MANAGING MENTALLY ILL INMATES IN MASSACHUSETTS:
RISK ASSESSMENT, CLASSIFICATION, AND PROGRAMMING IN A HOUSE OF CORRECTION

A dissertation presented by

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In partial fulfillment of the requirements for the degree of Doctor of Philosophy

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ABSTRACT OF DISSERTATION

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ABSTRACT

Since the deinstitutionalization of psychiatric hospitals in the 1950s, American correctional institutions have become the primary sites for managing mental illness nationwide. Mentally ill inmates present many challenges to correctional administrators, including but not limited to the prevention of suicide, delivery of psychiatric medication, and implementation of key programming services. Moreover, each challenge must be met while ensuring the safety and security of staff, inmates, and the community. To this end, administrators use evidence-based practices that promote safe and efficient service delivery throughout detention and minimize the likelihood of re-offending after release. One of the most widely supported management strategies, known as the risk principle, assesses inmates’ likelihood of recidivism and prioritizes the highest-risk inmates for the most intensive institutional programs. Unfortunately, there is very little research that has investigated the impact of risk-based correctional management strategies on mentally ill inmate populations.

With data on 866 inmates incarcerated within a Massachusetts house of correction (HOC), this dissertation analyzes how measures of criminogenic risk and mental illness separately and jointly predict key institutional outcomes. Specifically, I use path analyses and logistic regressions to predict mentally ill and non-mentally ill inmates’ placements into intensive programming, administrative segregation units, and a pre-release community work program. Results indicate that, in adherence with the risk principle, the highest-risk inmate groups are most likely to be placed into intensive programs. While high-risk mentally ill inmates have at least equal access to intensive programming as their non-mentally ill counterparts, they are much more likely to be administratively segregated. Yet, only criminogenic risk, and not mental illness, achieves statistical significance in the prediction of program placement and segregation. I conclude by discussing the role of mental health needs in risk-based correctional management, ways to measure and define mental illness, and the implications of the findings for correctional theory and practice.
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# TABLE OF CONTENTS

ABSTRACT ................................................................................................................................................... 2

ACKNOWLEDGEMENTS .................................................................................................................................. 4

TABLE OF CONTENTS .................................................................................................................................... 5

LIST OF FIGURES .......................................................................................................................................... 7

LIST OF TABLES ............................................................................................................................................ 8

CHAPTER 1: PRISONS' PATIENTS .................................................................................................................. 9
  Taking Stock of Mental Illness in American Corrections Today ................................................................. 10
  Intersecting Risk with Mental Illness .......................................................................................................... 18
  Structure of the Dissertation ....................................................................................................................... 21

CHAPTER 2: MENTAL ILLNESS MOVED BUT NEVER WENT AWAY ............................................................ 24
  The Rehabilitative Ideal and Its Decline ..................................................................................................... 24
  The Transcarceration of Mental Illness ...................................................................................................... 32
  Responding to Mental Illness in Communities .......................................................................................... 39
  Prevalence of Mental Illness in Corrections .............................................................................................. 43

CHAPTER 3: PLAYING IT SAFE IN A GAME OF RISK .................................................................................. 49
  Actuarial Versus Clinical Risk Assessment ............................................................................................... 51
  Early History of Risk Assessment in America ............................................................................................ 54
  Expansion of Risk Assessment .................................................................................................................... 57
  Principles of Effective Correctional Intervention: Risk-Need-Responsivity ............................................. 59
  The New Penology and Criticisms of Risk Assessment ............................................................................. 67

CHAPTER 4: A FRAMEWORK FOR STUDYING MENTAL ILLNESS AND RISK ............................................. 72
  Conceptualizing Mental Health Needs in Risk Management ...................................................................... 73
  Joining Principles of Criminogenic Risk and Mental Health Needs in Program Placement ................. 77
  Treatment-Security Conflicts and the Use of Administrative Segregation .............................................. 78
  Research Questions ................................................................................................................................... 80
LIST OF FIGURES

