

**TIME TO RETURN TO PRISON FOR SERIOUS MENTALLY ILL OFFENDERS RELEASED FROM UTAH
STATE PRISON 1998-2002**

A RESEARCH REPORT PRODUCED FOR THE STATE OF UTAH DEPARTMENT OF CORRECTIONS
AND THE UTAH COMMISSION ON CRIMINAL AND JUVENILE JUSTICE
BY THE UTAH CRIMINAL JUSTICE CENTER

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I. EXECUTIVE SUMMARY

Problem Statement

In 2001, the Department of Corrections and the Utah Commission of Criminal and Juvenile Justice identified the following as a priority area of research: To determine recidivism rates for offenders with mental illness returning to the Utah State Prison. This identified problem was based on the perception of prison administrators and clinical staff that the prison population had undergone a perceptible change in the past decade, in that more offenders with serious forms of mental illness were being incarcerated in state prison. Additionally, there was an increasing sense that more offenders with mental illness were returning to prison, and at higher and faster rates than offenders without mental illness. The presence of the mentally ill in the prison system represents serious challenges to prison administration and management, including critical resource issues and substantial practical as well as philosophical differences between correctional and therapeutic management.

Due to turnover in University of Utah research faculty, this project, originally approved by the UCCJ, was dropped for several years. In 2006, in conjunction with the Utah Criminal Justice Center gaining University Center status, the project was adopted by the present research team based in the College of Nursing. Also in that timeframe, the US Bureau of Justice adjusted its report on the number of mentally ill offenders incarcerated in US state prisons from 300,000 or 16% in 1999 to over 700,000 or 56% in 2005. Clearly, offenders with mental illness are being incarcerated in unprecedented numbers across the US and the issues associated with this situation, including recidivism, mandated treatment, and fiscal as well as human cost, continue to multiply.

Study Aims

This report describes the first stage in a program of research examining the effects of prison-based and community-based mental health treatment on the length of time that offenders with serious mental illness (SMI) in Utah State remain out of prison. The preliminary study reported here analyzed recidivism (defined as return to prison) in offenders with SMI released from Utah State Prison 1998-2002 compared with non-SMI offenders released in the same period.

This study involved two distinct tasks:

- 1) Identifying and quantifying the portion of the Utah State Prison population 1998-2002 who met criteria for serious mental illness
- 2) Comparing time from prison release to re-incarceration for the SMI offenders compared with the non-SMIO offenders. We explain both these procedures in detail in this report.

In addition, we

- 3) Compared data on women offenders with SMI with data for men and all offenders together, to begin an investigation of gender differences related to mental health, treatment and incarceration.

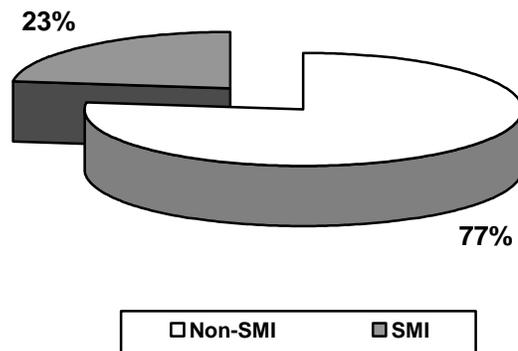
Major Findings

Significant results of this pilot study include: 1) The identification of a distinct subgroup of offenders with SMI released from Utah State Prison 1998-2002; 2) The findings that

offenders with SMI return to prison much more quickly and in greater numbers than non-SMI offenders; 3) The finding that women are over-represented in the SMI group, and that women offenders with serious mental illness represent a uniquely vulnerable, at-risk group.

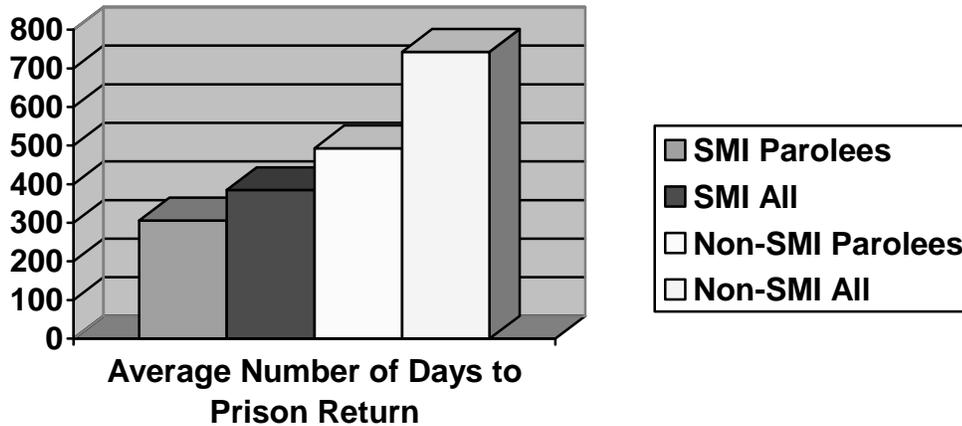
- 1) Among all offenders released from Utah State Prison 1998-2002 (N = 9,245 individuals and 14,652 events of actual release) we identified a subpopulation of 2,127 individuals (23%) who met study criteria for SMI as described in this report. These pilot data, including a systematic review of O-Track and medical record data for each SMI case, indicate the existence of a distinct group of male and female offenders with SMI among the Utah State Prison population. This SMI group is significantly different from the non-SMI group by factors related to mental illness (psychotropic medication use, acute and long-term mental health related housing, psychiatric diagnosis) but not by demographics, offense category, type or degree, or condition of return (technical versus new commitment). It is important to note that 23% represents offenders with *serious mental illness*, not just any form of mental health disorder or psychiatric diagnoses.

Utah State Prison Population 1998-2002

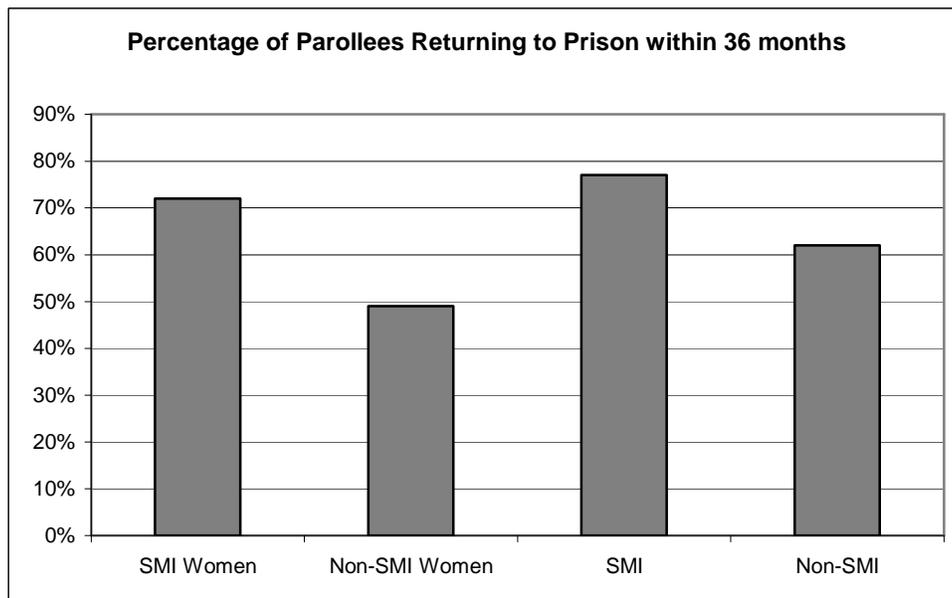


- 2) When comparing the number of days from prison release to return to prison for parolees 1998-2002, the SMI group had a significantly shorter return to prison time (306 days) than the non-SMI group (493 days), a very statistically significant finding. In short, parolees with SMI return to prison an average of 200 sooner than all other parolees. When comparing all offenders (not just parolees) this difference jumps strikingly: The median time for all SMI offenders to return to prison was 385 versus 743 for all non-SMI offenders, over 350 days sooner. Further, 77% of the SMI group returned to prison within 36 months compared with 62% for the non-SMI population.

Average Number of Days to Prison Return SMI vs Non-SMI



3) Looking at women separately, we found that 72% of women with SMI returned within 36 months, nearly one and a half times the percentage for non-SMI women (49%) and . The average age of first incarceration in Utah State Prison for women with SMI was 30 years of age, with a range from 17 to 61—much higher than the average first age for men. However, the most frequent age of first incarceration in our sample was 24 (20 women or 8.2%) and the next most frequent was 31 (6.9%) with 33 (6.5%) and 34 (6.1%) close behind. This distinct bimodal pattern, with age of first admission clustering in the mid-twenties and the early to mid-thirties, also corresponds to likely child-bearing and child-rearing ages for these women. Women in Utah are likely to have had children by 25 and multiple children by the time they are in their thirties. This point out how incarceration and mental illness of women presents issues that affect not just individual women, but dependent children and families.



Conclusions

Prisons and jails have become the de facto public and community mental health system of the 21st century. The US correctional system is currently responsible for more than 10 times the number of mentally ill patients receiving treatment in state psychiatric hospitals, despite the fact that most state prison systems are neither clinically nor materially equipped to deliver effective or even adequate mental health care. Serious mental illness (SMI) is recognized as a major risk factor in incarceration and re-incarceration, and it is often those persons with serious mental illness (SMI) who are caught in a “revolving door” between limited or inadequate treatment while in prison and insufficient treatment and support in the community.

The findings that 23% of the 1998-2002 Utah State Prison population qualifies as seriously mentally ill has major implications for institutional policy and practice, including staff training, staffing models, prison-based treatment and programming and transitional services. Of equal significance is the rate that these offenders return to prison, and the costs of providing mandated treatment services as well as additional correctional management in an institution not primarily designed for these purposes.

Combining these findings with data provided by the Department of Corrections Bureau of Research and Planning on the average daily cost per inmate of incarceration in Utah State Prison, we can estimate the fiscal costs of the striking difference in recidivism rates between offenders with and without SMI. If the current rate of recidivism for offenders with SMI was simply brought to the same rate as all other offenders, the estimated savings would amount to over \$5 million per year, or nearly \$26 million during a 5 year period.

