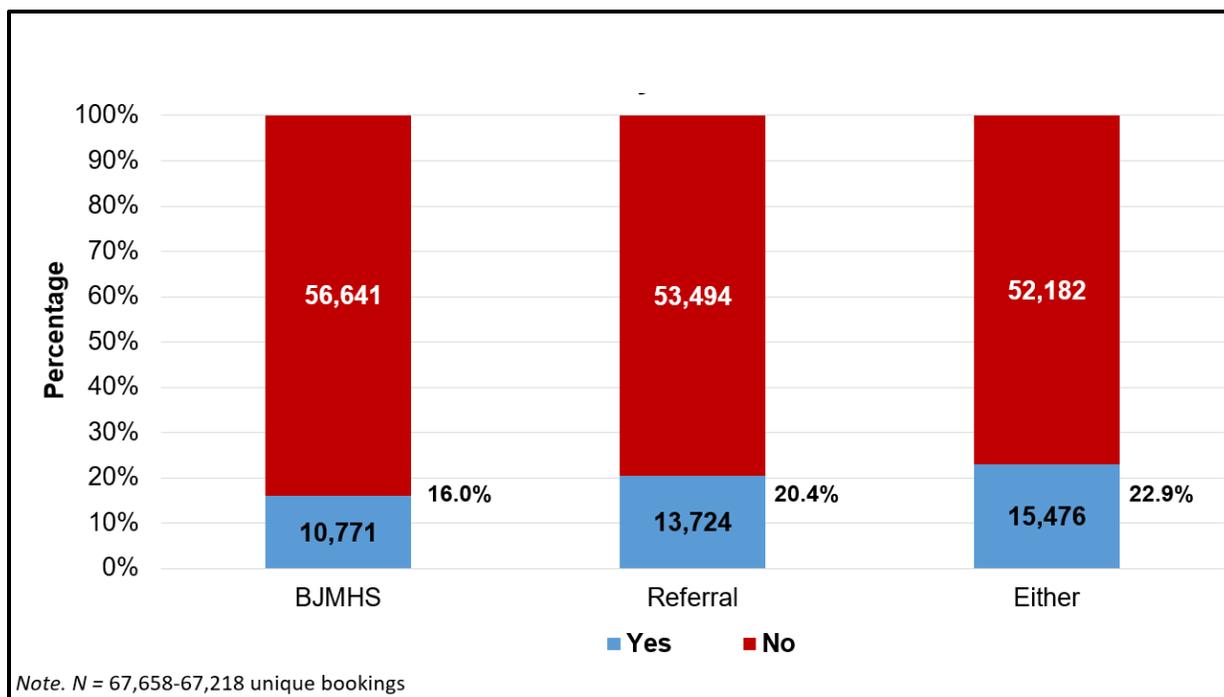


Prevalence of Positive BJMHS Screens and Mental Health Referral Decisions

As shown in Figure 3 on the following page, for 16.0% ($n = 10,771$) of bookings, detainees met the BJMHS screening criteria for presence of potential mental health problems at intake, indicating need for referral and further evaluation. However, a slightly greater percentage of bookings – approximately 1 in 5 (20.4%, $n = 13,724$) – resulted in referral for further mental health evaluation. Taken together, almost one-quarter of bookings (22.9%, $n = 15,476$) into the Wake County Jail resulted in either a positive screen on the BJMHS or referral for further evaluation.

These two criteria together (i.e., positive BJMHS screen and/or referral) were used in subsequent analyses to identify bookings for detainees with potential mental health problems at intake.

Figure 3. Positive BJMHS Screens and Mental Health Referrals at Intake



There were a few differences in the percentage of bookings for detainees identified as having potential mental health problems at intake as a function of demographic characteristics. To demonstrate, a greater percentage of bookings for women (35.6%, $n = 4,734$) than men (19.9%, $n = 10,722$) resulted in identification of potential mental health problems at intake.² There also were differences as a function of race.³ Specifically, a greater percentage of bookings for Caucasian detainees resulted in identification of potential mental health problems at intake (29.1%, $n = 18,355$), followed by bookings for American Indian detainees (22.9%, $n = 8$), African American detainees (19.2%, $n = 7,894$), and Asian detainees (10.5%, $n = 17$).⁴ In contrast, there were no differences in the percentage of bookings that were for detainees identified as having potential mental health problems at intake as a function of age: less than 18 years (23.3%, $n = 596$) versus 18 years or older at intake (23.3%, $n = 14,858$).⁵

² $\chi^2(1) = 1,483.73, p < .001, \Phi = 0.15$

³ $\chi^2(1) = 888.50, p < .001, \Phi = 0.12$

⁴ Due to the relatively small number of Asian and American Indian detainees, subsequent analyses of race categorized detainees as being of either White or non-White race.

⁵ $p = .976$

Referral Decisions Following Positive Screens on the BJMHS

Further examination of referral patterns following positive screens on the BJMHS at intake showed that the vast majority (83.9%, $n = 8,988$) bookings resulted in referral for further mental health evaluation. However, there was a considerable percentage of bookings for which there was a positive screen on the BJMHS in the absence of referral for further mental health evaluation (16.1% of bookings with positive screens on the BJMHS, $n = 1,729$).

We conducted a multiple logistic regression to examine potential predictors of referral decisions following a positive screen on the BJMHS at intake. As shown in Table 1 (see Appendix B, page 51), these analyses revealed significant differences in the likelihood of referral for further mental health evaluation as a function of highest level of offense, substance use problems, and each of the BJMHS decision rules. Specifically, bookings that included higher level offenses, that were for detainees who were identified as having potential substance use problems, and/or that were for detainees who meet the BJMHS decision rules were more likely to result in referral for further mental health evaluation following a positive screen on the BJMHS. These patterns of results are generally in the anticipated and desired directions; however, level of offense should have no bearing on the likelihood of referral for mental health evaluation following a positive screen on the BJMHS. There were no differences in referral following a positive screen on the BJMHS as a function of age, sex, race, or number of charges.

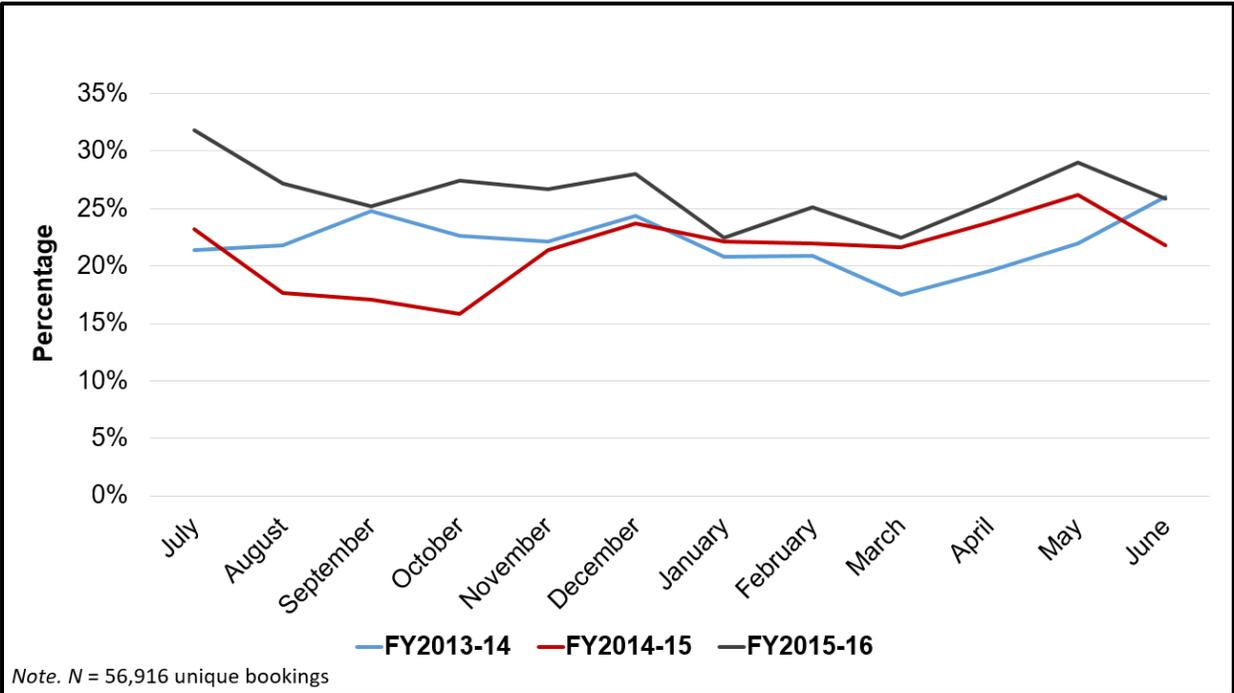
Further exploration of the data revealed some additional potential concerns regarding referral decisions. In particular, 15.4% ($n = 1,247$) bookings for detainees who reported current prescribed use of a psychiatric medication (BJMHS rule #1) did not result in referral for further mental health evaluation; 12.2% ($n = 710$) of bookings for detainees who reported prior hospitalization for psychiatric symptoms (BJMHS decision rule #2) did not result in referral for further mental health evaluation; and, finally, 14.9% ($n = 229$) of bookings for detainees those who reported two or more current psychiatric symptoms (BJMHS decision rule #3) were not referred for further mental health evaluation.

Temporal Trends in the Prevalence of Potential Mental Health Problems

Monthly percentages of bookings for detainees identified as having potential mental health problems at intake over the three fiscal years included in our study are presented in Figure 4. Generally, trends show peaks in the percentage of bookings for detainees identified as having potential mental health problems at intake in July, followed by decreases from August to October and from December to March. There then are observable increases, again, from March to May.

Visual examination of these findings also suggests that the percentage of bookings for detainees identified as having potential mental health problems at intake may be increasing over time. Specifically, FY2015-16 showed a greater percentage of bookings for detainees with potential mental health problems across all months relative to both FY2013-14 and FY2014-15.