Figure 2.1 The Rehabilitative Ideal in Policy, 1870-1970 .................................................................25
Figure 2.2 Mental Health Care, 1940-2000 ..................................................................................33
Figure 2.3 Number of Patients in American State and County Mental Hospitals, 1955-1994 ..........35
Figure 2.4 Comparing Actual and Effective Rates of Deinstitutionalization by State ..................37
Figure 2.5 Percentage of Correctional Population Identified as Mentally Ill, 1976-2006 ..............46
Figure 3.1 Performance of Actuarial and Clinical Risk Predictions................................................53
Figure 3.2 Number of States Offering Parole vs. Using Actuarial Instruments, 1979-2004 ..........58
Figure 3.3 The Effects of Risk-based Program Interventions on Recidivism Rates..........................62
Figure 4.1 The Interplay of Psychological and Criminogenic Needs.............................................76
Figure 4.2 Principled Program Placement .......................................................................................78
Figure 6.1 Charting Inmates’ Placements into Programming and Segregation ..............................105
Figure 6.2 Full Model of Inmates’ Pathways into Programming and Segregation .........................112
Figure 6.3 Predicted Probabilities of Placement into Intensive SIR Program ...............................115
Figure 6.4 Predicted Probabilities of Placement into Segregation Units .......................................117
Figure 6.5 Predicted Probabilities of Placement into CWP ............................................................119
Figure A.1 Image of a House of Correction ....................................................................................140
Figure B.1 Managing Inmates from Intake and Screening to Release ............................................141
LIST OF TABLES

Table 2.1  Number of Patients in Mental Hospitals Controlling for Population Growth ..........................37
Table 3.1  Major and Minor Risk/Need Factors ..................................................................................63
Table 3.2  Four Generations of Risk Instruments ..................................................................................66
Table 6.1  Overall Sample Descriptive Statistics ....................................................................................101
Table 6.2  Overall Sample LS/CMI Risk Levels ......................................................................................102
Table 6.3  Overall Sample Mental Health Diagnoses ..............................................................................103
Table 6.4  Cross-tabulation of DSM-IV-TR Diagnosis and Mental Health Consumer Status .............104
Table 6.5  The Relationship between Mental Illness and Criminal/Institutional History .....................106
Table 6.6  Cross-tabulation of Mental Illness and Intensive Program Placement ..................................107
Table 6.7  Cross-tabulation of Mental Illness and Segregation Unit Placement ....................................107
Table 6.8  Cross-tabulation of Mental Illness and CWP Placement .......................................................107
Table 6.9  Cross-tabulation of Mental Illness and Criminogenic Risk ....................................................108
Table 6.10 Coefficients for Path Analysis of Placement into Intensive SIR Program ..........................109
Table 6.11 Coefficients for Path Analysis of Placement into Segregation Units ....................................110
Table 6.12 Coefficients for Path Analysis of Placement into CWP ......................................................111
Table 6.13 Logistic Regression Models Predicting Placement into Intensive SIR Program ..................114
Table 6.14 Logistic Regression Models Predicting Placement into Segregation Units ........................116
Table 6.15 Logistic Regression Models Predicting Placement into CWP ..............................................118
Table C.1 Sample Descriptive Statistics and Tests for Representativeness ............................................142
Table D.1 Predicting SIR Placement with Disaggregated Mental Health Diagnoses ............................143
Table D.2 Predicting Segregation Placement with Disaggregated Mental Health Diagnoses .............144
Table D.3 Predicting CWP Placement with Disaggregated Mental Health Diagnoses ........................145
Bennie Anthony was first admitted to the Massillon State Hospital in Canton, Ohio in 1974 for suicidal ideations and paranoid schizophrenia, but against doctors’ recommendations he signed himself out of hospital care. In the thirteen years following his initial hospitalization, Anthony was arrested seven times for petty theft, vandalism, robbery, and defrauding a livery, admitted six times to local and state hospitals for short-term psychiatric treatment for persecutory delusions and hallucinations, and incarcerated once for vandalism and petty theft. His already extensive criminal and institutional history contributed to a lengthy sentence for aggravated arson in 1987 when, convinced that she was a witch, Anthony set his girlfriend’s house on fire. After his release in the 1990s, Anthony often went off his medication, experienced recurrent psychosis, and was repeatedly paroled and reincarcerated on assault charges. In 2005, Anthony was accepted into an assisted-living program, but he ultimately abandoned the group home and resorted to living in a public park. While homeless, he was arrested and charged on ten different occasions for burglary, trespassing, disorderly conduct, and changing and urinating in public. As of 2009, in his early sixties and after thirty-five years spent in and out of correctional and psychiatric institutions, Anthony remained under parole supervision and awaited placement into a facility for long-term housing and psychiatric care.¹