Additionally, our preliminary analyses of a subset of our SMI sample show important differences in the ways that men and women experience both SMI and risks related to reincarceration. For example, the most frequent ages of incarceration for women with SMI released from prison 1998-1999 are significantly older than related ages for SMI men, with a far greater range. The most frequent age of first incarceration for SMI women is 24 (8.2)%, with ages 31 (6.9%) and 33 (6.5%) close behind. Women with SMI are coming to prison for the first time at age when they are likely to have already become mothers (in 2000, the average age of Utah mothers at the birth of their first child was 23.3). With the second most frequent ages of incarceration at 31 and 33, this also means that many women in this group are likely to be mothers of small children and/or young families. These women are experiencing two extremely disruptive situations—mental illness and incarceration—when they are also responsible for raising children and maintaining families. It also means that these experiences are not affecting individuals, but dependent children and families. This has critical implications for treatment and transitional services.

II. Introduction to Problem

A. Increasing Numbers of Mentally Ill in Jails and Prisons

Prisons and jails have become the de facto public and community mental health system of the 21st century. According to the most recent US Department of Justice special report on the mental health status of US prison and jail inmates, over 700,000 report symptoms of mental disorder or a history of treatment for mental disorder in the past year[1]. Fifty six percent of state prisoners meet these criteria, with 43% reporting symptoms of mania, 23% reporting symptoms of major depression and 15% reporting psychotic symptoms such as hallucinations and delusions [1]. More than 75% of these individuals served time in prison or jail prior to their current sentence [1, 2]. In many US states, prison systems have become the primary providers of psychiatric and mental health treatment, outstripping the numbers served through state and local hospitals in a number of states including California, New York, Illinois, and Washington [2-6]. Researchers in the forensic mental health and public health fields have noted this latest “re-institutionalization” movement, a considerable shift of persons from state hospitals and community-based mental health services into local, state and federal penal institutions [2, 3, 5, 7-16].

The general trend toward the increased incarceration of individuals with mental illness is well cited in the scientific literature, particularly in terms of patterns of repeated incarceration and gaps in treatment that are theorized to lead to further decompensation, as well as the factors that drive this trend [7, 17-34]. The deinstitutionalization movement that began in the late 1970s and continued throughout the 1990s is perhaps the most widely cited factor that initiated this trend [4, 7, 16]. As increasing numbers of persons with mental illness were released from state hospitals, the community centers and clinics that were intended to provide services failed to fully materialize [9, 10]. Years later, the continued erosion of community psychiatric clinics, inpatient hospitals and outpatient

services due to underfunding, changes in reimbursement schedules and closures has created a situation in which persons with mental illness lack adequate medical and social support and are thus more likely to come under the purview of criminal justice systems [7, 20-22, 26-28, 35-37]. Changes in the legal system at the federal and state levels have also contributed to present conditions. The broadening of categories of illegal activities, including stricter drug laws, means that behaviors of persons with mental illness are more likely to meet criteria for criminality, or what some researchers have termed “the criminalization of mental illness” [38]. Additionally, the widening net of illegality has developed in tandem with determinate sentencing practices that have moved toward sentencing individuals for longer terms of incarceration [13].

B. Prisons as the “New Asylums”

This trend has recently been acknowledged as a burgeoning public health crisis with a number of profound clinical, legal, and ethical implications for those individuals who are among the most vulnerable members of US society [7, 12, 14, 17, 24, 39-43]. Corrections officials argue that jails and prisons lack the financial, clinical, and philosophical resources necessary to provide adequate treatment for this population, when their mandate is to maintain the safety and security of their institutions [44-45].

Mental health providers argue that prisons provide less-than-ideal conditions for adequate and effective mental health treatment [12, 15, 35, 46]. Treatment delivered within a prison setting is generally the minimum necessary to maintain order and safety within the prison population. The goals of prison mental health treatment are oriented toward security, management and population safety, with outcomes evaluated in terms of decreasing time and resources spent on inmate management [46-47]. Therefore, reduction in symptoms, overall severity of illness or suffering within individuals is not necessarily a primary focus of prison mental health intervention [48]. Only one in three state prisoners reporting symptoms or history of mental disorder receive treatment during

their incarceration [1] and this may be due to the fact that only those persons presenting the severest clinical symptoms or behavioral challenges to prison administration reach a critical level for services. A federal report released in 2001 indicates that 70% of state prisons perform intake screening for mental illness; 65% conduct psychiatric assessments, 71% provide some form of therapy or counseling by mental health professionals; 73% provide psychotropic medications and 66% assist prisoners being released to the community in accessing mental health services [2]. However, only 51% of state prisons provide 24 hour mental health care [1].

Lack of adequate treatment during incarceration is compounded by the fact that the vast majority of mentally ill prisoners (over 95%) will return to the community [2, 18], where adequacy and continuity of treatment is also extremely problematic [14, 24, 28, 38, 49, 50]. Due to the lack of community-based resources, for some mentally ill individuals prison may be the only place where they receive consistent treatment [17], and judges are now reporting a practice of sentencing mentally ill offenders to prison in the hope that they will receive at least psychopharmacological treatment [51]. This of course assumes that a particular institution has a system in place for the delivery of mental health treatment to prisoners, and that the system itself is adequate.

The intersection of prison incarceration and mental illness is also associated with homelessness, substance abuse, marked gender differences in rates of mental illness, and higher rates of recidivism [1, 12, 19, 39]. The US Bureau of Justice Statistics also reports the following: 13% of state prisoners with mental disorder reported being homeless in the year prior to incarceration; 74% reported alcohol or substance dependency or abuse; 77% of female state prisoners reported symptoms or history of mental disorder compared with 55% of male prisoners; and roughly 25% of state prisoners with symptoms of mental disorder had 3 or more prior incarcerations [1]. Further, just as the US

population as a whole is aging, so are the overlapping populations of prisoners and persons with mental illness. We do not yet know the full implications of this trend.

C. Incarceration and Recidivism in Offenders with Serious Mental Illness

Although a number of studies (including the US Bureau of Justice study) have examined these issues as they relate more generally to persons with symptoms of mental disorder or any Axis I diagnosis [9, 36, 52, 53], a smaller body of literature highlights the particular vulnerability of persons with serious mental illness (SMI). The increased incarceration of individuals with mental illness presents special problems for those persons with SMI, who are caught in a “revolving door” between limited or inadequate treatment during incarceration and insufficient treatment and support once released to the community [5,29, 31, 54].

Our study demonstrates that of those released from Utah State Prison 1998-2002, 23% meet criteria for SMI [2]. In 2003, there were 12 trained mental health professionals on staff to provide treatment for these prisoners, representing a prisoner-provider ratio of 177:1. Lack of treatment leads to continued or increased behaviors that are likely to lead to repeated episodes of re-incarceration [43]. Therefore, a significant segment of the SMI population most in need of consistent and effective mental health intervention fails to receive adequate support and treatment either in prison or in the community [17]. This lack of treatment is in turn associated with further decompensation [10, 11, 14, 17, 40, 41, 55, 56], drug and alcohol use [12, 18, 25, 50, 57] and, for a significant percentage of this population, incarceration [28-31, 33, 41, 52, 55, 58, 59].

Offenders with SMI are also at increased risk for ending up in “the prison’s prison”, or supermaximum security control units that enforce the most restrictive conditions of confinement in the correctional system [60, 61]. The number of state and federal prison control units has risen sharply in the past decade, where prisoners are locked in solitary cells at least twenty-three hours daily, isolated from the general prison population and

each other [13]. The explicit function of a control unit is to house those prisoners who are deemed too dangerous, disruptive, or unpredictable to live anywhere else. As supermaximum security prison control units proliferate, people diagnosed with SMI are increasingly housed in these units [10, 11, 60, 61]. The challenging behaviors associated with psychosis, self-injury and decompensation are seen as a threat to the safety and security of prison units [45, 60]. As a result of both actual and anticipated behaviors, individuals with SMI who enter a prison system are more likely to be directed into these units, especially if the prison system does not have a long-term residential unit for mentally ill offenders. Further, once there, the isolative conditions of the control units may lead to further decompensation and social debilitation [10, 14]. Our study of the Washington State prison system found that as many as 29% of prisoners living in control units met diagnostic and institutional criteria for SMI [60].

Researchers and clinicians who work in both correctional and public health sectors predict that this situation will likely continue or grow worse as the incarcerated population grows, and more persons with serious mental illness do not receive effective, consistent or adequate treatment [5, 9, 12, 25, 32, 41-43, 46, 49, 62]. However, relatively few studies have focused on criminal recidivism among specifically SMI offenders, and how these data relate to mental health treatment and services received both while incarcerated and after release.

D. SMI and Mental Health Disparities: Gender, Race and Reincarceration

In addition to becoming primary providers of mental health treatment for those with SMI in the US, prison mental health systems also often treat groups that are marginalized in other ways and who do not receive care anywhere else [17, 65]. Previous work points toward systematic effects of racial, ethnic and gender differences on rates of incarceration, and the overrepresentation of vulnerable groups in the US State prison population [62, 66]. People of racial and ethnic minority status and those who are poor represent a

disproportionate number of the US incarcerated population [4, 39, 67]. They also represent the subgroup of persons diagnosed with mental illness who are least likely to have access to or receive adequate mental health treatment [3, 12, 17, 20, 35]. The scientific literature base suggests that persons of minority demographic and lower socioeconomic status receive systematically inadequate mental health treatment, and are disproportionately burdened with clinically significant correlates of SMI [4, 62] This overlap means that a significant segment of the population most in need of consistent and effective mental health intervention, particularly those who are poor, are of ethnic and minority status, and are seriously, chronically mentally ill, fail to receive adequate support and treatment [12, 39, 65- 66].

Racial and Ethnic Distribution of Utah State Prisoners with SMI. As of May 2006, the Utah Department of Corrections incarcerated 5707 men and 570 women in its prison system, a total of 6,277 prisoners. The percentage of men is 90.92, while women represent 9.08% of the total prison population. The total percentage of persons of minority status is 35.78%, with men of minority status representing 33.6% and women of minority status representing 2.2%. These totals are further described by racial and ethnic categorization. Of male prisoners: 18% identified as Hispanic; 7.1% identified as African American; 4.3% identified as Native American/Alaskan Native; 2.8% identified as Asian/Pacific Islander and 67.4% identified as White. Of female prisoners: 14% identified as Hispanic; 5.3% identified as African American; 3% identified as Native American/Alaskan Native; 1.9% identified as Asian/Pacific Islander; and 75.8% identified as White.