Figure 4. Prevalence of Potential Mental Health Problems by Month

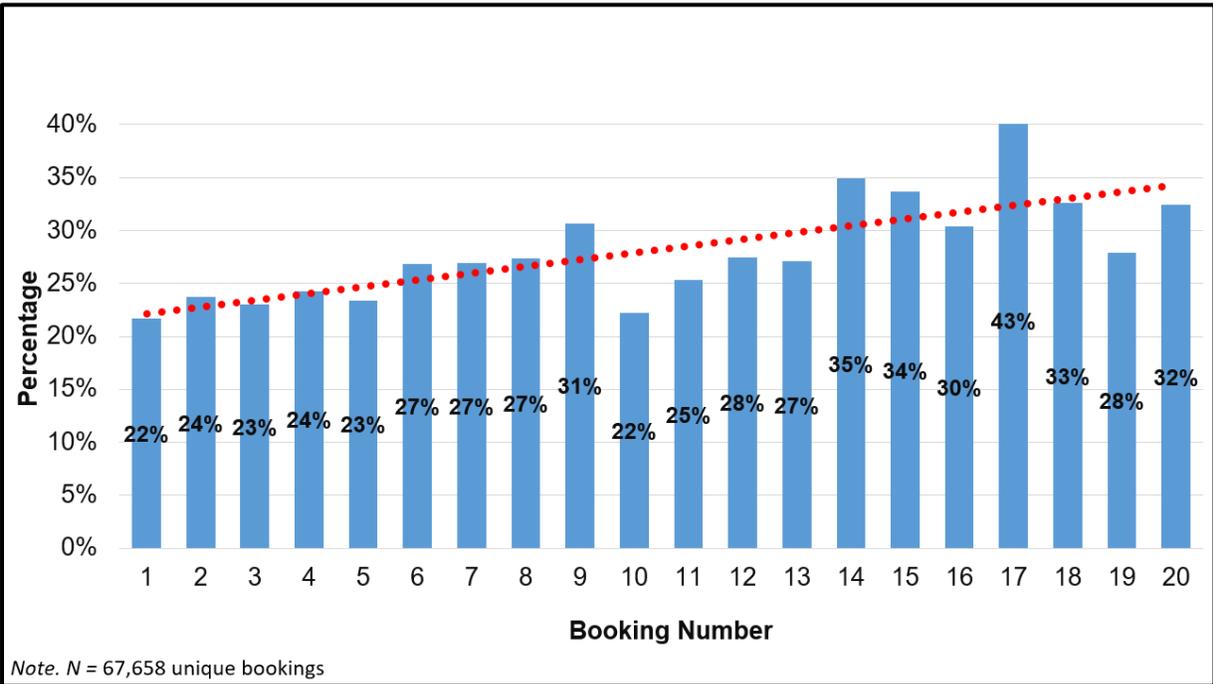


Potential Mental Health Problems across Bookings

Overall, individual detainees were booked into the Wake County Jail an average of 2.33 times (Range = 1 to 65) during the study period. Detainees identified as having potential mental health problems at intake (i.e., positive screen on the BJMHS and/or referral for further mental health evaluation) had significantly more bookings (2.46 bookings, on average; Range = 1 to 64) compared to those who were not identified as having potential mental health problems at intake (2.29 bookings, on average; Range = 1 to 65).⁶ Practically speaking, the difference was relatively small (0.17), with persons in both groups booked about two times, on average.

Figure 5 presents the percentage of bookings that were for detainees identified as having potential mental health problems at intake (i.e., a positive BJMHS screen and/or referral) by booking number. As shown by the linear trend line in Figure 5, the percentage of bookings that were for individuals identified as having potential mental health problems at intake generally increased as the booking number increased. To demonstrate, of all the first-time bookings, approximately 1 out of 5 were for detainees identified as having potential mental health problems at intake. In comparison, of all the bookings that represented the 20th time a given person was booked into the Wake County Jail during the study period, approximately 1 out of 3 were for detainees identified as having potential mental health problems at intake. These findings suggest higher rates of recidivism among detainees identified as having potential mental health problems at intake.

Figure 5. Potential Mental Health Problems by Booking Number



⁶ $t(25,637.03) = 6.44, p < .001$

However, as shown in Table 2 (see Appendix B, page 52), first-time bookings into the Wake County Jail during the study period accounted for more than half - 56.3% - of all bookings. Following an initial booking into the Wake County Jail during the study period, individuals were booked just one more time during the study period (0.78, on average; Range = 0 to 64) during the study period. Indeed, nearly 95% of all bookings represented the first up to sixth booking of a given person over our 3-year study period. So, although the percentage of bookings for which detainees were identified as having potential mental health problems increased with repeat bookings, the absolute number of these re-bookings was relatively small compared to the total number of bookings. In other words, detainees identified with mental health problems were more likely to return to jail (i.e., recidivate) following an initial booking during the study period, but recidivism accounted for less than half of all bookings.

We conducted an analysis to examine predictors of return to jail (i.e., recidivism) after a first booking during the study period, while accounting for opportunity for recidivism (i.e., the number of days spent in the community during the study period).⁷ Model results are presented in Table 3 (see Appendix B, page 53). Both potential mental health problems and potential substance use problems at first booking were associated with increased risk for subsequent jail bookings (i.e., recidivism) during the study period. Specifically, identification of potential mental health problems at the first booking during the study period was associated with 1.26 times more re-bookings into the Wake County Jail. Similarly, identification of potential substance use problems at the first booking during the study period was associated with 1.37 times more re-bookings into the Wake County Jail.

⁷ We did not have access to data from jails and prisons outside of Wake County, treatment data (including inpatient stays), or other housing information. As such, we had to assume that when detainees were not in the Wake County Jail during the study period, they were living in the community or “at risk” of recidivism.

2. Do Potential Mental Health and Substance Use Problems Co-Occur?

Overall, just over one-quarter (26.4%, $n = 17,689$) of bookings were for detainees identified as having potential substance use problems at intake. However, as noted earlier, the true prevalence of substance use problems is underestimated due to the exclusion of self-reported alcohol use.

There were a few differences in the percentage of bookings for detainees identified as having potential substance use problems at intake as a function of demographic characteristics. To demonstrate, a greater percentage of bookings for men (27.2%, $n = 14,685$) than women (24.0%, $n = 3,184$) was associated with identification of potential substance use problems at intake.⁸ There also were differences as a function of race.⁹ In particular, greater percentages of bookings for Caucasian and African American detainees were identified as having potential substance use problems at intake (26.9%, $n = 6,979$, and 26.4%, $n = 10,856$, respectively), than of bookings for Asian and American Indian detainees (12.3%, $n = 20$, and 13.9%, $n = 5$, respectively). There were differences as a function of age, as well.¹⁰ Specifically, a greater percentage of bookings for detainees less than 18 years (37.5%, $n = 976$) was associated with identification of potential substance use problems at intake compared to bookings for detainees 18 years or older (26.1%, $n = 16,892$).

Figure 6 presents the prevalence of potential substance use problems as a function of potential mental health problems at intake across all bookings. Findings showed a small but significant association.¹¹ Specifically, the percentage of bookings for detainees identified as having potential mental health problems at intake was higher among bookings for detainees identified as having potential substance use problems (32.4%) relative to bookings for detainees not identified as having potential substance use problems (19.4%). That said, the overall percentage of bookings for which detainees were identified as having potential mental health and substance use problems was relatively small – 8.7% ($n = 5,770$) – but in keeping with prior estimates that between 5% to 13% of jail inmates having co-occurring mental health and substance use problems (Peters, Sherman, & Osher, 2008). Overall, findings suggest co-occurrence of potential mental health and substance use problems.

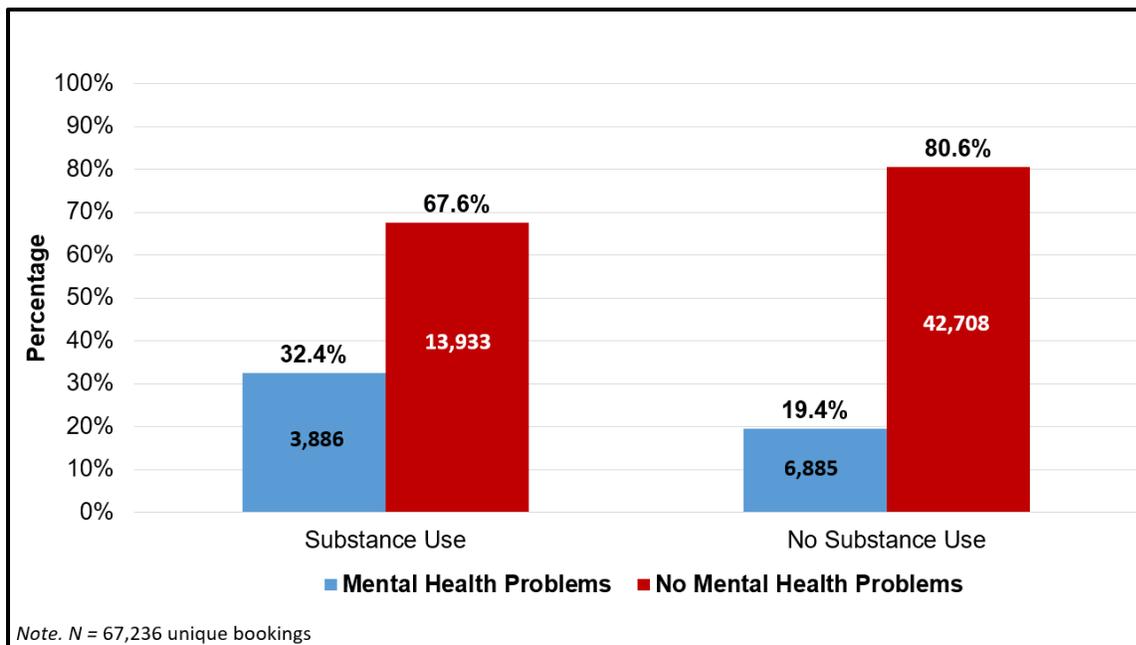
⁸ $\chi^2(1) = 57.67, p < .001, \Phi = 0.03$

⁹ $\chi^2(1) = 21.70, p < .001, \Phi = 0.02$

¹⁰ $\chi^2(1) = 165.46, p < .001, \Phi = 0.05$

¹¹ $\chi^2(1) = 1,251, p < .001, \Phi = .13$

Figure 6. Potential Mental Health Problems by Potential Substance Use Problems



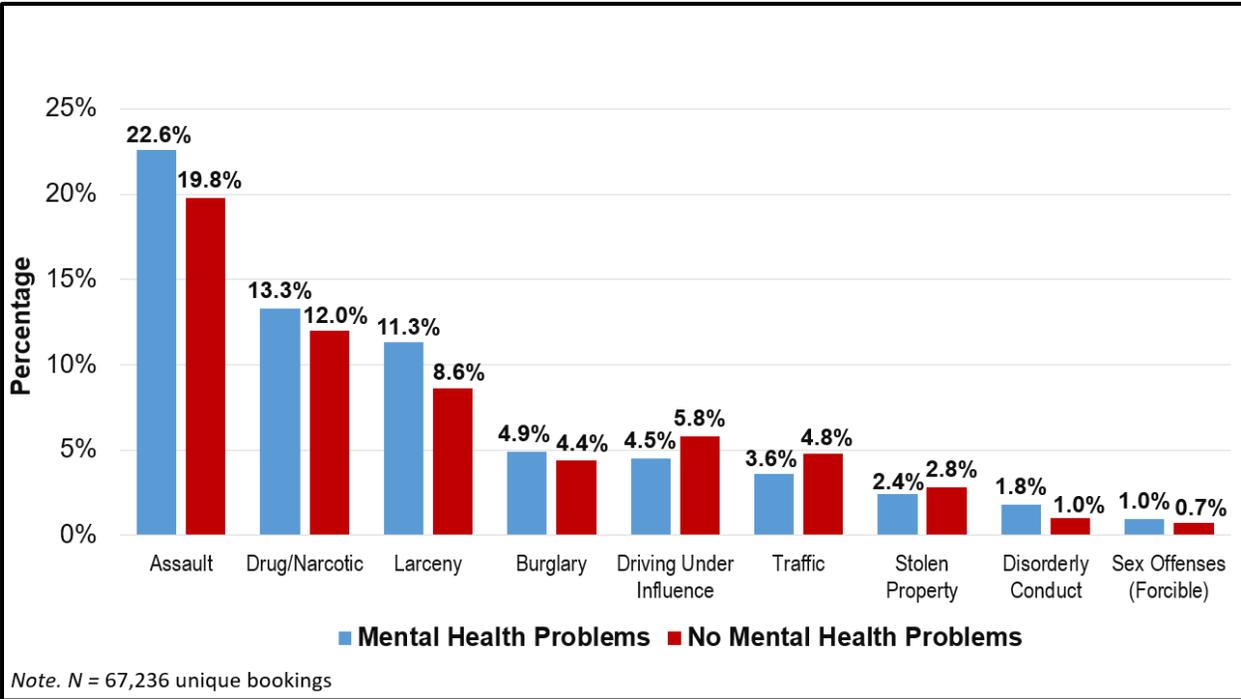
3. Charge Type and Number of Charges at Booking Differ as a Function of Potential Mental Health Problems?