Anthony’s story is told between two PBS FRONTLINE specials on mental illness in prisons and jails, The New Asylums (Navasky & O’Connor, 2005) and The Released (Navasky & O’Connor, 2009). Footage shows Anthony begging for protective custody despite already having his own cell segregated from other inmates, his request motivated by an unrelenting delusion of persecution. Anthony is clearly distraught and fearful of an anonymous group of attackers seeking to harm him, who he later describes in a face-to-face interview:

[...] They was from Texas. Coming out of Texas. Some of ’em have syringes of poison. Electric, electric, battery, battery-powered volts on them, where they can pierce your heart or your stomach. And uh, some of ’em have wooden, and wooden bats like. And uh, guns. (Navasky & O’Connor, 2005)

¹ Biographical and criminal history information is from PBS FRONTLINE’s (2009) website, which provides a detailed case study and life history for Bennie Anthony titled, The Tragic Cycle: http://www.pbs.org/wgbh/pages/frontline/released/cycle/
Tragic and extreme as Anthony’s story may seem, many of his life experiences both in and out of prison are common among mentally ill offenders. These documentaries feature ten other men who have a shared history with Anthony within the Ohio Department of Rehabilitation and Correction. Each diagnosed with severe psychopathology, including schizophrenia and bipolar disorder, these men have been detained within maximum security and mental health units, placed into community treatment and assisted-living homes, and left homeless after their release. Their experiences demonstrate how prisons and jails have become catch-all institutions forced to deliver mental health services when there are few, if any, other community health care alternatives.

Documenting the stories of people like Bennie Antony is both revealing and poignant, but it only provides a glimpse of a social justice issue with deep historical roots. From the earliest American penitentiaries and asylums in the eighteenth century (Rothman, 2002b) to what one commentator recently called the contemporary American “mental health gulag” (Mangino, 2012), reconciling the security and health care demands of our prisons’ mental health patients has been a relentless problem. Knowing the full scope of these issues faced by the correctional system is a necessary first step to any thoughtful and critical investigation. Therefore, it is appropriate that I begin by highlighting the many challenges to mental health care delivery in the correctional system today.

**Taking Stock of Mental Illness in American Corrections Today**

America’s correctional institutions are the managers of the largest mentally ill populations in the country (American Psychiatric Association, 2004; Torrey, Kennard, Eslinger, Lamb, & Pavle, 2010). In the last half of the twentieth century, a deinstitutionalization movement among state asylums and hospitals resulted in the release of thousands of mentally ill patients to communities while a surge of punitive crime control policies contributed to the subsequent arrest and incarceration of many of these same patients (Lamb, Weinberger, & Gross, 2004). Today, mentally ill persons comprise a substantial proportion America’s prison and jail detainees. While the definitions of mental illness vary greatly in research, the most recent prevalence estimates of mental health problems in correctional facilities nationwide reach over fifty percent (James & Glaze, 2006). Indeed, the three largest mental health care facilities in the United States are the Los Angeles County Jail, New York City’s Rikers Island, and Chicago’s Cook County Jail (Torrey, 1999). Not the least of the urgent problems facing the correctional system are the counseling,
pharmacological treatment, and prevention of violence and suicide among vulnerable, sometimes psychologically unstable inmates (Ogloff, 2002a; Lamberti & Weisman, 2004). Policies guiding the management of mentally ill inmates are the product of a complicated history shared between American correctional and mental health systems, where clinical and health care needs often have competed with custodial safety concerns.

Offenders with mental illness present many unique challenges at every level of the criminal justice system. Offending behavior has been linked to intellectual disabilities (Barron, Hassiotis, & Banes, 2002), brain damage (Nedopil, 2000), and a wide variety of formally diagnosable psychopathologies (Raine, 1997; Soyka, 2000). Mentally ill offenders’ first contact with the criminal justice system (e.g., arrest by police) may immediately be complicated by their cognitive and physiological impairments (Lamb & Weinberger, 1998; Lamberti & Weisman, 2004). Throughout court processing, criminal justice resources are expended for pre-trial determination of competency and administrative management of mentally ill offenders who have open cases with local or state departments of mental health (Hartwell, 2001; Adler, 2004). Arguably, mentally ill offenders’ criminal pasts and psychological needs are never more apparent than during incarceration, a period of prolonged confinement when correctional facilities are held responsible for diagnosis and treatment.