Table 1 Gender, Racial, Ethnic Distribution of Utah Prisoners May 2006

Gender	Race	Count	Percentage of Prisoners
F	ASIAN/PACIFIC	11	0.18%
F	BLACK	30	0.48%
F	HISPANIC	80	1.27%
F	NATIVEAMER/ALASK	17	0.27%
F	WHITE	432	6.88%
M	ASIAN/PACIFIC	157	2.5%
M	BLACK	407	6.48%
M	HISPANIC	1025	16.33%
M	NATIVEAMER/ALASK	246	3.92%
M	UNKNOWN	27	0.43%
M	WHITE	3845	61.26%
Total Percentage Men		90.92%	Total Percentage Women 9.08%
Total Percentage Minority Men 33.58%			
Total Percentage Minority Women 2.2%			

Comparably, persons of racial and ethnic minority status comprise 15.6% of the total population of Utah. Persons of minority status are therefore significantly over-represented in the Utah State prison system (35.78%) as compared with community demographic data: 12% of Utah residents identify as members of racial or ethnic minority groups; 9% identify as Hispanic [2]. These numbers accord with nationwide data and show evidence of the claim individuals of minority status disproportionately interact with the criminal justice system burdens [67]. In our sample of persons with SMI paroled from Utah State Prison 1998-2002 (N = 1,965) 84.6% identified as White, 4.5% as African American, 0.4% as Asian, 1.8% as Native American or Alaskan Native, 0.2% as Pacific Islander and 9.8% as Hispanic.

Women Offenders and SMI. Women are the fastest growing segment of the incarcerated population [68]. The US Bureau of Justice Statistics (BJS) reported that in 2005, 95,096 women were incarcerated in state prisons, compared to 82,058 in 2001 and 57,263 in

1994 [69]. Women in State prisons have higher rates of mental health issues compared with male prisoners, with 73% of the female state prisoner population expressing symptoms of mental disorder, compared to 55% of the male population [1]. Further, in 1999 the BJS reported the highest frequency of mental illness among white women in State prison. In State facilities, approximately, 29% of white women, 22% of Hispanic women, and 20% of African American women were categorized as mentally ill [35].

In 2004, Utah ranked 35th in its female incarceration rate, with 42 female inmates per 100,000 female residents [70]. In 2006, 570 women were housed in Utah's State prisons compared with 30 women in 1977 [70]. While presently only 9% of prison inmates in Utah are women, this reflects a higher ratio than the national average, reported by the US Bureau of Justice to be 7.0% across US prisons in 2004 [67]. Although majority of the SMI population are men [69], women with mental disorders may [35] tend to fare worse than their male counterparts [69,71- 72], as services geared to offenders are not designed to recognize or accommodate gender-related differences. Women represent 24.3% of offenders with SMI paroled from Utah State Prison 1998-2002. Our study findings, reported below (p. 37) determined that 60% percent of these women were screened for mental illness as part of the prison admission process while 40% were not. Of those screened, 9% were flagged as positive for mental illness requiring follow-up evaluation. Further, 98% of those who received follow-up clinical evaluation were diagnosed as mentally ill. We found that 72% of women with SMI released from Utah State Prison between 1998 and 2002 returned within 36 months, nearly one and a half times the percentage for women without SMI (49%).

E. Summary Statement of Problem

Despite these stats and facts, a number of major issues related to SMI and (re)incarceration remain largely unexamined. First, although recidivism and repeated incarceration are described as significant problems, relatively little data exists that

compares rates for offenders with SMI with the general offender population [27, 29, 55, 63]. This lack of data and analysis persists despite the fact that recidivism rates are widely used throughout the US as markers of program success. Related discussion often fails to acknowledge how, as many persons with SMI are trapped in a cycle of repeated incarceration, the vast majority also repeatedly transition between prison and the community, and between prison-based and community-based mental health services. Over 95% of all US State prisoners will return to the community; in 2001 592,000 prisoners nation-wide were released to the community after serving time in prison [18, 58].

In Utah, between 1993 and 2000 an estimated 3000 mentally ill offenders received some form of psychiatric treatment while incarcerated. Until now, there has been no research completed on recidivism rates for these persons, despite data indicating that roughly 25% of US State prisoners with mental illness have returned to prison three or more times, compared to 20% for prisoners without mental illness. Further, very little research has systematically described how recidivism rates relate to prison and community-based mental health treatment and social services among those persons with serious mental illness released from prison. The present study aims to define and describe associations between serious mental illness and rates of prison return, with an ultimate aim of decreasing recidivism rates and improving continuity and effectiveness of care for this population.

III. Study Aims, Design, Methods

A. Study Aims

The question of whether there are significant differences in recidivism rates, defined by the Utah Department of Corrections as return to prison, was first raised by Utah State Prison mental health administrators and staff in 2001, when it was perceived that an increase in the number of mentally ill prisoners seemed to be taxing Prison resources while also demanding close attention in order to maintain institutional standards of safety, security and integrity.

This query begged further questions as to whether a distinct sub-group of prisoners with SMI exists in the Utah State Prison population, and what criteria should be used to identify this group. We believe we provide plausible answers to these questions here.

The immediate goal of the preliminary research reported here is to better understand and describe associations among serious mental illness and recidivism rates for persons released from Utah State Prison. The specific aims of the proposed study are: 1) To calculate recidivism rates among persons with SMI released from Utah State Prison system as compared with non-SMIs; 2) To explore the relationship of recidivism rates to patterns of mental health treatment delivered both in prison and in the community; 3) To identify those features which offenders with SMI who successfully transition back the community describe as the most salient supports and challenges to remaining out of prison.

One long-term goal of this research will be to develop a model of community survival time that shows which mental health and substance abuse treatment factors and social services, and in what combinations, contribute to lengthening community survival time for persons with SMI released from prison. Further, this model could be used to analyze how the relative contributions of these factors differ from state to state, and how this reflects philosophical and practical differences in legislation, policy and treatment.

B. Study Design

This is a multiple-methods study integrating statistical and textual analysis of secondary and primary data. Specific methods include records review, research interviewing, descriptive statistics, and the advanced statistical techniques of survival analysis and latent class analysis. This study is planned in three phases. Phase 1 is now complete, and has focused on applying the study algorithm identifying cases of SMI among all persons released from Utah State Prison between 1998 and 2002. Once these cases were identified we conducted survival analyses to compare rates of recidivism for our SMI sample with all other released in the study period. This report will focus on our Phase 1 results.

Phase 2 of the study will integrate and analyze secondary study data from UDC, community mental health agencies, the Utah Department of Human Services, and local agencies providing social and treatment services. UDC has helped us gain direct research access to O-Track and their archived medical databases, through which we are conducting a manual retrospective record review for all study cases to gather data related to demographics, prison career, and mental health treatment during incarceration. The various state and local agencies who have agreed to support this study will provide study data for each SMI case on community mental health and substance abuse treatment and social services received while residing in the community. These data will be compiled, reduced and statistically analyzed for their relative effects on community survival time in this population.

In Phase 3, a sample of 30 SMI participants who have successfully transitioned back to the community from prison will be solicited for interviews. These semi-structured interviews will focus on participants' perceptions of supports and challenges to remaining out of prison. Interview data will be content and thematically analyzed and integrated with statistical findings, to enrich and inform statistical findings.

C. Methods Used in Preliminary Study

In this section we briefly describe the process through which we completed Phase 1 of this study and met our first study aim, to calculate recidivism rates among persons with SMI released from Utah State Prison system as compared with those without SMI. This section is intended to provide detail to other researchers and statisticians interested in how these results were achieved.

Sample selection. Our initial sample consisted of every release from Utah State Prison system between 1/1/1998 and 12/31/2002. This five year timeframe was chosen for two reasons. First, it provided enough cases to ensure our ability to detect significant differences given the large number of variables involved in the study. Second, a 2002 cut-off provided enough follow-up time for those released in 2002 to progress through new charges and convictions so we could have a natural cut-off point for related data (i.e. crime of conviction for return to prison for cases released in 12/2002). We excluded those cases that did not result in actual meaningful release from prison (release to custody, unsuccessful discharge, death). This initial sample consisted of 14,621 actual events of meaningful release, or 9,245 unique cases by individuals.

Identification of SMI. We generally define SMI as a major thought disorder, mood disorder, or organic brain syndrome that fits well-established DSM-IV categories, substantially impairs functioning, and requires treatment. Our study inclusion criteria adapted and applied a previously published algorithm developed in earlier Washington State studies of rates of SMI in the State prison population [60].

Our study criteria for SMI reflects this definition and is based on both clinical and practical indicators utilized within the DOC system and cut-off points for mandated services recognized in both the correctional and public health sectors. This algorithm therefore uses a practical and operational approach to defining serious mental illness. Conceptual and operational definitions based on both clinical factors and data related to

prison management and resource demand are combined in order to triangulate data on indicators of SMI. This algorithm is explained in detail below.

Survival analysis. This method of analysis allowed us to calculate the predictive power of various factors (SMI vs. non-SMI, gender, race, ethnicity, criminal code, degree, etc.) on the length of time between meaningful release from prison and return. For these preliminary analyses, we used actual return to prison (date of physical return) as the outcome variable. While we recognize that there are numerous ways to define an event of recidivism, this is the definition of recidivism most frequently used by the UDC Bureau of Research and Planning in their own studies, and therefore our results are directly comparable to data and analyses already in use by the Department.

We conducted survival analyses by event rather than by individual, allowing for multiple events per subject. This approach is consistent with previous literature using survival analyses to calculate recidivism rates. Our survival analysis included all cases of release to parole between January 1, 1998 and December 31, 2002 (N = 14,621 events). The survival event (recidivism) was determined by a subject's return to prison either by parole violation or new offense. Multiple events were allowed per subject, and time out of prison was measured in days. The rates of recidivism between the SMI and non-SMI groups were compared by survival analysis, conducted with Statistical Package for the Social Sciences (SPSS, 14.0 for windows).

We compared SMI and non-SMI, as well as release to parole and all other meaningful release. We also compared these groups' survival time. The length of the analysis period was three years (1095 days) from each subject's date of release from prison. This censor point is again consistent with the three-year cut-off point used by the UDC Bureau of Research and Planning in their calculation and interpretation of recidivism rates. Subjects that did not return to prison in the three-year time period were deemed non-returnees; they were handled as censored data. There were 4,192 cases of censored

data (34.3%). Finally, for the purposes of a clean comparison we extracted our SMI sample cases from all cases of release from Utah State Prison 1998-2002 and recalculated recidivism rates for non-SMIs by year and across the 5 year study period.

Latent Class Analysis. As part of this study, we tested the feasibility of using summary indicators of serious mental illness, based directly on prison data, to develop a meaningful index of severity (i.e. an ordinal measure of how symptomatic and resource intensive individual cases are). These data were synthesized into an ordinal measure of severity of illness, an ISMIS score, based on a 0-6 ordinal measure of summary indicators.