Charge Type by Potential Mental Health Problems

Table 4 presents frequencies of UCR charge levels (i.e., A, B) overall and as a function of potential mental health problems at intake (see Appendix B, page 54). There were some associations between potential mental health problems at intake and charge type, but the differences were relatively small. Results show *higher* rates of *lower* level charges, such as larceny/theft, curfew/vagrancy/loitering, and trespassing charges, among bookings for detainees identified as having potential mental health problems at intake relative to bookings for detainees not identified as having potential mental health problems. In contrast, there generally were *lower* rates of *higher* level charges, such as weapons law violations, driving under the influence, or other traffic violations, among bookings for detainees identified as having potential mental health problems at intake relative to bookings for detainees not identified as having potential mental health problems.

Figure 7 presents a graphical representation of the most frequently occurring charges across all bookings as a function of potential mental health problems at intake.

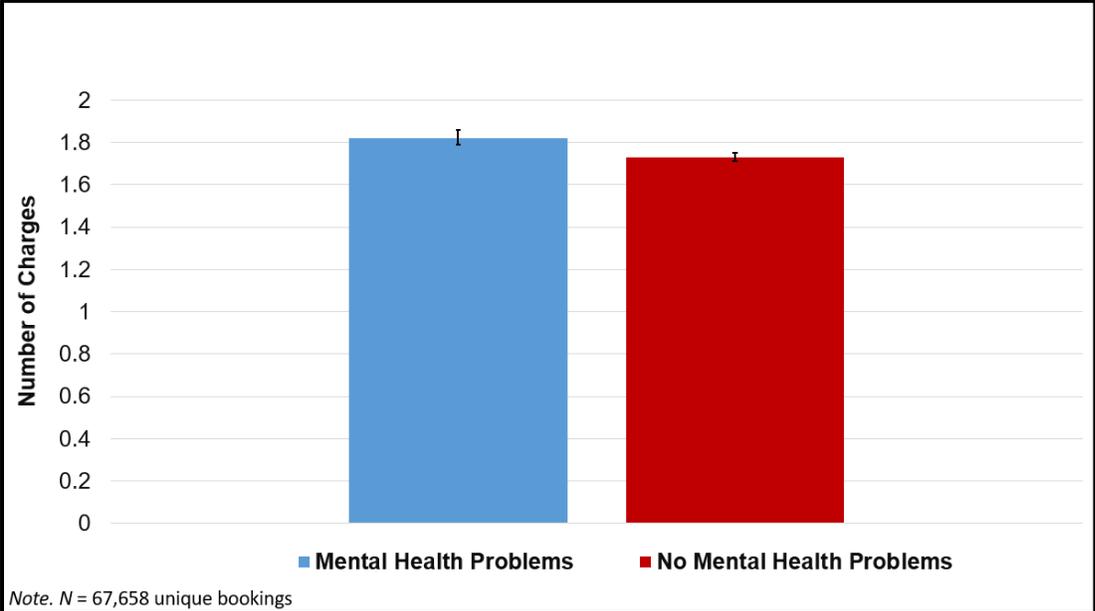
Figure 7. Potential Mental Health Problems by Offense Category



Number of Charges at Booking by Potential Mental Health Problems

As shown in Figure 8, bookings for detainees who were identified as having potential mental health problems at intake included significantly more charges -- 1.82 charges per booking, on average -- relative to bookings for detainees without mental health problems -- 1.73 charges per booking, on average. This amounts to about 1.05 times more charges associated with potential mental health problems at each booking. Again, although statistically significant, this difference is relatively small practically speaking.

Figure 8. Number of Charges by Potential Mental Health Problems at Intake

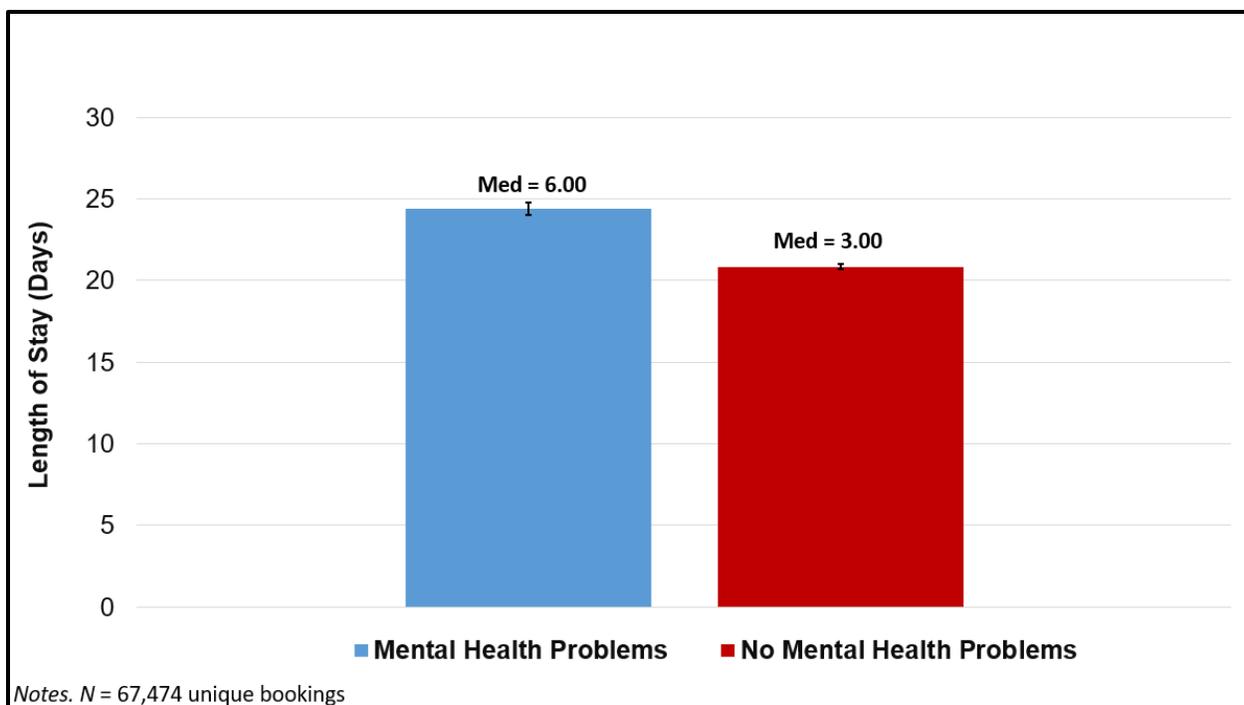


4. Does Length of Stay Differ as a Function of Potential Mental Health Problems?

Length of Stay by Potential Mental Health Problems at Intake

We examined whether the length of stay in the Wake County Jail differed between bookings for detainees who were and were not identified as having potential mental health problems at intake. Figure 9 presents results of this analysis. Whereas bookings for detainees identified as having potential mental health problems at intake were associated with an average of 24.41 jail days, bookings for those who were not identified having potential mental health problems were incarcerated for an average of 20.85 jail days. This difference amounts to 1.17 times more days in jail for those identified as having potential mental health problems. The difference was even greater when the median (i.e., most frequent as opposed to average) length of stay was examined: Bookings for detainees identified as having potential mental health problems at intake had median lengths of stay that were twice those of bookings for detainees who were not identified as having potential mental health problems at intake (6 days vs. 3 days).¹²

Figure 9. Length of Stay by Potential Mental Health Problems at Intake



¹² The median represents the midpoint of the frequency distribution of observed values for length of stay. It is generally accepted that the median, rather than mean, is a more appropriate measure of central tendency for measures, such as length of stay, that are positively skewed (i.e., many values at the lower end of the distribution and fewer values at the higher end of the distributions).

In addition, we examined multiple predictors of length of stay across all bookings. Findings of this analysis are presented in Table 5 (see Appendix B, page 55). After accounting for other relevant predictors (including age, sex, race, offense level, and number of charges), presence of potential mental health problems at intake was associated with 1.23 times longer stay in jail relative to absence of potential mental health problems at intake. Potential substance use problems emerged as a slightly less robust predictor of length of stay compared to potential mental health problems; nonetheless, presence of potential substance use problems was associated with 1.07 times longer stay in jail compared to the absence of potential substance use problems.

Length of Stay by BJMHS Decision Rules

To determine whether certain mental health symptoms were associated with longer or shorter lengths of stay, we also examined length of stay by each BJMHS decision rule. As seen in Figure 10, findings showed that there were indeed significant differences in length of stay as a function of the BJMHS decision rules. Specifically, answering yes to two or more BJMHS items (decision rule #3), indicating current presence of two or more psychiatric symptoms, was associated with the longest length of stay: 28.45 days, on average. Prior hospitalization for psychiatric symptoms (decision rule #2) was associated with the second longest length of stay: 25.17 days, on average. So, prior hospitalization was associated with approximately 3 fewer days in jail, on average, than reporting current psychiatric symptoms. Of the three BJMHS decision rules, current prescription for psychiatric medication (decision rule #1) was associated with the shortest length of stay: 22.29 days, on average. In other words, current prescription for psychiatric medication was associated with approximately 3 days less than reporting a prior hospitalization and almost 1 week less than reporting two or more current psychiatric symptoms.

Figure 10. Length of Stay by BJMHS Decision Rules

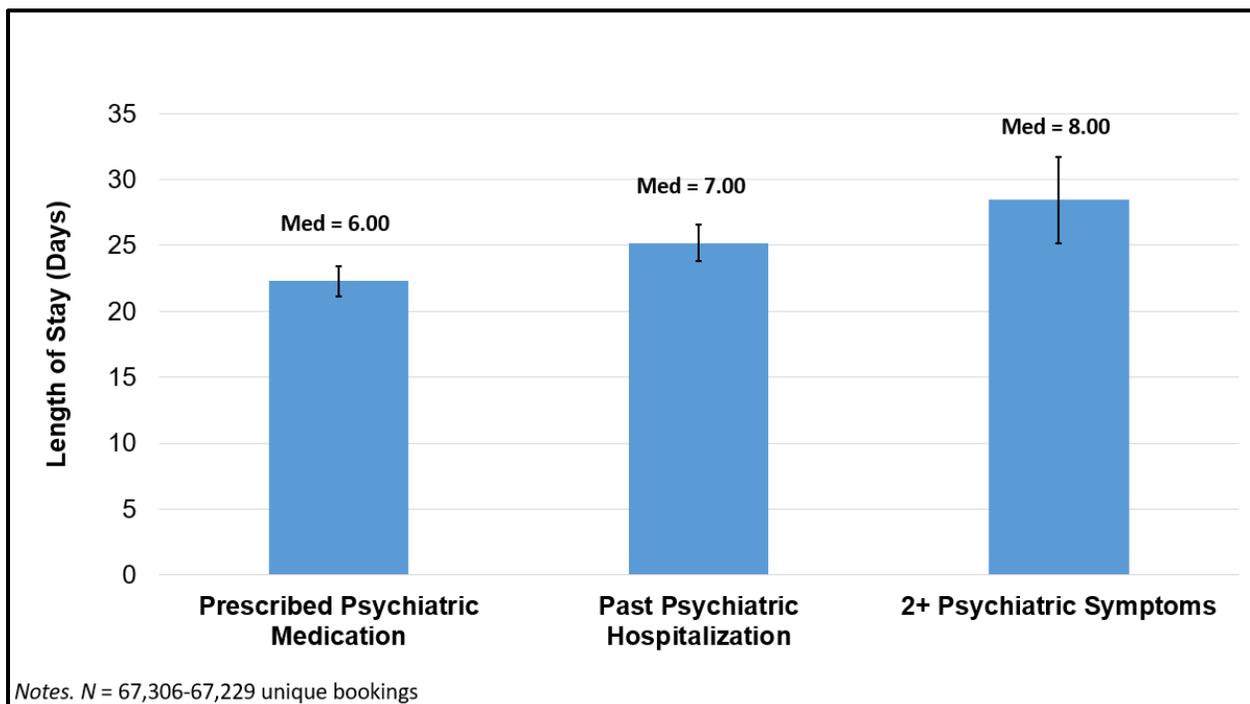


Table 6 presents results of our analysis examining the three BJMHS decision rules as predictors of length of stay, while controlling for other relevant characteristics (including potential substance use problems, age, sex, race, offense level, and number of charges at booking) (see Appendix B, page 56). Findings of this analysis showed that past psychiatric hospitalization was the strongest predictor of length of stay among these BJMHS decision rules; it was associated with 1.21 times more days incarcerated, relative to no reported history of psychiatric hospitalization. However, reporting two or more current psychiatric symptoms and having a current prescription for psychiatric medication remained significant predictions of length of stay. These findings suggest two things: 1) that the differences found in length of stay as a function of the BJMHS decision rules may be accounted for, at least in part, by other characteristics of the detainees, but 2) that the BJMHS decision rules, nonetheless, are important predictors of length of stay.

5. What are the Characteristics of the 90th Percentile Frequent Fliers?

The 90th percentile frequent fliers were identified by the SAS project team as individuals who had more than three jail bookings or two EMS encounters, with associated high HMIS interaction, during the 20-month period of data that was available across the Wake County Jail, EMS, and HMIS datasets. For the current analyses, we examined their characteristics at the time of their first booking into the Wake County Jail during the study period.

Demographic Characteristics

At the time of their first booking into the Wake County Jail during the study period, the 90th percentile frequent fliers ($n = 77$) were an average age of 38.05 years old (Range = 16 to 74). The vast majority were male (80.5%, $n = 54,281$). Slightly more than half were identified as African American (54.5%, $n = 42$) and slightly less than half, Caucasian (45.5%, $n = 35$). During the study period, frequent fliers were booked approximately 9 times, on average.

Relative to the population of bookings into Wake County Jail over the same study period, as well as bookings for those who were identified as having potential mental health problems at intake, frequent fliers were typically older and more likely to be Caucasian. In keeping with the operational definition of “frequent fliers”, they also had significantly more bookings during the study period compared to the population of bookings overall (2.33, on average)¹³ and bookings for detainees identified as having potential mental health problems at intake (2.46, on average).¹⁴

Prevalence of Potential Mental Health Problems

At the time of their first booking during the study period, more than a third of the 90th percentile frequent fliers screened positive (i.e., met one of the decision rules) on the BJMHS (35.1%, $n = 27$) as needing referral and further mental health evaluation. This is more than twice the rate of positive screens on the BJMHS found in the population of bookings overall (16.0%) during the study period.¹⁵ They additionally were more than twice as likely to be referred for further mental health evaluation (42.9%, $n = 33$) relative to the population of bookings (20.4%)¹⁶ In total, nearly half of the 90th percentile frequent fliers either screened positive on the BJMHS at intake or were referred for further mental health evaluation (45.5%, $n = 35$).

Prevalence of Potential Substance Use Problems

The prevalence of potential substance use problems among the 90th percentile frequent fliers (39.0%, $n = 30$) was substantially higher than the prevalence of potential substance use problems across all bookings assessed over the study period (26.4%, $n = 17,819$).¹⁷ The prevalence of potential substance use problems among the frequent fliers was more comparable to the prevalence of potential substance use problems among bookings for detainees identified as having potential mental health problems at intake (35.1%, $n = 3,886$).¹⁸

¹³ $t(67,733) = 19.04, p < .001$

¹⁴ $t(15,551) = 18.60, p < .001$

¹⁵ $\chi^2(1) = 20.85, p < .001$

¹⁶ $\chi^2(1) = 23.96, p < .001$

¹⁷ $\chi^2(1) = 6.28, p = .012$

¹⁸ $p = .463$

Charges at Booking

At the time of their first booking into the Wake County Jail during the study period, the most frequently cited charges for the 90th percentile frequent fliers included trespassing (23.4%, $n = 18$), assaults (13.0%, $n = 10$), liquor law violations (13.0%, $n = 10$), larceny or theft (11.7%, $n = 9$), drug offenses (7.8%, $n = 6$), and disorderly conduct (6.5%, $n = 5$). Other offenses not categorized as part of the UCR system, excluding traffic violations, accounted for 28.6% of charges ($n = 22$) for the frequent fliers.

At the time of their first booking into the Wake County Jail during the study period, the 90th percentile frequent fliers typically (but not always) had higher rates of less severe offenses — such as trespassing, liquor law violations, and disorderly conduct — relative to both the entire population of bookings and bookings for those identified as having potential mental health problems at intake (see Table 4). To demonstrate, 23.4% of the frequent fliers were charged with trespassing, but only 4.6% of all bookings and 7.0% of bookings for those identified with potential mental health problems at intake including trespassing charges. As another example, 13.0% of frequent fliers were charged with a liquor law violation, compared to 2.6% of all bookings and 3.5% of bookings for those identified with potential mental health problems at intake. Frequent fliers also typically had lower rates of more severe offenses; for example, 13.0% of the frequent fliers were charged with assault compared to 20.4% of all bookings and 22.6% of bookings those identified with potential mental health problems at intake.

Additionally, the 90th percentile frequent fliers had significantly fewer charges associated with each booking (1.35, on average; Range = 1 to 4) relative to the population of bookings during the study period (1.75, on average),¹⁹ and bookings for those identified as having potential mental health problems at intake (1.82, on average).²⁰

Length of Stay

The average length of stay for the 90th percentile frequent fliers for their first booking to the Wake County Jail during the study period was 11.82 days (Range = 0 to 105). This average length of stay is shorter than that of the population of bookings (19.76, on average) and bookings for those identified as having potential mental health problems at intake (24.41, on average). These patterns of results are in keeping with the generally lower level of charges observed among frequent fliers. However, due to the large ranges in the lengths of stay across these groups, the differences were not statistically significant.²¹

Table 7 presents the length of stay among the 90th percentile frequent fliers for by booking number (up to the 20th booking) across the study period. Despite the shorter lengths of stay overall, we also found evidence that the lengths of stay for the frequent fliers increased notably with repeat bookings to the Wake County Jail during the study period (see Appendix, page 57). This finding suggests that there may be an escalation in the severity of criminal behavior among this group over time and/or may reflect decreases in leniency demonstrated by responding law enforcement personnel and other decision makers (e.g., judges) as individuals show up repeatedly in the Wake County Jail over time.

¹⁹ $t(67,733) = 3.11, p = .002$

²⁰ $t(15,551) = 3.10, p = .002$

²¹ $ps \geq .054$

Conclusions

This project sought to examine the prevalence, correlates, and consequences of potential mental health problems among detainees in the Wake County Jail by examining the data available within the Jail over a 3-year period. In the sections that follow, we summarize the findings of the analyses addressing our five research questions, in turn. We also highlight some of the limitations of the data that must be considered in the interpretation of the study findings.

Potential Mental Health Problems

Summary of Findings

Overall, 22.9% of bookings into the Wake County Jail during the study period resulted in a positive screen on the BJMHS and/or referral for further mental health evaluation. A greater percentage of bookings for women than men resulted in identification of potential mental health problems: 35.6% and 19.9%, respectively.

Almost one-quarter of bookings into the Wake County Jail were for individuals identified as having potential mental health problems.

These rates are very much in keeping with estimates of the number of detainees who present with symptoms of serious mental illness across the United States. Specifically, a study conducted by Steadman and colleagues (2009) at five jails – two in Maryland and three in New York – found that 31% of female inmates and 15% of male inmates met diagnostic criteria for serious mental illness.²² This study is noteworthy because inmates were screened positive using the BJMHS.

More recently, a special report on findings of the 2011–12 National Inmate Surveys conducted at 358 jails across the United States (Bronson & Berzofsky, 2017) indicated that approximately 26% of jail inmates (26% of men and 32% of women) met the threshold for serious psychological distress, more generally, in the past 30 days.²³ And, 44% reported a history of a broad range of mental health problems.²⁴

²² In the Steadman et al. (2009) study, diagnostic interviews were conducted using the Structured Clinical Interview for DSM-IV (SCID) by trained clinical interviews among inmates that screened positive using the BJMHS. These interviews were conducted within 72 hours of an inmate's admission to the jail. Serious mental illness was defined as including depressive disorder; bipolar disorder; schizophrenia spectrum disorder; schizoaffective disorder; schizophreniform disorder; brief psychotic disorder; delusional disorder; and psychotic disorder not otherwise specified.

²³ Serious psychological distress was defined as a positive response to two or more items on the Kessler 6 (K6) querying whether inmates felt nervous, hopeless, restless or fidgety, so depressed that nothing could cheer them up, everything was an effort, and/or worthless in the past 30 days.

²⁴ History of mental health problem was defined as a positive response to the following question: "Have you ever been told by a mental health professional, such as a psychiatrist or psychologist, that you had (1) manic depression, bipolar disorder, or mania; (2) a depressive disorder; (3) schizophrenia or another psychotic disorder; (4) post-traumatic stress disorder; (5) another anxiety disorder, such as panic disorder or obsessive compulsive disorder; (6) a personality disorder, such as antisocial or borderline personality; or (7) a mental or emotional condition other than those listed above?"

Given these estimates, it appears that the burden placed on the Wake County Jail attributable to mental health problems is generally on par with that experienced by jails across the United States. Our findings also emphasize the overrepresentation of serious mental illness in the Wake County Jail compared to the U.S. general population, where the estimated prevalence of serious mental illness is about 5% overall (Center for Behavioral Health Statistics and Quality, 2016).