To test the validity of the index we used M Plus software to perform Latent Class Analysis as a confirmatory cluster analysis, based on summary indicators of prison mental health data on diagnoses, symptoms, psychotropic medication, mental health acute and residential housing collected for all cases of SMI in the 1998-1999 Utah State Prison population (N = 1,074) (see Table X below for description of data). LCA results indicated a 4 class solution fit well ($\chi^2(964) = 705.74, p = 1.00$). The BIC statistic decreased with each model, minimized with the 4 class model, and then increased with a 5 class solution. Therefore the results of the 4 class model are reported below.

Other analyses. In addition to conducting survival analysis, we also calculated simple descriptive statistics and performed simple statistical comparisons (t-tests and chi square tests) between the SMI group and the non-SMI group for significant differences.

IV. Major Study Findings

A. Time to Return to Prison for Offender with SMI Compared with non-SMI

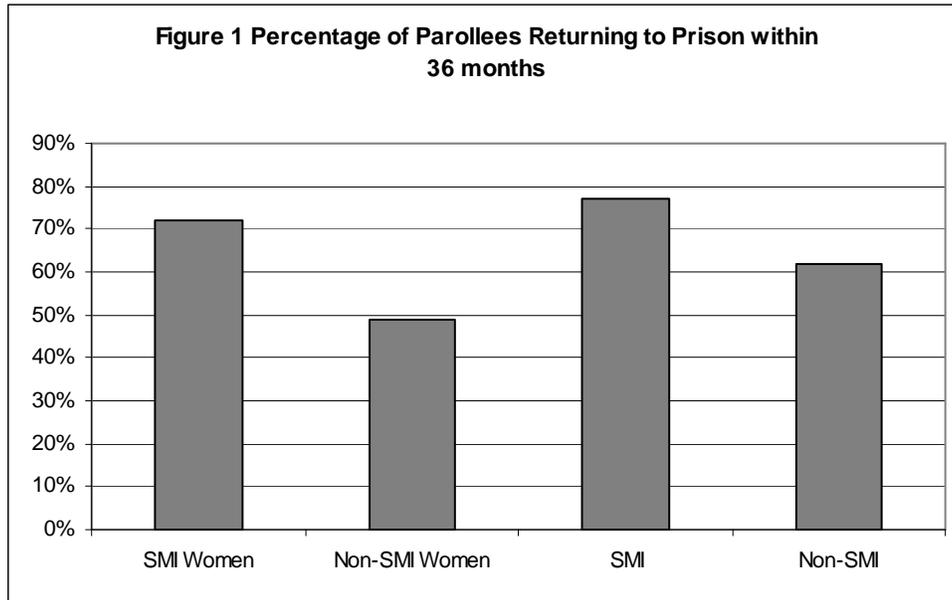
In section B, beginning on p. 24 below, we explain how we identified a distinct group of 2,127 offenders with SMI in the population of offenders released from Utah State Prison between 1/1/1998 and 12/31/2002. Based on this systematic identification, we were able to then calculate recidivism rates for this group as compared with all others released in the same timeframe. Again, the SMI group we identified is significantly different from the non-SMI group by factors related to mental illness (psychotropic medication use, acute and long-term mental health related housing, psychiatric diagnosis) but not by demographics, offense category, type or degree, or condition of return (technical versus new commitment), other than the findings that women were overrepresented in the SMI group, while people of Hispanic origin were underrepresented.

As described in the methods section, we performed survival analyses on these data, comparing SMI and non-SMI groups. Further, we compared SMI and non-SMI parolees in a separate analysis.

Recidivism Rates for SMI vs Non-SMI Parolees. Most of the cases of 1998-2002 prison release in the SMI sample were release to parole (87% of women with SMI and 84% of men with SMI). Overall, recidivism rates for both women and men are higher in Utah than the national average, due in part to stricter and more intensive monitoring of parolees than might be practicable in states with larger offender populations. Our analysis examines 14,621 events of return to prison in the 5 year study timeframe, distributed over 9, 425 people. Of these total events of return to prison, 84% of the return events for offenders with SMI and 80% of events for all other offenders represent return to prison after parole. For these reasons we began our comparison with parolees.

For 1998-2002, the average percentage of men and women with SMI released to parole who returned to prison within 36 months of release was 77%, compared with 62%

for non-SMI men and women. Analyzing the women's data separately, 72% of women with SMI released from Utah State Prison between 1998 and 2002 returned within 36 months, nearly one and a half times the percentage for women without SMI (49%).



When comparing the number of days from prison release to return to prison for parolees 1998-2002, the SMI group had a significantly shorter median return to prison time than the non-SMI group—306 compared with 493 days, a very statistically significant finding (Kaplan-Meier survival analysis, $\chi^2 (1) = 270.77$, $p < .001$). In short, parolees with SMI return to prison an average of 200 sooner than all other parolees.

Recidivism Rates for all SMI vs Non-SMI Offenders. When comparing all offenders (not just parolees) this difference jumps strikingly: The median time for all SMI offenders to return to prison was 385 days versus 743 for all non-SMI offenders, over 350 days sooner ($\chi^2 (1) = 276.46$, $p < .001$).

**Figure 2 Cumulative Probability of Staying Out of Prison
SMI vs. Non-SMI**

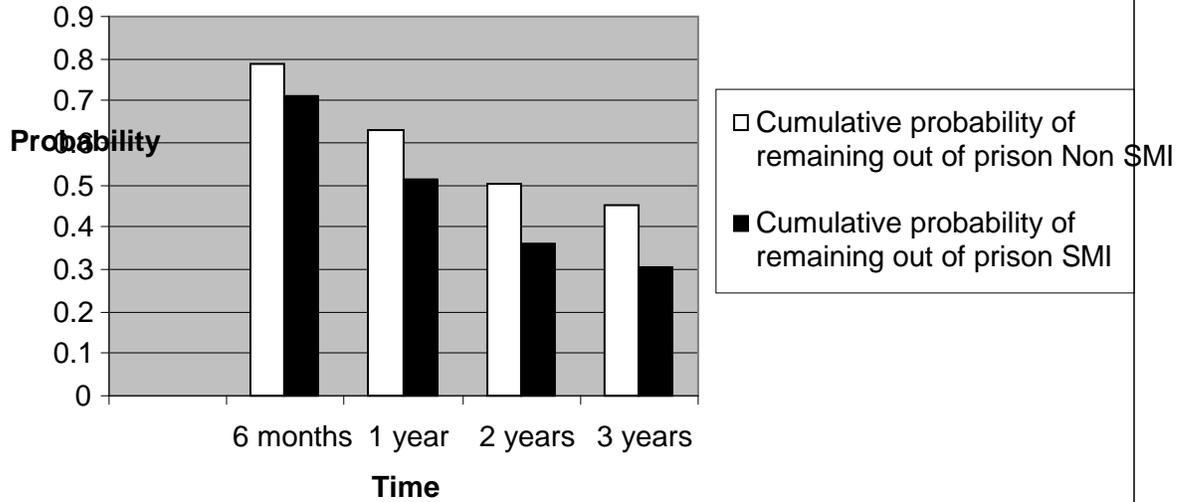
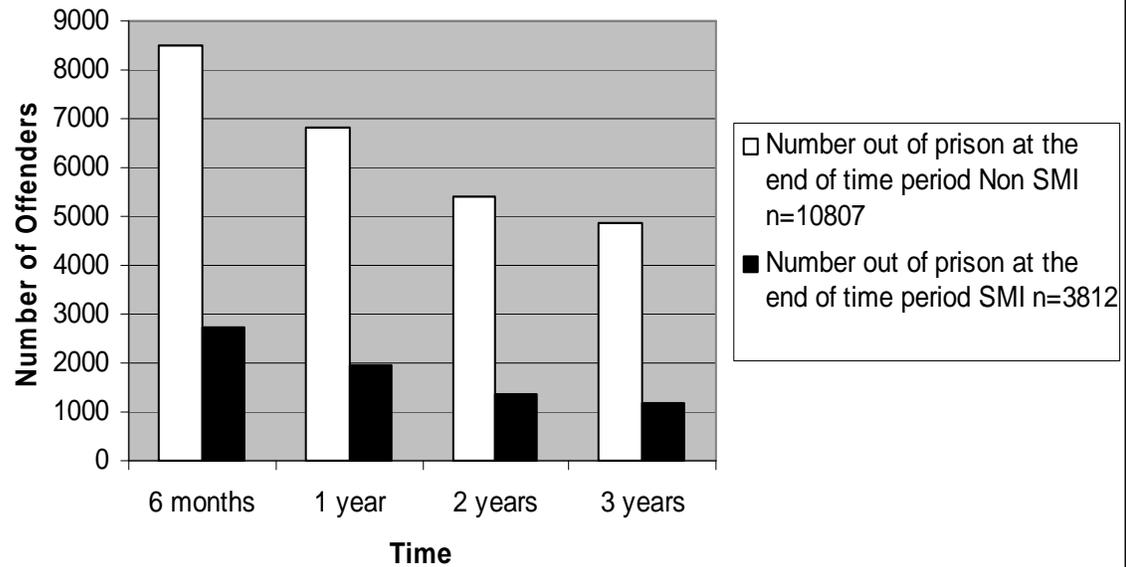


Figure 3 Number Staying Out of Prison



To emphasize the difference in recidivism rates for SMI vs. non-SMI offenders both released to parole and in all instances of meaningful release, the differences are summarized here:

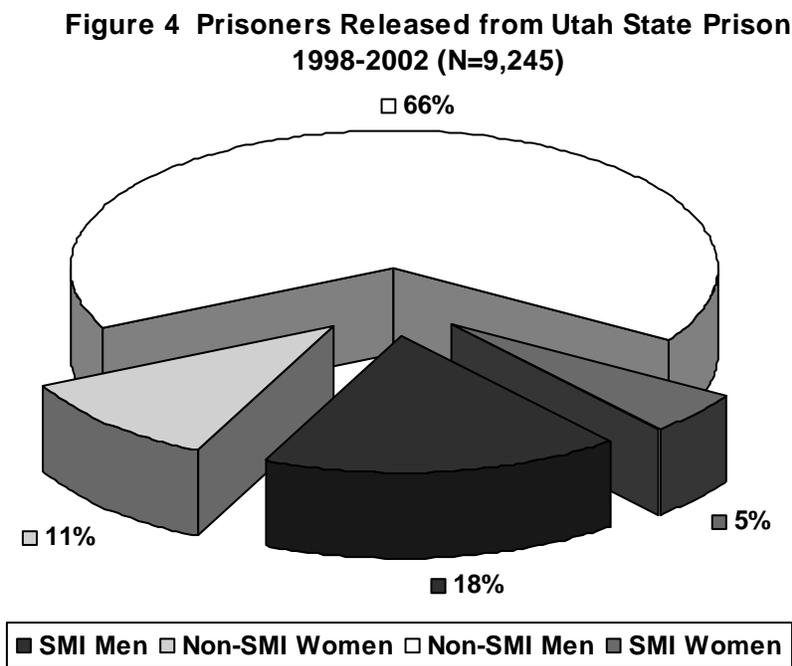
**Table 2 Number of Days Difference in Median Time* to Return to Prison
SMI vs. Non-SMI**

Condition of Release	Median Days to Prison Return: Non SMI	Median Days to Prison Return: SMI	Difference in Days
Parole	493	306	187
All Other	743	385	358

*The values reported here are median times (not average) because median time is what is used in survival analysis in the calculation of survival function.