Examination of the monthly percentages of bookings for detainees identified as having potential mental health problems at intake suggests that the burden placed on the Wake County Jail related to mental health problems is increasing over time. Specifically, FY2015-16 showed a higher rate of bookings for detainees identified as having potential mental health problems across all months relative to FY2013-14 and FY2014-15. There was some indication that the burden is greater in the late spring through summer months.

Additionally, we found that potential mental health problems were associated more bookings into the Wake County Jail during the study period. Indeed, although the difference in the average number of bookings was relatively small across those with and without potential mental health problems during the study period (about 3 bookings vs. 2.5 bookings), the percentage of individuals with potential mental health problems increased with repeated bookings. For instance, approximately 1 in 5 first-time bookings were for detainees identified as having potential mental health problems at intake versus 1 in 3 bookings for the 20th time during the study period.

Taken together, these findings suggest the need for continued efforts to reduce criminal justice contact among persons with mental health problems in Wake County, including mental health jail diversion strategies and increased housing and community-based treatment options.

Findings also showed that although most detainees who screened positive on the BJMHS were referred for further mental health evaluation, a minority – 1,729 of bookings, representing 16.1% of the positive screens on the BJMHS – did not result in referral. Additional exploration of the data showed that 15.4% of those who reported current prescribed use of a psychiatric medication, 12.2% of those who reported prior hospitalization for psychiatric symptoms, and 14.9% of those who reported two or more current psychiatric symptoms were not referred for further mental health evaluation. The reasons for the lack of referral following positive screens on the BJMHS is not clear and a critical avenue for investigation.

Limitations

Our operationalization of mental health problems is limited to self-report elicited using the BJMHS items and documented mental health referrals by the staff. Although the BJMHS is a validated screening tool (Martin, Colman, Simpson, & McKenzie, 2013) and recommended by SAMHSA (2015) for use with jail inmates, it is not without limitations. The BJMHS is designed to act as a tool to aid in the identification of jail detainees presenting with mental health symptoms sufficient to warrant referral for additional mental health evaluation to determine the presence (or absence) of mental illness. Beyond the reporting on the presence of symptoms (yes, no), detainees are not asked to indicate the frequency or severity of symptoms, nor to describe the degree to which symptoms may be interfering with daily activities. These three pieces of information are necessary criteria to determine the presence of mental illness. To be clear, the BJMHS is not a diagnostic tool, but rather *screens* for mental health problems in correctional settings to identify those in need of further mental health evaluation. It is at the time of this more in-depth evaluation that a diagnosis would occur. Thus, determination of the prevalence of mental disorders in the Wake County Jail

would require information on current diagnoses based on the results of standardized diagnostic assessments or clinical interviews conducted by licensed mental health professionals.

All symptoms were self-reported by detainees at intake and susceptible to under (or over) reporting by detainees, whether intentionally due to social desirability, legal concerns, or for other reasons (e.g., memory errors). That said, screening and assessment of mental and substance use disorders in the justice system is most often based on self-reported information (SAMHSA, 2015). Further, the BJMHS was administered at intake to the Wake County Jail; as such, findings pertain only to the prevalence of potential mental health problems at that time. Detainees' mental health status may worsen (or less likely, improve) during the course of their incarceration.

There also is some evidence that the BJMHS is more accurate for male compared to female inmates (Steadman et al., 2005; see Martin et al., 2013 for a review). As such, it is possible that we underestimated the prevalence of potential mental health problems among women detained in the Wake County Jail. In fact, it is due to concerns regarding the performance of the BJMHS among women that the Correctional Mental Health Screen Form for Women was specified in House Bill 1473 – Section 10.49 (f) to assist in the identification of female inmates with mental illness at booking.

With respect to recidivism, we were limited to examination of the repeated bookings to the Wake County Jail during the study period. To conduct these analyses, we had to use the first booking into the Jail during the study period as the index booking; however, it is likely that many detainees had been booked into the Wake County Jail prior to the study period. It is also possible that detainees were booked into other jails in North Carolina and elsewhere following release from the Wake County Jail. This information was not available to the NC State project team. As such, we may have underestimated recidivism. Indeed, official records may underestimate the true rate of criminal recidivism for this and other reasons (e.g., criminal behavior not known to police, discretionary arrest, etc.) (e.g., Joliffe et al., 2003).

We did not have any information on community re-entry or detainees activities' in the community that could have contributed (or not) to re-booking, such as treatment, social services, or housing. Such information is critical to determining strategies to promote successful community reintegration and to reduce recidivism by addressing the challenges and barriers experienced by detainees with mental health problems who are released from the Wake County Jail.

Co-Occurrence of Potential Substance Use Problems

Summary of Findings

We found that over one-quarter of bookings were for detainees identified as having potential substance use problems at intake. Due to our exclusion of self-reported alcohol use, these findings likely represent a substantial underestimate of substance use problems among Wake County Jail detainees. Indeed, this rate is much lower than other estimated rates of substance use problems among jail inmates. For instance, results from the 2008 and 2008-09 National Inmate Surveys (Bronson, Stroop, Zimmer, & Berzofsky, 2017) found that almost two-thirds of jail inmates (63%) met criteria for drug abuse or dependence. The prevalence of potential substance use problems

For 1 in 4 bookings, detainees were identified as having potential substance use problems.

at intake is higher than current estimates of the rate of drug use in the general population (about 10%) but (unexpectedly) comparable to estimates of the rate of alcohol use (25%) in the general population (National Center for Health Statistics, 2017). Again, these comparisons suggest that we have underidentified substance use problems among detainees in the Wake County Jail. They additionally may reflect our use of bookings rather than unique persons as the unit of analysis; these national surveys used the latter.

We found slightly higher rates of bookings for men (27.2%) than women (24.0%) that resulted in identification of potential substance use problems at intake; the opposite is typically true. The 2008 and 2008-09 National Inmate Surveys, for example, found 60% of female jail inmates used drugs in the month before their index offense, compared to 54% of male inmates (Bronson et al., 2017). Together, these findings indicate that implementing a more systematic and sensitive approach to identifying substance use problems at intake into the Wake County Jail is essential.

1 in 3 detainees with potential mental health problems also were identified as having potential substance use problems.

As anticipated, we found evidence that potential mental health problems co-occur with potential substance use problems. Specifically, the percentage of bookings for which detainees were identified as having potential mental health problems at intake were higher among those identified as having potential substance use problems (32.4%) relative to those who were not identified as having potential substance use

problems (19.4%). This pattern of results is similar to (although lower than) national estimates of drug use among jail inmates with (60%) and without (40%) mental disorders (Mumola, & Karberg, 2006). These findings support the implementation of strategies that take an integrated approach to addressing co-occurring mental health and substance use problems.

Limitations

Although this issue has already been discussed throughout the report, it bears repeating that the major limitation of the findings with respect to substance use problems among Wake County Jail detainees was our inability to include information on self-reported alcohol use. We were limited to information regarding whether detainees self-reported drug use during the medical screen, appear to be suffering from withdrawal symptoms, or appeared to be under the influence at the time of intake.

We also are limited to discussions of potential substance use *problems* and not substance use *disorders*, which would speak to the chronicity and severity of use. As noted earlier, conclusions regarding substance use disorders would require information on prior clinical diagnoses, the results of biological tests (e.g., urine drug screens), or current diagnoses based upon the results of standardized diagnostic assessments or clinical interviews conducted by licensed mental health professionals.

As for mental health problems, detainees were asked to self-report their drug use and many stakeholders have questioned the reliability and validity of this data. Again, however, there is a wide body of research supporting the reliability and validity of self-report of sensitive information, including alcohol and drug use, even among jail detainees or other correctional populations and those with mental health problems (Darke, 1998; Desmarais, Van Dorn, Sellers, Young, & Swartz,

2013; Peters, Kremling, & Hunt, 2015; Van Dorn, Desmarais, Young, Sellers, & Swartz, 2011). And, as noted earlier, screening and assessment of mental and substance use disorders in the justice system is most often based on self-report information (SAMHSA, 2015). Nonetheless, use of alternative strategies to complement self-reported drug use, such as use standardized measures (McElrath, 1994) or inclusion of the results of urine drug screens (but see Johnson, Desmarais, Swartz, & Van Dorn, 2015), may increase the confidence in the self-reported information (Harrison, 1997).

Finally, we examined substance use as one catchall category and did not disaggregate findings with respect to specific substances that may of interest (e.g., prescription drugs vs. illicit drugs, opioids, marijuana, alcohol, etc.).

Charges at Booking

Summary of Findings

We found some differences in the type and number of charges between bookings for those who were and were not identified as having potential mental health problems at intake. However, when there were differences, they were relatively small. On the one hand, bookings for individuals who were identified as having potential mental health problems at intake to the Wake County Jail were *more* likely to include larceny or theft (11.3% vs. 8.6%), trespassing (7.0% vs. 3.9%), property damage (3.9% vs. 2.8%), curfew, loitering, or vagrancy (1.3% vs. 0.5%), and disorderly conduct (1.8% vs. 1.0%) charges compared to bookings for individuals who were not identified as having potential mental health problems. They also were more likely to be charged with assault (22.0% vs. 19.7%). On the other hand, bookings for individuals who were identified as having potential mental health problems at intake to the Wake County Jail were *less* likely include weapons

Potential mental health problems were associated with higher rates of charges for lower level offenses, and lower rates for higher level offenses.

violations (1.7% vs. 2.4%), driving under the influence (4.5% vs. 5.8%), and other traffic violations (7.0% vs. 3.9%) charges. With respect to the number of charges, the difference was similarly small and, on average, about two charges were associated with each booking (regardless of potential mental health problems).

These findings are consistent with the notion that persons with mental health problems are often arrested for “nuisance crimes” and point towards opportunities for jail diversion. At the same time, they indicate that there may be an escalation during the arrest process that leads to increased assault in the prevalence of assault charges; for instance, an individual with active psychotic symptoms, including paranoia, is likely to become increasingly agitated when approached by law enforcement officers. There also may be violence that is attributable to mental illness itself. Research demonstrates that there is a modest but significant increase in violence risk associated with mental illness (Van Dorn, Volavka, & Johnson, 2011). However, adults with mental illness are much more likely to be the victims than the perpetrators of violent crime (Desmarais et al., 2014). Further, the rate of violent crime in the United States attributable to mental illness is estimated to be 3% to 5% (Appelbaum, 2006) and fewer than 5% of gun-related homicides are perpetrated by individuals diagnosed with mental illness (Metzl & MacLeish, 2015).

Taken together, findings support the need for ongoing implementation of Crisis Intervention Training to increase law enforcement officers' knowledge, skills, and resources to (safely) respond to persons with mental health problems in Wake County. However, these findings indicate there may be opportunities for post-booking diversion, as well. (See recommendations 8 and 9.)

Limitations

We used the UCR categories to describe charge levels and categories for several reasons, including the complexity of NC Chapter 14, the inconsistent documentation of charge level (i.e., misdemeanor vs. felony) at the time of booking, and to be consistent with the approach used by the SAS project team. However, not all charges fit neatly into UCR categories, requiring some judgments regarding charge level and category on a case-by-case basis.

Additionally, we examined charges that were entered at the time of intake to the Wake County Jail. There may have been discretion used by the officer regarding the specific charges to enter. We do not have information regarding whether these charges ultimately resulted in conviction and/or if there were differences in the convicted offense(s) for a variety of reasons (e.g., plea bargaining). Similarly, when there were multiple charges, we were unable to determine which was the primary or initial charge and whether subsequent charges were incurred during the process of arrest. Such information may help us understand the reasons behind the observed differences in charge categories and number of charges as a function of potential mental health problems. In doing so, we may be able to identify potential opportunities for de-escalation and other interventions, including jail diversion.

Length of Stay

Summary of Findings

Overall, the average length of stay in the Wake County Jail during our study period was 22 days or about three weeks. Results showed that there was a significant increase in length of stay associated with potential mental health problems: average length of stay following bookings for detainees identified as having potential mental health problems was 24 days versus 21 days for bookings for detainees who were not identified as having potential mental health problems. Although the practical difference was relatively small – just 3 days – the effects may accumulate over time and represent a significant increased burden on the jail. When we looked at the most frequent length of stay, length of stay was twice as long following bookings for those identified as having potential mental health problems at intake (6 days) compared to bookings for those not identified as having potential mental health problems (3 days).

Potential mental health problems were associated with greater lengths of stay.

Comparison of length of stay as a function of the BJMHS decision rules showed that reporting two or more current psychiatric symptoms was associated with even longer average lengths of stay (i.e., 28 days or 4 weeks), as was reporting a past psychiatric hospitalization at the time of booking (i.e., 25 days). In contrast, reporting current prescription for psychiatric medication was associated with an average length of stay that was comparable to the average for the overall jail population: 22 days.

These findings are consistent with our other findings that bookings for individuals identified as having potential mental health problems at intake include more charges, on average. However, given the typically lower level of severity of the booking charges, they also suggest that there may be factors that occur during their incarceration that contribute to their length stay. For example, findings of the 2011–12 National Inmate Surveys indicated that jail inmates who met criteria for experiencing serious psychological distress and those with a history of mental health problems were more than twice as likely to be written up or charged with assaults while incarcerated (9.7% and 9.9%, respectively) compared to those with no indicator for a mental health problem (4.2%) (Bronson & Berzofsky, 2017). Along those lines, when we conducted analyses that took into account for the level of offense(s) and the number of charges at booking, the presence of potential mental health problems was still associated with longer periods of incarceration.

Limitations

We examined length of stay across all bookings, regardless of detainees' criminal justice status (e.g., charged vs. convicted) as this information was not readily available in the data provided by the Wake County Jail. There may be interesting differences in length of stay as a function of potential mental health problems for those who are versus are not serving sentences. In the absence of this information, an alternative strategy may be to examine length of stay for those who stay for a minimum period of stay (such as 3 days), which has been done in prior analyses (e.g., Council of State Governments Justice Center, 2012).

Our findings do not elucidate why detainees with potential mental health problems had greater lengths of stay. We examined demographic and charge characteristics, but did not have information on how and where detainees spent their time while incarcerated. Information on housing (including transfers to medical units or seclusion), behavior or infractions, or mental health status *while incarcerated*, for example, would provide further insights regarding factors that contribute to length of stay.

We did not examine whether length of stay increased over repeat bookings, but instead examined length of stay across all bookings. Given the higher number of bookings during the study period associated with potential mental health problems at intake, it is reasonable to assume that the disparities in length of stay associated with mental health problems also may increase over time.

90th Percentile Frequent Fliers

Summary of Findings

The SAS project team provided the list of persons who had more than three jail bookings or two EMS encounters, with associated high HMIS interaction, during the 20-month period of data that was available across the Wake County Jail, EMS, and HMIS datasets. These values represented the 90th percentile

Frequent fliers were more likely to be identified as having potential mental health and/or substance use problems at intake than the overall jail population.

for jail bookings and EMS encounters. Compared to the overall population of jail bookings, the 90th percentile frequent fliers were twice as likely to be identified as having potential mental health

problems at intake. They also were much more likely to be identified as having potential substance use problems at intake.

With respect to criminal justice characteristics, the 90th percentile frequent fliers tended to have fewer charges, their charges tended to be less severe, and their lengths of stay tended to be shorter compared to those of the population of bookings examined in this study. But, the 90th percentile frequent fliers were booked significantly more times during the study period and their lengths of stay increased over time. As discussed earlier with regard to similar trends associated with potential mental health problems, the 90th percentile frequent fliers appear to initially come into contact with the Wake County Jail for relatively low level crimes, but there is an escalation over time that may be attributable to multiple factors, including those resulting from contact with the Wake County Jail.

Again, these findings point towards opportunities for early intervention and diversion, including but not limited to pre-booking and post-booking diversion strategies already discussed. With this particular subgroup, an additional strategy may be to leverage the North Carolina SSI/SSDI Outreach, Access, and Recovery (SOAR) initiative. (See recommendation 10.)

Limitations

An inherent limitation was our reliance on frequent fliers identified by SAS project team through a separate data cleaning and analysis process. As such, there may have been discrepancies in our measurement and operational definitions that preclude meaningful comparisons of findings across these two reports. Indeed, for our report, we chose to focus on a clinically significant subgroup of the 90th percentile frequent fliers, while SAS examined characteristics of the 95th percentile heavy users (or familiar faces). These two strategies both have value, but, again, resulted in different groups of interest and levels of analysis (i.e., bookings vs. persons). Further, we were originally provided with a list of 87 frequent fliers by the SAS project team, but only 77 represented unique persons (i.e., some were the same person who provided a different name or alias across bookings).

As the NC State project focused on the data available within the Wake County Jail, we did not have access to the EMS or HMIS datasets. As a result, we do not have information that would help clarify the reasons for the high level of contact persons in this group had with multiple agencies in our community.

Recommendations

Based upon key findings of our project, we have 13 specific recommendations towards the goal of reducing the burden on the Wake County Jail due to mental health problems. These strategies take into account not only local needs, challenges, and barriers, but also reflect national models and best practices for the assessment, care, and successful community re-entry of those with mental health problems who come into contact with the criminal justice system. These recommendations include both the leveraging of existing resources and efforts, as well as the identification of service gaps and promising or evidence-based services that have the greatest likelihood of success vis-à-vis reducing the prevalence of mental health problems in the Wake County Jail over the long-term.

There was considerable discussion amongst stakeholders regarding concerns that detainees may not be forthcoming regarding their mental health symptoms at intake. Further, mental health may worsen while in jail for many reasons.

Recommendation 1

Re-administer the BJMHS for all detainees at the time of classification. Doing so, should: 1) afford the opportunity to detect changes in mental health from the time of intake to classification, and 2) promote disclosure of mental health symptoms resulting from increased rapport and familiarity with jail staff, with the screening process, etc.

There were differences in the prevalence and consequences associated with the various BJMHS decision rules. Many of the positive screens and referrals reflected current medication use and/or prior hospitalization in the absence of current symptoms. Also, outcomes differed as a function of the BJMHS decision rules: Length of stay was significantly longer for those detainees who indicated current presence of two or more psychiatric symptoms (decision rule #3).

Recommendation 2

Use the BJMHS decision rules to inform priority among those referred for further mental health evaluation, and to inform classification. To demonstrate, those detainees who indicate current presence of two or more psychiatric symptoms (decision rule #3) should be prioritized among those referred for further mental health evaluation. These individuals may be at heightened risk of violence and/or suicide and, as such, would benefit from specialized housing and increased supervision. Those detainees who report prior psychiatric hospitalization (decision rule #2) could be seen as a lower priority and may not require specialized housing or supervision, especially in the absence of two or more current symptoms. Finally, those detainees who report current prescription for psychiatric medication should be prioritized for referral to medical staff (ideally within 24 hours) to promote medication continuity followed by a mental health evaluation (at a later date), but typically should not require specialized housing or increased supervision.

Recommendation 3

Establish a clear protocol for intake staff regarding steps that need to be followed when an inmate screens positive on the BJMHS. These may include general guidelines that explicitly when a referral for mental health evaluation must be made, as well as guidelines regarding priority among those referred (see above).

There were some discrepancies between positive screens on the BJMHS and referral for further mental health evaluation.

Recommendation 4

Conduct training for intake staff on the administration of the BJMHS and the decision rules. Training should occur for new staff at the time of their onboarding, as well as for existing staff at regular intervals (e.g., every 6 months) in the form of a brief refresher training. This recommendation would also apply to classification officers, should recommendation #1 be implemented.

Recommendation 5

In addition to the development of a referral and prioritization protocol, develop and implement communication protocol to enhance communication and information sharing between staff at intake, classification officers, and medical staff. Doing so, may reduce the likelihood that referrals are not made in the presence of a positive BJMHS screen due to a lack of documentation and/or communication.

There was evidence supporting the co-occurrence of mental health and substance use problems. There also were concerns regarding the detection of substance use problems: Rates of potential substance use problems detected in the Wake County Jail were lower than those reported in national surveys of jail inmates.

Recommendation 6

Implement an integrated approach for assessing and treating jail inmates with co-occurring mental health and substance use problems, consistent with best practices and national standards. Integrated approaches simultaneously address both mental health and substance use problems concurrently and consider the ways in which they interact with each other. They are typically delivered by one clinician or team, and in this way, may represent a more efficient use of resources for reasons associated with staff, space, and transportation, among others (Minkoff, 1989). Such strategies may be challenging to implement in jails (Chandler, Peters, Field, & Juliano-Bolt, 2004). However, they are much more effective services in terms of engaging individuals, reducing substance use, and stabilizing mental health symptoms (Drake, Mercer-McFadden, Muser, McHugo, & Bond, 1998) than approaches that treat mental health and substance use problems separately.

Further information and resources on evidence-based practices for treating co-occurring mental and substance use disorders are available here: <https://www.samhsa.gov/disorders>.

Recommendation 7

Implement a standardized and validated tool to support universal screening of substance use at intake. There are many such tools recommended by SAMHSA specifically for use with jail inmates at intake (SAMHSA, 2015), such as the Simple Screening Instrument for Substance Abuse (SSI; CSAT, 1994) or the Texas Christian University Drug Dependence Screen V (TCUDS V; Institute of Behavioral Research, 2014). These instruments are somewhat longer than may be feasible (16 and 17 items respectively). An alternative may be the CAGE-AID, a four-item instrument that screens for both alcohol and other drug use disorders (Brown & Rounds, 1995). Although not one of the instruments recommended by SAMHSA, there is research supporting its validity and it is widely used. The shorter length of the CAGE-AID may make it more appropriate for Wake County Jail given the high volume of admissions. Any one of these tools would represent an improvement over current substance use screening practices.

SAMHSA best practice guidelines state that criminal justice agencies should: 1) conduct routine screening at entry points; and 2) use standardized instruments that include cut-off points to identify whether a person should be referred for further evaluation. For further information, see: <https://www.samhsa.gov/disorders/co-occurring#criminal-justice>.

We found relatively low rates of high level offenses and, conversely, high rates of low level offenses associated with potential mental health problems, as well as among 90th percentile frequent fliers. However, we also found higher rates of return to jail during the study period and escalation in criminal behavior over time.