B. Identification of Offenders with Serious Mental Illness

Identification of SMI Population and SMI Criteria. One of the most important results of this preliminary study, and a necessary first step to the recidivism analysis just reported, includes the identification of a distinct subgroup of offenders with SMI released from Utah State Prison 1998-2002. Among all offenders released from Utah State Prison 1998-2002 (N = 9,245 individuals and 14,652 events of actual release) we identified a subpopulation of 2,127 prisoners (23%) who met study criteria for SMI. In terms of percentages, men without SMI comprised 66% of this population, while women without SMI comprised 11%; men with SMI represented 18% of the population and women 5%.



We also found that this SMI group is significantly different from the non-SMI group on factors related to mental illness (psychotropic medication use, acute and long-term mental health related housing, psychiatric diagnosis). However, the SMI group does not systematically differ from the non-SMI group by demographics, offense category, type or degree, or condition of return (technical versus new commitment) with two exceptions: Based on expected counts, Caucasian women are overrepresented in the SMI group while

Hispanic persons are underrepresented (statistical significance levels of $p > 0.001$). In short, it appears that what distinguished this group so strikingly (with very high statistical levels of significance) are factors related to mental illness, not those related to criminal, sentencing or release history or other demographic factors aside from the 2 mentioned here. These findings certainly bear further investigation, but we believe such investigation is unlikely to refute the contribution of SMI factors in defining this group as a distinct subgroup within the prison population.

The selection criteria for SMI included a positive history, according to prison data recorded in both O-Track and electronic medical records, for two out of three of the following:

- A qualifying DSM-IV diagnosis [Schizophrenia (all 295s except 295.4 and 295.7), Schizoaffective Disorder (295.7), Psychosis NOS (298.9), Bipolar Disorders I and II (296, 296.4, 296.5, 296.6, 296.7, 296.89). Major Depression (296.2, 296.3), Mood Disorder NOS (296.9), Organic Brain Syndromes and Dementia (293.8, 293.9, 294) and Borderline Personality Disorder (301.83)]
- More than 30 days of significant mental health housing (long term and acute); includes both infirmary admits related to psychiatric events such as self-harm or suicide attempts as well as longer term residential housing in mental health units
- A history of qualifying psychotropic medication use; includes all antipsychotics, antidepressants, mood stabilizers and anticonvulsants currently used in psychiatric treatment (does not include psychiatric medications prescribed solely for sleep)

Based on these criteria, results indicate the existence of a distinct group of male and female offenders with SMI among the Utah State Prison population.

Table 3 Initial Algorithm for SMI Status and Study Inclusion

Indicator	Description	Data Source
Qualifying Axis 1 Psychiatric Diagnosis*	Inmate evaluated and assigned Axis 1 diagnosis by mental health professional; Qualifying diagnoses include schizophrenia, schizoaffective disorder, bipolar disorder, major depression, borderline personality disorder, psychosis NOS	Prison archived electronic medical database
Prescription of Qualifying Psychotropic Medication**	Record of prescription and use of qualifying psychotropic medications including antipsychotics, mood stabilizers and antidepressants	Prison archived electronic medical database
Mental Health Related Housing	30 ≥ days in residential mental health unit and/or mental health-related infirmary housing	Prison O-Track electronic database

Note: Cases must be positive for 2 out of 3 of these selection criteria to be included in initial SMI study sample

*Qualifying diagnoses as assigned by psychiatric and/or psychological evaluation include: schizophrenia, schizoaffective disorder, psychosis NOS, organic brain disorder, dementia, borderline personality disorder **Qualifying psychotropic meds prescribed include antipsychotics, mood stabilizers, antidepressants, and anticonvulsants

Description of SMI Offender Population. The following items provide demographic and descriptive data for two samples used in this study: our entire SMI sample (N = 2,127) and a subset of this sample for which research staff have already completed detailed prison records reviews (N = 1,074).

Table 4 Distribution of SMI Sample by Racial and Ethnic Categories

Racial/Ethnic Category	Count	Percent
ASIAN	9	.4
BLACK	98	4.6
CAUCASIAN	1797	84.5
HISPANIC BLACK	8	.4
HISPANIC CAUCASIAN	162	7.6
HISPANIC NATIVE INDN	8	.4
NATIVE AMER/ALASKAN	41	1.9
PACIFIC ISLANDER	3	.1
UNKNOWN	1	.0
Total	2127	100.0

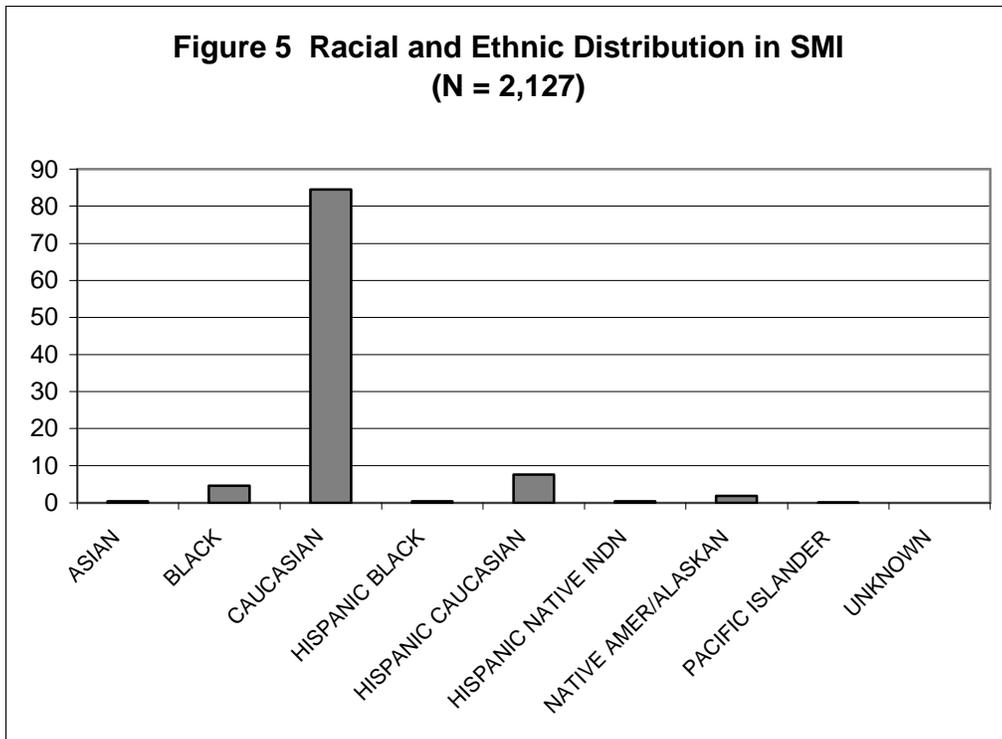
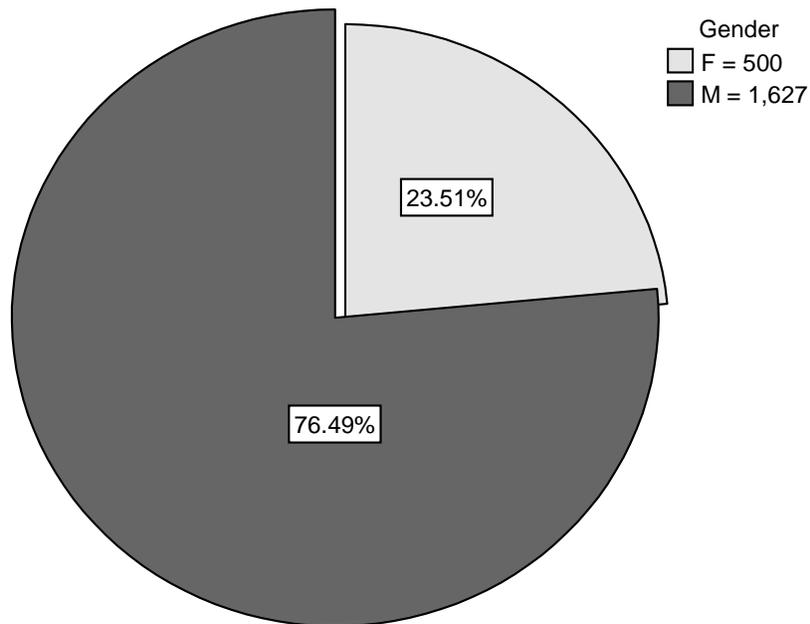


Figure 6 Distribution of SMI Sample by Gender



Data on psychiatric disorders was collected through individual prison medical chart reviews, and includes both DSM-IV Axis I and II diagnoses for major mental illness and

personality disorders made on multiple dates by qualified psychiatric clinicians. These data will eventually be collected for the entire SMI sample. The average number of Axis I psychiatric diagnoses recorded in medical charts was 1.19, with some offenders receiving up to 4 different diagnoses in the course of prison treatment. Further, despite widely accepted expectations of the high prevalence of antisocial personality disorder (ASPD) in prison settings, this Axis II diagnosis was not common in the charts we reviewed. This perhaps reflects the fact that while ASPD is seen as a major risk factor for incarceration and a ubiquitous aspect of prison populations, it has less clinical relevance in the treatment of mental illness in this setting than other symptoms and patterns of disorder.

Note that diagnoses related to substance abuse or dependence, while officially part of the DSM-IV Axis I mental illness category, are not being recorded in prison records as psychiatric diagnoses for this population. This therefore grossly under represents the number of offenders who are diagnosed with both SMI and substance abuse or dependence disorders. While epidemiological data on rates of dual diagnosis with both SMI and substance use disorders can vary widely according to criteria and setting, SAMHSA reports that in 2002, 4.0 million US adults with SMI had a co-occurring substance use disorder, representing 23.2 percent of all adults with SMI and 20.4 percent of all adults with a substance use disorder (cite).