Recommendation 8

Conduct ongoing Crisis Intervention Training (CIT) for law enforcement officers, as well as detention officers and other jail staff. This training is very effective in improving officers' knowledge, skills, and resources to (safely) respond to individuals with mental health problems. Such a strategy may contribute to reduced arrest due to increased diversion to other community-based settings, including treatment; reduced severe and number of charges associated with escalation that occurs during the process of arrest, and consequently, reduced length of stay. It also may help improve interactions between law enforcement officers, jail staff, persons with mental health problems, and their families. As with BJMHS training, CIT should occur for new staff at the time of their onboarding, as well as for existing staff at regular intervals (e.g., every 6 months) in the form of a brief refresher training.

Recommendation 9

Explore post-booking diversion options. Briefly, post-booking diversion involves post-booking program involves identifying detainees with mental health problems after they have been booked into the county. Once identified, judges can approve their transfer from jail to a crisis unit or other community-based housing where they receive treatment while the court monitors their progress and case managers employed by the courts and the local managed care organization arrange for ongoing treatment and housing. For such a post-booking strategy to be successful, there would need to be support, commitment, and resources provided by the managed care organization in

Wake County, as well as the use of structured assessment tools to identify risks to public safety, including recidivism and violence and, thus, appropriateness for diversion.

See Inglehart (2016) for a description of the Criminal Mental Health Project in Miami, Florida, that operates pre- and post-booking jail diversion programs in the 11th Judicial Circuit Court of Florida.

Recommendation 10

Leverage the North Carolina SOAR initiative to train and link homeless detainees with mental health problems with SOAR case managers . The SOAR model was developed to address low approval rates for SSI/SSDI benefits among homeless adults by training case managers on the disability application process (Dennis, Lassiter, Connelly, & Lupfer, 2011). The SOAR model has been implemented in all 50 states and program evaluations show increased approval rates and reduced time to approval (Dennis et al., 2011; Kauff, Clary, Lupfer, & Fischer, 2016; SOAR Technical Assistance Center, 2016), even among individuals involved in the criminal justice system (Dennis, Ware & Steadman, 2014). Further, receipt of benefits can reduce risk of re-arrest and substance use in justice-involved adults following release from jail (Freudenberg, Daniels, Crum, Perkins, & Richie, 2005). For these reasons, having SOAR case managers work with detainees could expedite access to benefits and, potentially, reduce recidivism to the Wake County Jail (as well as health care, housing, and social service agencies).

For more information on the NC SOAR initiative, visit: <http://www.ncceh.org/ncsoar/>.

For more information on SOAR generally, visit: <https://www.samhsa.gov/soar>.

The BJMHS is a mental health screening tool; it is not a violence risk or suicide risk screening tool. Although risk of violence and suicide are heightened among those with mental illnesses, not all persons with mental illnesses are at heightened risk and not all persons without mental illnesses are at low risk. Mental illness is just one risk factor associated with violence and suicide. Similarly, the BJMHS is not a recidivism screening tool.

Recommendation 11

Implement suicide, violence, and/or recidivism risk screening instruments. This could occur in the form of individual tools that predict each of the outcomes. To demonstrate, there are many screening tools designed specifically to predict suicide risk. SAMHSA (2015) recommends the Interpersonal Needs Questionnaire coupled with the Acquired Capability for Suicide Scale (Van Orden, Cukrowicz, Witte, & Joiner, 2012), the Beck Scale for Suicide Ideation (Beck & Steer, 1991), or the Adult Suicidal Ideation Questionnaire (Reynolds, 1991) for use in correctional settings. Each of these instruments takes about 10–15 minutes to administer and score. A positive screen indicates the need for referral for further evaluation by a mental health professional.

An even shorter option is the Columbia-Suicide Severity Rating Scale (C-SSR). The C-SSR is a 6-item screening tool that provides color-coded risk stratification and next steps appropriate for correctional settings. Although validated in other settings, there has been limited examination of its reliability and validity in jails.

Further information on the C-SSR is available here: <http://cssrs.columbia.edu/the-columbia-scale-c-ssrs/about-the-scale/>

With respect to violence risk, there are several different options, each with their strengths and weaknesses. For example, the Violence Risk Appraisal Guide (Quinsey et al., 2006), Violence Risk Scale (Wong & Gordon, 2009), and V-RISK-10 (Hartvig et al., 2007) are among the shortest of the most widely used risk assessment tools in the world (Singh et al., 2014), but each comprise 10 or more items and require information not typically available at intake, such as information on the presence of personality disorders or evidence of elementary school maladjustment. Further, there is relatively limited information on the use of any violence risk assessment tool for use at jail intake. These tools more frequently have been implemented and tested with respect to their utility in predicting violence amongst jail inmates who are already sentenced (e.g., Hastings, Krishnan, Tangney, & Stuewig, 2011).

Alternatively, there may be value in replacing the BJMHS with one tool that is designed to screen for mental health problems, suicide risk, and violence risk, such as the Jail Screening Assessment Tool (JSAT; Nicholls, Roesch, Olley, Ogloff, & Hemphill, 2005). The JSAT is completed by nursing or psychology staff (not correctional officers), and requires 20-30 minutes to complete. It has been validated in a few different studies, but is much less widely used than the BJMHS.

Further information on the JSAT is available here: <http://proactive-resolutions.com/shop/jail-screening-assessment-tool-jsat/>

The Stepping Up Initiative also recommends a pretrial recidivism risk assessment to inform decisions about a defendant's pretrial release, eligibility for pretrial diversion, and conditions of pretrial supervision. Such screenings do not necessarily have to occur at intake but should be conducted prior to a detainee's first appearance in court to speak to their risk for failure to appear and their risk for engaging in further criminal activity (Fader-Towe & Osher, 2015). There are more than 60 risk assessment instruments used across the United States (Desmarais & Singh, 2013). Some tools that may be appropriate for the Wake County Jail include: the Ohio Risk Assessment System's 7-item pretrial tool (<http://www.drc.ohio.gov/oras>) and the Arnold Foundation's Public Safety Assessment (<http://www.arnoldfoundation.org/initiative/criminal-justice/crime-prevention/public-safety-assessment/>).

The BJMHS does not screen for symptoms of Posttraumatic Stress Disorder or other trauma-related sequelae.

Recommendation 12

Implement a trauma-specific screening tool and/or add trauma-specific items to the existing screening protocol. Trauma histories, like mental illnesses, are overrepresented in correctional populations and often co-occur with mental health and/or substance use problems. To demonstrate, approximately 20% to 40% of offenders who have substance use disorders also have trauma histories and posttraumatic stress disorder (Steadman et al., 2013).

SAMHSA (2015) recommends either the Trauma History Screen (Carlson et al., 2011), or the Life Stressor Checklist (Wolfe & Kimerling, 1997), or the Life Events Checklist-5 (Gray, Litz, Hsu, & Lombardo, 2004) to identify exposure to traumatic events and the Posttraumatic Stress Disorder Checklist for DSM-5 (Weathers et al., 2013) to identify trauma symptom severity. Individuals who

screen positive would then be referred for further evaluation by a mental health professional. This combined screen would require approximately 15–20 minutes to administer and score.

Alternatively, the MINI International Neuropsychiatric Interview (Sheehan et al., 1997) is a short structured diagnostic interview that includes three items that pertain specifically to posttraumatic stress disorder. These three items could be used to supplement the current mental health screening protocol without adding considerable time and/or resources. Such a strategy was shown to improve detection of trauma-related symptoms above and beyond the BJMHS (Eno Louden, Skeem, & Blevins, 2012).

The BJMHS may under identify mental health problems among women.

Recommendation 13

Use a mental health screening tool that is specifically designed for women, such as the CMHS–W, to identify female inmates who should be referred for further mental health evaluation. This recommendation is consistent with the original guidance of House Bill 1473 and SAMHSA (2015) recommendations. Some studies have found that the BJMHS has poor sensitivity with women; that is, accuracy in detecting women experiencing mental health problems is low (see Martin et al., 2013, for a review). However, other studies have found comparable performance of the BJMHS for men and women (e.g., Eno Louden et al., 2012). As such, this recommendation may be of lower priority.

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Appendices

Appendix A. Brief Jail Mental Health Screen²⁵

BRIEF JAIL MENTAL HEALTH SCREEN

Section 1

Name: _____ <small>First MI Last</small>	Detainee #: _____	Date: ___/___/_____	Time: _____ AM PM
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Section 2

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 know 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 usually are?			
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. Are you <i>currently</i> taking any medication prescribed for you by a physician for any emotional or mental health problems?			
8. Have you <i>ever</i> been in a hospital for emotional or mental health problems?			

Section 3 (Optional)

Officer's Comments/Impressions (check *all* that apply):

Language barrier Under the influence of drugs/alcohol Non-cooperative
 Difficulty understanding questions Other, specify: _____

Referral Instructions: This detainee should be referred for further mental health evaluation if he/she answered:

- YES to item 7; OR
- YES to item 8; OR
- YES to at least 2 of items 1 through 6; OR
- If you feel it is necessary for any other reason

Not Referred

Referred on ___/___/_____ to _____

Person completing screen _____

INSTRUCTIONS ON REVERSE

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INSTRUCTIONS FOR COMPLETING THE BRIEF JAIL MENTAL HEALTH SCREEN

GENERAL INFORMATION:

This Brief Jail Mental Health Screen (BJMHS) was developed by Policy Research Associates, Inc., with a grant from the National Institute of Justice. The BJMHS is an efficient mental health screen that will aid in the early identification of severe mental illnesses and other acute psychiatric problems during the intake process.

This screen should be administered by Correctional Officers during the jail's intake/booking process.

INSTRUCTIONS FOR SECTION 1:

NAME: Enter detainees name — first, middle initial, and last
 DETAINEE#: Enter detainee number.
 DATE: Enter today's month, day, and year.
 TIME: Enter the current time and circle AM or PM.

INSTRUCTIONS FOR SECTION 2:

ITEMS 1-6:

Place a check mark in the appropriate column (for "NO" or "YES" response).

If the detainee REFUSES to answer the question or says that he/she DOES NOT KNOW the answer to the question, do not check "NO" or "YES." Instead, in the General Comments section, indicate REFUSED or DON'T KNOW and include information explaining why the detainee did not answer the question.

ITEMS 7-8:

ITEM 7: This refers to any *prescribed* medication for any emotional or mental health problems.

ITEM 8: Include any stay of one night or longer. Do NOT include contact with an Emergency Room if it did not lead to an admission to the hospital

If the detainee REFUSES to answer the question or says that he/she DOES NOT KNOW the answer to the question, do not check "NO" or "YES." Instead, in the General Comments section, indicate REFUSED or DON'T KNOW and include information explaining why the detainee did not answer the question.

General Comments Column:

As indicated above, if the detainee REFUSES to answer the question or says that he/she DOES NOT KNOW the answer to the question, do not check "NO" or "YES." Instead, in the General Comments section, indicate REFUSED or DON'T KNOW and include information explaining why the detainee did not answer the question.

All "YES" responses require a note in the General Comments section to document:

- (1) Information about the detainee that the officer feels relevant and important
- (2) Information specifically requested in question

If at any point during administration of the BJMHS the detainee experiences distress, he/she should follow the jails procedure for referral services.

INSTRUCTIONS FOR SECTION 3:

OFFICER'S COMMENTS: Check any one or more of the four problems listed if applicable to this screening. If any other problem(s) occurred, please check OTHER, and note what it was.