**Table 5 Psychiatric Diagnoses for Offenders with SMI Released 1998-1999
(N = 1,074)**

Axis I Diagnosis	Count	Percent
Schizophrenia (all 295s except 295.4 and 295.7)	101	9.4%
Schizoaffective Disorder (295.7) and Psychosis NOS (298.9)	67	6.2%
Bipolar I and II (296, 296.4, 296.5, 296.6, 296.7, 296.89)	234	21.85%
Major Depression (296.2, 296.3)	822	76.5%
Mood Disorder NOS (296.9)	20	1/9%
Organic Brain Syndromes, Dementia (293.8, 293.9, 294)	16	1.5%
Substance Abuse or Dependence	1	0.84%
Other Axis I Major Mental Disorders (Including Anxiety, PTSD)	58	5.4%
Borderline Personality Disorder	96	8.9%
Other Axis II Personality Disorders Including Antisocial PD)	11	1%

Table 6 Previous Incarcerations, Months Served and Admits to Infirmiry or Mental Health Housing for Offenders with SMI Released 1998-1999 (N = 1,079)

Variable	Range	Average
Previous months in state prison	2-235	52
Number of releases prior to 1/1/1998	1-5	2
Total number of mental health-related infirmiry admits	0-99	1
Total number of admits to mental health housing	0-2500	54

Index of Serious Mental Illness Severity. We also aimed to develop a useful index of serious mental illness severity (ISMIS) based on prison data related to symptoms and treatment, and to test this index by comparing numerical scores for severity with a more qualitative picture of clinical presentation. We wanted to see whether clinically distinct classes of prisoners with SMI emerged from prison treatment and management data, and whether these classes represented meaningful differences in illness severity as evidenced by use of medication, special housing and acute intervention needs, diagnoses, and symptoms. Such an index, based on readily available data generated in the course of prison treatment and prisoner management, could be a more contextual, situation-sensitive and practical estimate of SMI severity and institutional impact than psychometric measures that are more costly, require advanced credentials to administer and interpret, and are normed on clinical populations in therapeutic settings.

To develop the index, we used summary indicators of illness severity based on prison mental health data on diagnoses, symptoms, patterns of psychotropic medication use, and mental health acute and residential housing collected for all cases of SMI in the 1998-1999 Utah State Prison population (N = 1,074) (see Table X for description of data). These data, gathered through individual records review for all cases, were synthesized into an overall measure of severity of illness, generating a 0-6 score based on summary indicators (a score of 0 represents lack of evidence of SMI, and a score of 6 represents much evidence of extreme disorder).

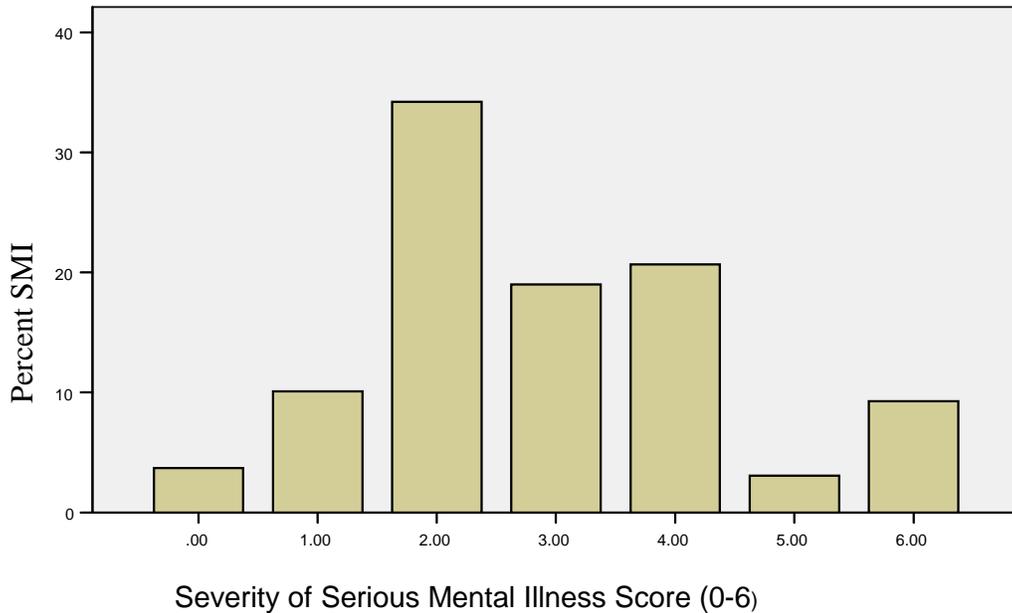
Table 7 Index of Serious Mental Illness Severity (ISMIS) Algorithm

Variable	Description
Behavioral Evidence	Chart indicates hallucinations, delusions, poor hygiene, disorganization, mania, self-isolation, smearing, compulsive behaviors or antipsychotics or mood stabilizers
SMI Diagnosed*	SMI diagnosis confirmed by provider evaluation
Residency + Medication**	Positive for both >30 days of mental health residency and > sporadic pattern of qualifying medication use
Residency + Diagnosis	Positive for >30 days mental health residency and qualifying diagnosis
Diagnosis + Medication	Positive for qualifying diagnosis and > sporadic pattern of qualifying medication use
Steady Medication	Pattern of continuous use of qualifying medications
Summary of SMI Indicators	Summary score based on previous 6 indicators (0-6); Indicates pattern of positive behavioral, housing, medication and diagnostic data in chart

*Qualifying diagnoses as assigned by psychiatric and/or psychological evaluation include: schizophrenia, schizoaffective disorder, psychosis NOS, organic brain disorder, dementia, borderline personality disorder**Combines data on type of psychotropic meds prescribed alone and in combination (0 = none, 1 = antipsychotic, 2 = mood stabilizers, 4 = antidepressants, 8 = anticonvulsants and data on pattern of use (0 = none, 1 = sporadic, 2 = discontinuous, 3 = steady)

Computation of severity of serious mental illness scores based on summary indicators indeed showed a range of severity in this sample from 0-6. This demonstrated variability and a reasonably normal distribution curve within the SMI sample on severity scores, indicating that this index is working reasonably well to identify a range of illness severity in the SMI population. The mean score was 2.9.

Figure 7 Distribution of Severity of Serious Mental Illness Scores (N = 1,074)



We ran another survival analysis based on severity score (N = 1,074) and found that higher severity score were predictive of shorter time out in community after prison release. Severity scores were significantly negatively associated with community survival time. That is, offenders appearing to have more or more severe levels of indicators of serious mental illness, based on the criteria outlined in Table 7 above, returned to prison more quickly than persons who had fewer or less severe levels, and therefore lower severity scores.

Classes of SMI. Our confirmatory analysis of index of illness severity scores used latent class analysis based on prison mental health data before these data were summarized to compute severity scores. Latent Class Analysis (LCA) is a statistical method for finding subtypes of related cases (latent classes) from multiple variables and classificatory data, often used in clinical and social-behavioral research to find distinct diagnostic categories given the presence or absence of several key symptoms [cite]. In this study, we used it to

find whether there were distinct subtypes of Utah offenders with SMI, based on the prison data collected and severity scores generated for each case (Table x, above). Again, for each of these operations, prison record review data from a 1998-1999 subset of our SMI sample was used (N = 1,079). We intend to perform these same analysis again when we have reviewed records and collected data for all cases 1998-2002 (N = 2,127 records).

This analysis produced 4 distinct classes of offenders with SMI, with probabilities assigned to the likelihood of members of each class being positive or negative on our SMI indicators. Next, the average index of severity score for each class was compared with analysis of variance (ANOVA). Results showed a significant difference between all 4 classes in severity of mental illness scores [F(3, 1074) = 452.073, p < .001]. Table 8 presents the 4 classes in terms of their likelihood to show evidence of the summary SMI indicators used in the study, as well as their average index of severity score.

Table 8 Four Classes of Serious Mental Illness Based on SMI Indicators for Offenders Released 1998-1999 (N = 1,079)

SMI Indicator	Class 1 (N = 290)	Class 2 (N = 206)	Class 3 (N = 530)	Class 4 (N = 52)
Percent of 1998-1999 sub- sample	27%	19%	49%	5%
Evidence of psychotic illness in chart	Yes*	Yes*	No	No
Mental health housing	No**	No*	No	No
Pattern of at least discontinuous or steady psychotropic medication use	Yes*	Yes*	Yes	No
SMI Diagnosed	Yes*	Yes*	Yes*	No
History of antipsychotics	Yes*	No	No	No
History of antidepressants	Yes	Yes	Yes*	Yes**
History of mood stabilizers	No	Yes*	No	No
History of anticonvulsants used as mood stabilizers	No	No	No	No
Class average severity of serious mental illness score (0-6 possible)	4.3***	3.6***	2.1	0.38

* An asterisk indicates a statistically near or perfect probability (0.9-1.0) of members of the class being positive indicator.

** Probabilities of being positive or negative for these indicators were closely split for this class.

*** Severity of serious mental illness score higher than sample average of 2.9

In summary, we found 4 distinct classes in our SMI group. Please note that these results and the analysis are tentative as we continue to work with and add to these data. However, provisional clinical interpretation of the 4 class solution is interesting, and indicates the following qualitative patterns for each Class:

- Class 1 members (27%) had significant behavioral evidence of mental illness in their charts, including evidence of hallucinations, mania, self-harming behaviors and gross disorganization. Members of this class were highly likely to have a history of steady, long term antipsychotic medication use. This was also the class with greatest likelihood of a positive history of residency in mental health units (0.43 percent positive probability on the housing indicator, compared with only .048 - .096 probabilities for Classes 2-4). The average severity of serious mental illness score for this class was 4.3, higher than the SMI sample average. The overall clinical impression of this class is one of more severe psychotic and disorganized symptoms requiring long-term, close clinical management.
- Class 2 members (19%) also showed significant evidence of psychotic and/or disorganized behaviors. Members of this class were likely to be taking either anti-depressants and/or mood stabilizing medication on a regular basis, and to be clinically managed outside of residential mental health housing. This group had an average severity of serious mental illness score of 3.6, also higher than the overall average. The overall clinical impression of this class is that of mood disorder with significant psychotic and behavioral features.
- Class 3 members (49%) were likely to be taking antidepressant medication in either a steady or a discontinuous fashion. Members of this class did not evince significant evidence of psychotic symptoms, but recognized by clinicians as

SMI and clinically managed outside of mental health residential housing. The severity of serious mental illness average score for this class is 2.1, just below the sample average. The overall clinical impression of this class is that of major depressive disorder, with predominantly vegetative and cognitive symptoms. This is by far the largest class, with 530 cases.