REFERRAL INSTRUCTIONS:

Any detainee answering YES to Item 7 or YES to Item 8 or YES to at least two of Items 1-6 should be referred for further mental health evaluation. If there is any other information or reason why the officer feels it is necessary for the detainee to have a mental health evaluation, the detainee should be referred. Please indicate whether or not the detainee was referred.

Appendix B. Data Tables

Table 1. Characteristics Associated with Referral Following Positive Screens

Predictor	Statistics			
	Wald χ^2	OR	95% CI	<i>p</i> value
Age	0.60	1.00	[0.99, 1.00]	.438
Sex (male)	1.64	1.08	[0.96, 1.21]	.200
Race (non-Caucasian)	1.40	0.94	[0.84, 1.04]	.236
Highest offense (level A)	43.81	0.61	[0.52, 0.70]	<.001
Highest offense (level B)	50.89	0.59	[0.51, 0.68]	<.001
Number of charges at booking	<0.01	1.00	[0.95, 1.05]	.992
Booking number	2.91	1.02	[1.00, 1.03]	.088
Substance use problems (yes)	4.24	0.89	[0.79, 0.99]	.040
Currently on medication (yes)	83.14	0.52	[0.45, 0.60]	<.001
Ever hospitalized (yes)	181.43	0.44	[0.39, 0.50]	<.001
2+ psychiatric symptoms (yes)	15.22	0.71	[0.60, 0.84]	<.001

Notes. *N* = 10,717 first-time bookings. OR = odds ratio. CI = confidence interval for OR. “Other Offenses” served as the reference group for both Highest Offense variables. Estimates produced in binary logistic regression model.

Model $\chi^2(11) = 308.70$, $p < .001$, Nagelkerke $R^2 = .05$

Table 2. Potential Mental Health Problems at Intake by Booking Number

Booking	Total		Potential Mental Health Problems			
			Yes		No	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1	38,063	56.3	8,257	21.7	29,806	78.3
2	12,606	18.6	2,993	23.7	9,613	76.3
3	6,243	9.2	1,480	23.7	4,763	76.3
4	3,581	5.3	870	24.3	2,711	75.7
5	2,176	3.2	510	23.4	1,666	76.6
6	1,397	2.1	375	26.8	1,022	73.2
7	916	1.3	246	26.9	670	73.1
8	616	0.9	169	27.4	447	72.6
9	427	0.6	131	30.7	296	69.3
10	316	0.5	70	22.2	246	77.8
11	241	0.4	61	25.3	180	74.7
12	178	0.3	49	27.5	129	72.5
13	144	0.2	39	27.1	105	72.9
14	109	0.2	38	34.9	71	65.1
15	86	0.1	29	33.7	57	66.3
16	69	0.1	21	30.4	48	69.6
17	58	0.1	25	43.1	33	56.9
18	46	0.1	15	32.6	31	67.4
19	43	0.1	12	27.9	31	72.1
20	34	0.1	11	32.4	23	67.6

Notes. *N* = 67,349 bookings, representing 99.5% of bookings.

Table 3. Predictors of Return to Jail Following an Initial Booking during the Study Period

Predictor	Statistics			
	Wald χ^2	IRR	95% CI	<i>p</i> value
Mental health problems	134.00	1.26	[1.21, 1.31]	<.001
Substance use problems	301.59	1.37	[1.32, 1.42]	<.001
Age	117.66	0.99	[0.99, 0.99]	<.001
Sex (male)	137.44	1.27	[1.22, 1.33]	<.001
Race (non-Caucasian)	504.59	1.46	[1.41, 1.51]	<.001
Highest offense (level A)	30.79	0.87	[0.83, 0.92]	<.001
Highest offense (level B)	10.78	0.92	[0.88, 0.97]	.001
Charges at booking	1.92	1.01	[1.00, 1.02]	.166
Days in community	2,485.27	1.001	[1.001, 1.001]	<.001

Notes. *N* = 37,802 bookings. IRR = incidence rate ratio. CI = confidence interval for IRR. “Other Offenses” served as the reference group for both Highest Offense variables. Estimates produced in negative binomial regression model.

Model χ^2 (9) = 4,029.85, *p* < .001.

Table 4. Charge Type by Potential Mental Health Problems at Intake

Offense Category	All Bookings		Mental Health Problems				Comparison		
	n	% ^a	Yes		No		X ²	p	Φ
			n	% ^a	n	% ^a			
A-Level Offenses (most severe)									
Arson	56	0.10	23	0.10	33	0.10	10.52	.001	.01
Assault	13,827	20.4	3,493	22.6	10,334	19.7	56.19	<.001	.03
Bribery	6	<0.01	2	<0.01	4	<0.01	0.37	.542	NS
Burglary/B & E	3,074	4.5	758	4.9	2,316	4.4	5.81	.016	.01
Counterfeiting/Forgery	719	1.1	160	1.0	559	1.1	0.16	.690	NS
Damage to property	2,078	3.1	610	3.9	1,468	2.8	51.05	<.001	.03
Drug/Narcotic	8,296	12.3	2,057	13.3	6,239	12.0	19.78	<.001	.02
Embezzlement	187	0.3	30	0.2	157	0.3	4.96	.026	-.01
Extortion/Blackmail	14	<0.01	1	<0.01	13	<0.01	1.96	.161	NS
Fraud	2,743	4.1	723	4.7	2,020	3.9	19.67	<.001	.02
Homicide	145	0.2	37	0.2	108	0.2	0.58	.448	NS
Human trafficking	23	<0.01	5	<0.01	18	<0.01	0.02	.897	NS
Kidnapping/Abduction	427	0.6	91	0.6	336	0.6	0.59	.441	NS
Larceny/Theft	6,207	9.2	1,742	11.3	4,465	8.6	104.39	<.001	.04
Motor vehicle theft	746	1.1	225	1.5	521	1.0	22.70	<.001	.02
Pornography	8	<0.01	2	<0.01	6	<0.01	0.02	.886	NS
Prostitution	145	0.2	51	0.3	94	0.2	12.46	<.001	.01
Robbery	1,162	1.7	246	1.6	916	1.8	1.94	.163	NS
Sex offenses (forcible)	513	0.8	150	1.0	363	0.7	11.87	.001	.01
Sex offenses (nonforcible)	143	0.2	40	0.3	103	0.2	2.11	.146	NS
B-Level Offenses (less severe)									
Stolen property	1,859	2.7	374	2.4	1,485	2.8	8.23	.004	-.01
Weapons law violations	1,495	2.2	264	1.7	1,231	2.4	23.57	<.001	-.02
Bad checks	207	0.3	55	0.4	152	0.3	1.61	.205	NS
Curfew/Loitering/Vagrancy	453	0.7	205	1.3	248	0.5	129.48	<.001	.04
Disorderly conduct	818	1.2	285	1.8	533	1.0	67.22	<.001	.03
Driving under the influence	3,728	5.5	696	4.5	3,032	5.8	39.53	<.001	-.02
Drunkenness	4	<0.01	2	<0.01	2	<0.01	1.67	.196	NS
Family offenses (nonviolent)	229	0.3	42	0.3	187	0.4	2.68	.102	NS
Liquor law violations	1,773	2.6	538	3.5	1,235	2.4	57.59	<.001	.03
Peeping tom	26	<0.01	3	<0.01	23	<0.01	1.89	.169	NS
Trespassing	3,124	4.6	1,089	7.0	2,035	3.9	266.68	<.001	.06
All other offenses	24,004	35.5	5,647	36.5	18,357	35.2	8.95	.003	.01
Non-UCR Offenses									
Traffic/Licensing/MV	3,048	4.5	564	3.6	2,484	4.8	34.55	<.001	-.02

Notes. N = 67,658 bookings. ^a = percentage within each group with the specified charge type. No gambling-related offenses were observed. Values in bold show significant differences in prevalence of each charge type between those with and without potential mental health problems at intake.

Table 5. Potential Mental Health Problems Predicting Length of Stay

Predictor	Statistics			
	Wald χ^2	IRR	95% CI	<i>p</i> value
Mental health problems	452.35	1.23	[1.21, 1.26]	<.001
Substance use problems	50.47	1.07	[1.05, 1.09]	<.001
Age	161.46	1.004	[1.004, 1.005]	<.001
Sex (male)	1,702.34	1.53	[1.50, 1.56]	<.001
Race (non-Caucasian)	95.58	1.08	[1.07, 1.10]	<.001
Highest offense (level A)	851.74	1.40	[1.37, 1.43]	<.001
Highest offense (level B)	2.06	1.02	[0.99, 1.04]	.151
Charges at booking	8,681.45	1.44	[1.43, 1.45]	<.001

Notes. *N* = 66,985 bookings. IRR = incidence rate ratio. CI = confidence interval for IRR. “Other Offenses” served as the reference group for both Highest Offense variables. Estimates produced in negative binomial regression model.

Model $\chi^2(8) = 27,596.35, p < .001$.

Table 6. BJMHS Decision Rules Predicting Length of Stay

Predictor	Statistics			
	Wald χ^2	IRR	95% CI	<i>p</i> value
Current psychiatric medication	12.00	1.05	[1.02, 1.08]	.001
Past psychiatric hospitalization	139.63	1.21	[1.17, 1.25]	<.001
Two or more psychiatric symptoms	22.54	1.14	[1.08, 1.20]	<.001
Substance use problems	65.88	1.08	[1.06, 1.10]	<.001
Age	181.44	1.005	[1.004, 1.005]	<.001
Sex (male)	1,587.68	1.51	[1.48, 1.54]	<.001
Race (non-Caucasian)	68.78	1.07	[1.05, 1.09]	<.001
Highest offense (level A)	887.05	1.41	[1.38, 1.44]	<.001
Highest offense (level B)	3.12	1.02	[1.00, 1.04]	.077
Charges at booking	8,680.12	1.44	[1.43, 1.45]	<.001

Notes. *N* = 66,935 bookings. IRR = incidence rate ratio. CI = confidence interval for IRR. "Other Offenses" served as the reference group for both Highest Offense variables. Estimates produced in negative binomial regression model.

Model χ^2 (10) = 27,451.38, *p* < .001.

Table 7. Length of Stay by Booking Number among 90th Percentile Frequent Fliers

Booking	90 th Percentile Frequent Fliers		Length of Stay	
	<i>n</i>	%	<i>M</i>	<i>SD</i>
1	77	100	11.82	17.72
2	77	100	12.92	15.84
3	73	94.8	22.58	38.87
4	63	81.8	17.51	19.11
5	53	68.8	13.96	15.85
6	46	59.7	17.83	20.43
7	38	49.4	18.34	25.29
8	34	44.2	12.62	13.78
9	31	40.3	16.97	20.58
10	27	65.1	19.30	44.00
11	24	31.2	25.33	42.69
12	20	26.0	29.05	43.28
13	15	19.5	9.07	12.26
14	12	15.6	22.00	41.02
15	11	14.3	34.73	77.98
16	10	13.0	54.30	92.66
17	10	13.0	12.40	9.82
18	8	10.4	12.88	8.58
19	7	9.1	35.29	79.72
20	6	7.8	9.17	4.22

Notes. *N* = 77 Frequent Fliers representing 342 bookings.