- Class 4 members (5%) showed significant evidence of psychotic symptoms, and had patterns of limited or discontinuous use of antidepressant medication. The average severity score for this group is 0.38, well below the SMI sample average. While members assigned to this class showed enough evidence of SMI to be included in the sample in our preliminary studies, compared with cases in the other classes this class seems to present a less symptomatic and resource-intensive group. The general clinical impression seems to be one of moderate anxious and depressive symptoms serious enough to warrant treatment, but not as severe as those psychotic and mood symptoms evidenced in the other classes. This is by far the smallest class, with only 52 cases.

C. Special Issues for Women Offenders with SMI

The information reported in this section was recently published in Utah's Health: An Annual Review Volume 12: Special Supplement on Women's Health in Utah (full report available at <http://uuhsc.utah.edu/coe/womenshealth>).

Descriptive Statistics and Incarceration Patterns 1998-1999. The descriptive statistics reported in this and the next section were generated from a sub-sample of women offenders with SMI who were released from Utah State Prison 1998-1999 (N = 246). Of these women, 226 were identified as White (92%), 11 as African American (4.5 %), 1 as Asian (0.4%), 1 as Pacific Islander (0.4%), and 5 as Alaskan Native (3.3 %). Fourteen percent of this sub-sample was identified as Hispanic, while 86% were not.

The average and median age of first incarceration in state prison for women with SMI was 30 years of age, with a range from 17 to 61. However, the frequency distribution for age of first incarceration had a distinct bimodal pattern, with age of first admission clustering in both the mid-twenties and the early to mid-thirties (Figure 8). The most frequent age of first incarceration in our sample was 24 (20 women or 8.2%) and the next most frequent was 31 (6.9%) with 33 (6.5%) and 34 (6.1%) close behind. For male offenders with SMI released from prison 1998-1999 the average age of first incarceration was younger, with an average age of first incarceration at 28, and most first incarcerations occurring between 19 and 21 years of age (Figure 9). The most frequent ages of first incarceration for males was 19 (7.7%) followed by 21 (7.5%).

Figure 8 Age of First Incarceration in Utah State Prison for Women with SMI 1998-1999

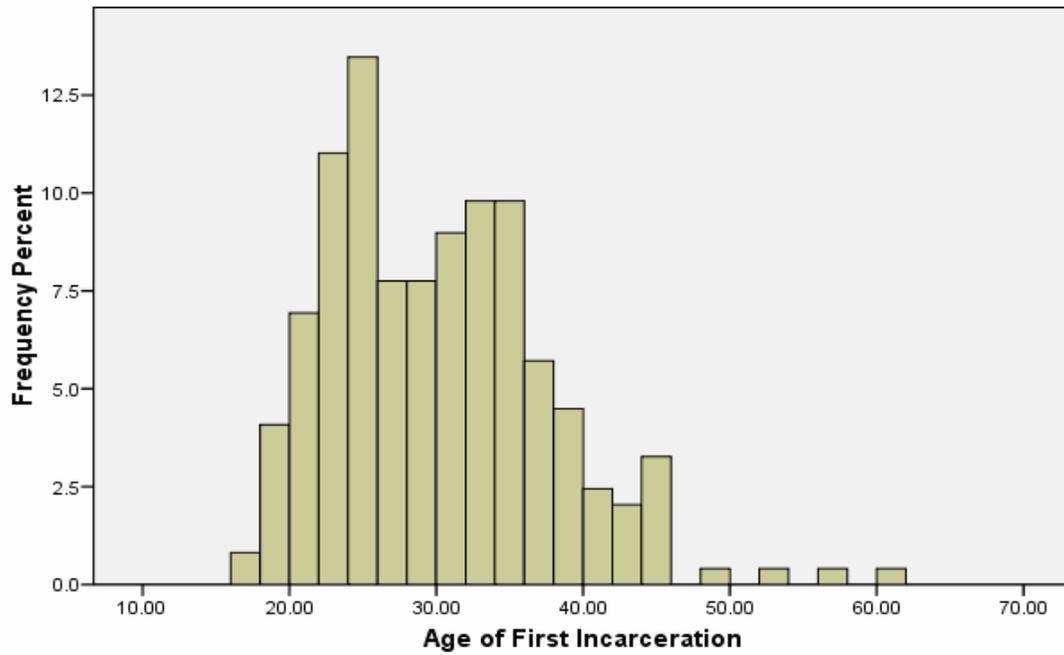
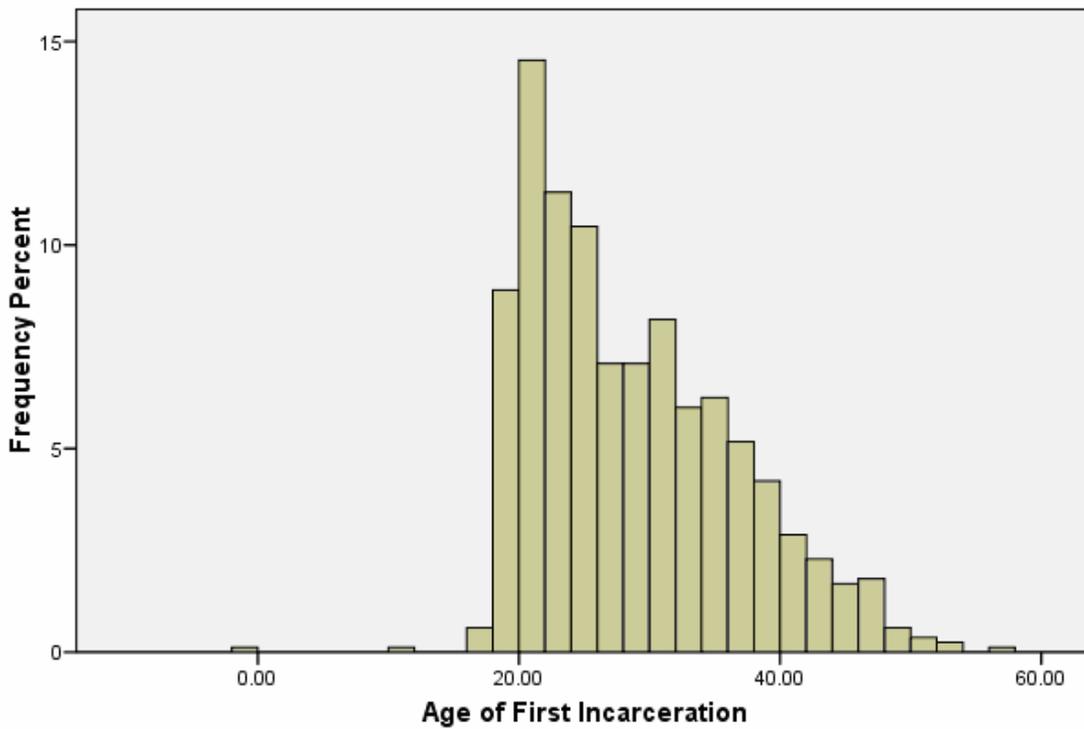


Figure 9 Age of First Incarceration in Utah State Prison for Men with SMI Released 1998-1999



Psychiatric Diagnoses and Symptoms. In addition to collecting data related to demographics, incarceration patterns and recidivism, we also collected data related to psychiatric diagnoses, symptoms and treatment for women with SMI in our 1998-1999 sub-sample:

- Sixty percent of women prisoners with SMI were screened for mental illness as part of the prison admission process while 40% were not.
- Of those screened, 9% were flagged as positive for mental illness requiring follow-up evaluation.
- 98% of those who received follow-up clinical evaluation were diagnosed as mentally ill.
- By far, the most common DSM-IV psychiatric diagnosis of these women is Major Depressive Disorder, with 144 or 59% of women in our sample having this diagnosis recorded in their prison medical charts.
- The second most common psychiatric diagnosis in this sample was Bipolar Disorder (55 women or 22%).
- Finally, individual chart reviews for all women with SMI showed that in 44% of charts, staff had recorded significant symptoms of serious mental illness such as mania, hallucinations, delusions, disorganization, self-isolation, poor hygiene and compulsive behaviors.

Alcohol and/or Drug Related and Violent Offenses. Across the US, the crimes for which women are primarily incarcerated are alcohol and drug-related offenses. A 1999 Bureau of Justice Special Report on women offenders states that 1 in 3 women are incarcerated for a drug-related crime, and roughly 50% of women imprisoned in State prisons were under the influence of drugs or alcohol at the time of their offense [73]. A Utah Commission on Criminal and Juvenile Justice Study (CCJJ) report filed in 2006 found that 62.5% of Utah women are incarcerated for a drug- related offense, and 77.6% of women committed their

crime while under the influence of alcohol or drugs [74]. When examining the data related to primary offense for our sample of women prisoners with SMI, we found the following:

- For the five year period 1998-2002, the average percentage of women parolees with both SMI and an alcohol and drug related primary offense was 56%, compared with 63% for women parolees without SMI, 29% for men parolees with SMI, and 38% for men parolees without SMI
- Thus percentages of alcohol and/or drug related primary offenses are high for both SMI and non-SMI women when compared with the male population.
- During 1998-2002, the average percentage of women parolees with SMI and violent offenses was 11%, compared with 8% for women without SMI.
- The difference in percentages of women parolees both with and without SMI who committed violent offenses is notable, when compared with male parolees, with average percentages of 32% (SMI) and 28% (non-SMI), respectively.

Table 9 Percentage of Parolees with Alcohol or Drug Related or Violent Offenses

	% Alcohol/Drug Offense	% Violent Offense
Females with SMI	56%	11%
Non SMI Females	63%	8%
Males with SMI	29%	32%
Non-SMI Males	38%	28%
Total SMI	36%	27%
Total Non-SMI	40%	27%

V. Discussion: Implications of Findings

This report focuses on results from one year of preliminary work and the first stage in a program of research examining the effects of prison-based and community-based mental health treatment on the length of time that offenders with serious mental illness (SMI) in Utah State remain out of prison. Significant results of this pilot study include:

- 1) The identification of a distinct subgroup of offenders with SMI released from Utah State Prison 1998-2002;
- 2) The findings that offenders with SMI return to prison much more quickly and in greater numbers than non-SMI offenders;
- 3) The finding that women are over-represented in the SMI group, and that women offenders with serious mental illness represent a uniquely vulnerable, at-risk group.

Stages of the Research Process. The research process proceeds in a series of stages. In a field where systematic and rigorous examination of critical issues lags behind the issues and challenges experienced in everyday practice, the first step is often to establish empirically *that a particular situation indeed exists, and whether or not it is a problem.*

Once this problem or situation is defined and described, then the next stage of the research process is an inquiry into the conditions that foster the situation or problem, with a goal to explore those interrelated factors that contribute to and sustain the problem. The third stage is focused intervention, or those methods and strategies that will generate the knowledge to inform policy and action and change the situation for the better. This approach to the research process can be summarized, briefly but fittingly, as a process to establish three things about a problem or situation: *that it is, why it is, and how to fix it.* All three stages are necessary to generate data and analysis that can inform and affect policy in meaningful ways.

The data reported here answer the first stage of the process—that there is a distinct group of offenders with SMI living in the Utah State Prison population, that compared with other offenders they are significantly burdened by higher recidivism rates and quicker return to prison, and that these issues seem to be related to their illness, and not to other systematic differences from the general prison population. In the rest of this report, we focus on a few major implications of these first-stage findings.

High Cost of Higher Recidivism for Offenders with SMI. We can now estimate the fiscal costs of the striking difference in recidivism rates between offenders with and without SMI. Combining these findings with data provided by the Department of Corrections Bureau of Research and Planning on the average daily cost per inmate of incarceration in Utah State Prison, we can calculate the costs of this difference in real dollars, keeping in mind that the unit of analysis is each event of recidivism 1998-2002:

- Number of events of recidivism for offenders with SMI 1998-2002 = 3,183
- Average number of SMI return-to-prison events per year = 637
- Average (mean) number of days to return to prison across all non-SMI study events = 668
- Average number of days to return to prison across all SMI study events = 542
- Difference in average number of days to return to prison = 126
- Average cost per day across all units of incarceration in Utah State Prison for fiscal year 2006= \$64.48
- Cost of difference in Non-SMI vs SMI events [126 x \$64.68] = \$8149.68
- Cost of difference in events per year [637 x \$8149.68] = \$5,191,346.16

Therefore, if the current rate of recidivism for offenders with SMI was simply brought to the same rate as everyone else, the estimated savings would amount to over \$5 million per year, or nearly \$26 million during a 5 year period. The average daily cost of maintaining an offender in the Olympus mental health unit during fiscal year 2006 was even higher, at

\$80.69 per day. Although the majority of offenders with SMI live in general population units, if only 30% of offenders with SMI returning to prison were housed in this unit, these estimated costs would increase by nearly \$400,000 per year: $[637 \times .3 = 191$ (one third of average number of SMI events) $\times 126$ (difference in average number of days to return SMI vs. non-SMI) $\times \$16.21$ ($\$80.69 - 64.48$, or difference in average Olympus cost per day – average cost per day across units)] = \$390,109.86 additional cost per year for SMI in mental health housing.

Special Issues Facing Women Offenders with SMI. It bears repeating that women are the fastest growing segment of the incarcerated population [68]. In 2005, 95,096 women were incarcerated in state prisons, compared to 82,058 in 2001 and 57,263 in 1994 [69].

Women in State prisons have higher rates of mental health issues compared with male prisoners, with 73% of the female state prisoner population expressing symptoms of mental disorder, compared to 55% of the male population². In the highest frequency of mental illness among white women in State prison. Currently about 9% of prison inmates in Utah are women, higher than the 2004 national average of 7.0% across US state prisons [67]. Women with mental disorders [35] tend to fare worse than their male counterparts [69,70, 71], as services geared to offenders are generally designed with males in mind, including those services focused on mentally ill offenders.

Women represent 24.3% of offenders with SMI paroled from Utah State Prison 1998-2002. According to our chart reviews, in which we examined medical charts for recorded evidence of mental health screening, 60% percent of these women were screened for mental illness as part of the prison admission process while 40% were not. Of those screened, 9% were flagged as positive for mental illness requiring follow-up evaluation. Further, 98% of those who received follow-up clinical evaluation were diagnosed as mentally ill. This suggests that when screening is done, it is effective in identifying those women in need of further mental health evaluation and follow-up

treatment. The finding that 40% are not being screened, coupled with evidence in the literature on the special challenges of women with SMI in the prison system, points toward a need to ensure systematic and regular mental health screening for women coming into the prison system.

Not only is the average age of first incarceration for women with SMI significantly higher than their male counterparts, but the overall pattern of ages of first incarceration is also unlike the males. For the men in our sample, the most frequent age of first incarceration spikes at age 19, then declines slowly but steadily throughout the twenties and thirties, and dwindles as the ages increase. For women, the first spike in most frequent age of first incarceration occurs at age 24 (8.2%), then spikes again at ages 31 (6.9) and 33 (6.1) before the frequency begins to decline in women aged 37 and older.

While we have not yet begun to examine reasons for this, we suspect that the relatively older average age of women with SMI coming to prison for the first time, as well as the spike in numbers of women with SMI aged 30-35 at their first incarcerations, may be related to substance abuse issues, particularly methamphetamine use. Despite the reasons, these patterns raise important considerations regarding these women:

- Women with SMI are coming to prison for the first time at age when they are likely to have already become mothers. In 2000, the average age of Utah mothers at the birth of their first child was 23.3. Compare Figure 10, the frequencies of age at first incarceration for women with SMI released from Utah State Prison 1998-1999 with Figure 11, the frequencies of age of Utah mothers at the birth of their first child.

Note the co-occurrence of the first spike in each at age 24.

Figure 10 Distribution of Age of First Incarceration in Utah State Prison For Women with SMI 1998-1999

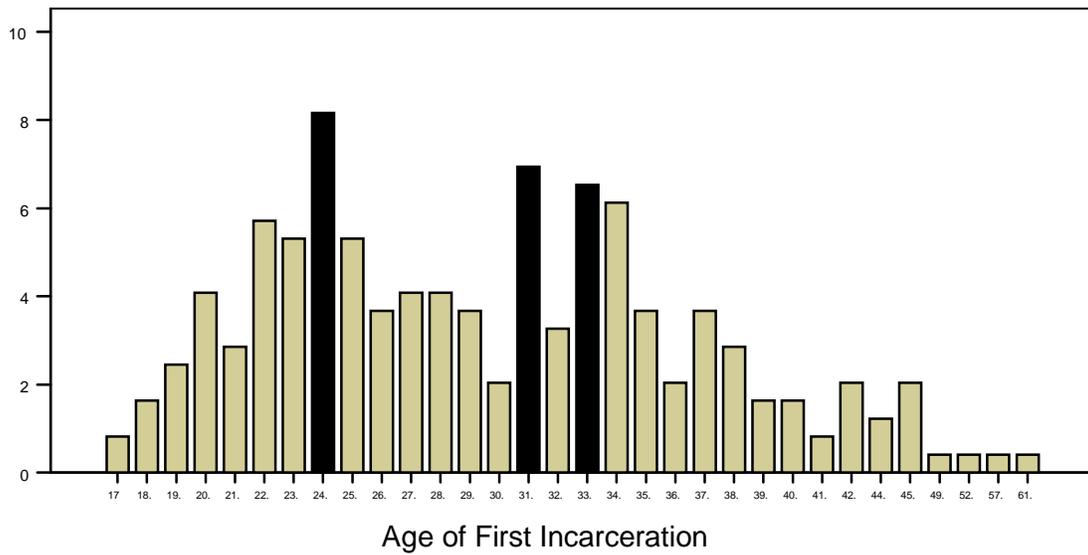
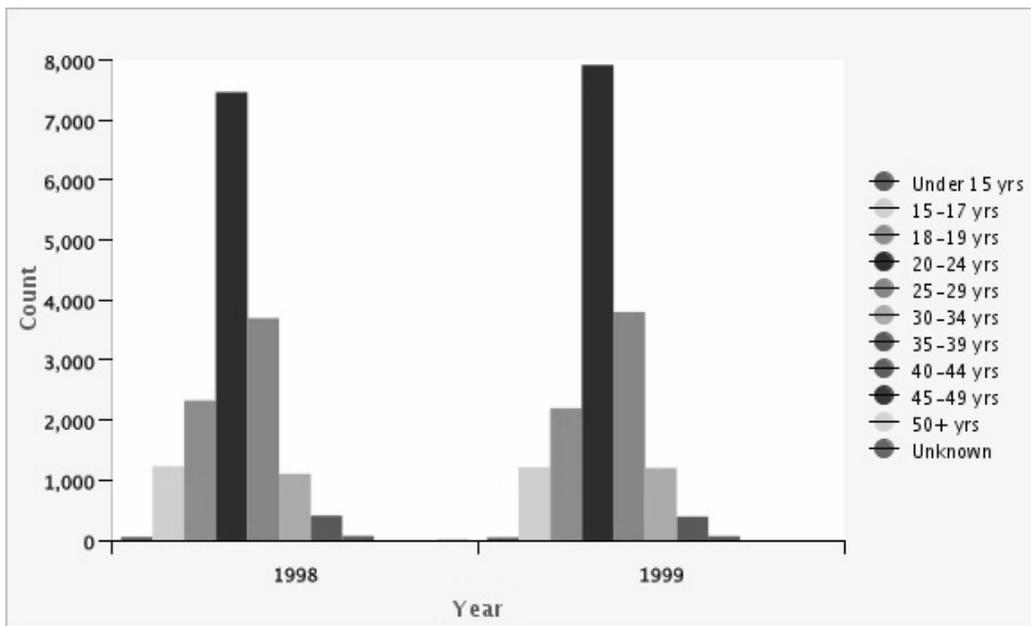


Figure 11 Age of Mother at Birth of First Child for Utah Women 1998-1999



- The bimodal pattern of age at first incarceration for women with SMI, particularly with the second most frequent ages of incarceration at 31 and 33 also means that many women in this group are likely to be mothers of small children and/or young families.

- These women are experiencing two extremely disruptive situations—mental illness and incarceration—when they are also responsible for raising children and maintaining families. It also means that these experiences are not affecting individuals, but dependent children and families. This has critical implications for treatment and transitional services.

Utility of Severity of Serious Mental Illness Index. The severity of serious mental illness index we developed for this study is unique, and could potentially be used to identify those offenders released from prison most at risk of recidivism related to their severity of mental illness. Our preliminary work showed that higher severity scores were significantly associated with decreased time out in the community after prison release.

As opposed to a psychometric tool or measure normed in a non-correctional population and administered by trained professionals, this measure incorporates context-specific clinical and prison data already generated in the course of treatment and management. Also, this measure is specifically tailored to those individual and contextual features that particularly impact offenders with mental disorders. This algorithm for indexing severity and predicting risk of recidivism could therefore be developed for use by prison staff that has access to these data. Such a measure could be combined with already-used measures of risk and recidivism to describe the unique and specific factors that affect offenders with mental illness, and contribute to their significantly higher rates of prison return.

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