From the very start, identifying mental illness at the point of incarceration can prove difficult. State departments of mental health are usually incapable of tracking every mentally ill patient and some offenders are entirely unaware of their illnesses at the time of incarceration (Hodgins, 1995). Unfortunately, as Teplin (1990a) demonstrated among a sample of jail detainees, accurately identifying medical and mental health problems for inmates without treatment histories can be much more difficult than for those with documented medical histories. Detection is particularly challenging for illnesses, like depression, that do not always have obvious behavioral symptoms compared to the disorganized thought and speech patterns that present among some schizophrenic patients, for example. It is then the responsibility of correctional institutions to develop effective ways to screen and diagnose medical and mental health problems of inmates entering the system. Screenings must be designed to detect both overt and hidden (or sub-clinical) psychiatric symptoms that could lead to future problematic behavior during incarceration, including aggressive behavior and self-harm.
Inmates who are successfully identified as having mental illness at the time of their incarceration are disproportionately more likely to have past violent offenses, more prior incarcerations, more violations and injuries due to fighting while incarcerated, and a history of homelessness, substance abuse, and past physical or sexual abuse than are inmates without mental illness (Toch & Adams, 1986; Toch & Adams, 2002; James & Glaze, 2006). Of particular concern to correctional facilities, which typically hold custodial safety above all other concerns, is the risk of violence and aggression among inmates. Reportedly, mentally ill inmates are more likely to be aggressive toward correctional staff (Torrey et al., 2010) and they are at greater risk for committing self-harm and suicide than inmates without mental illness (Goss, Peterson, Smith, Kalb, & Brodey, 2002). These findings, unfortunately, only serve to bolster the misguided perception that individuals with mental illness are predisposed to violence. On the contrary, it has been established empirically that major mental health diagnoses (e.g., schizophrenia and mood disorders) and some related psychopathological symptoms (e.g., hallucinations) are actually poor predictors of violence (Bonta, Law, & Hanson, 1998; Monahan et al., 2001). Moreover, it is substance use disorder in the presence of mental illness that most strongly predicts violence and recidivism, a co-occurrence of disorders that merits further consideration below.

Many mentally ill patients are dually diagnosed with substance use disorders (Hodgins, 1995; Kessler et al., 1996; Soyka, 2000; Drake et al., 2001; Young, 2003). Prevalence reports on the rates of co-occurring disorders have varied from 23 (Substance Abuse and Mental Health Services Administration [SAMHSA], 2004) to about 50 percent in the general population (Regier et al., 1990). Among correctional populations these rates can be even higher, as was reported in a study of 728 jail detainees by Abram and Teplin (1991). The authors found that over half of jail detainees in their study who were diagnosed with current schizophrenia or major depressive disorders also met the criteria for alcohol abuse/dependence and over one quarter qualified for drug abuse/dependence diagnoses. In the context of a lifetime (as opposed to a current) mental health diagnosis, the presence of co-occurring drug and alcohol disorders ballooned to nearly 60 and over 80 percent respectively (1991). Compared to those with a single disorder, people with co-occurring disorders are at a higher risk for suicide, homelessness, infectious diseases, recidivism, and have lower rates of treatment and medication adherence (SAMHSA, 2002; Dickey, Normand, Weiss, Drake, & Azeni, 2002; Hartwell, 2004a; 2004b; Swartz & Lurigio, 2007; Schutt, 2011). A
recent study followed 20,012 inmates from the Philadelphia County jail system for four years after their release to compare recidivism rates among four groups, including people with: 1) no mental health diagnosis, 2) substance abuse disorders, 3) serious mental illness defined by diagnoses within the schizophrenia spectrum or major affective disorders, and 4) co-occurring serious mental illness and substance abuse disorders (Wilson, Draine, Hadley, Metraux, & Evans, 2011). After four years, inmates with serious mental illness had the lowest recidivism rate (54%) compared to inmates with no diagnoses (60%) and with a substance abuse diagnosis (66%). Inmates with co-occurring disorders had the highest rate of recidivism (68%) in the sample, leading the authors to conclude that it is not serious mental illness alone but the combination of substance abuse and mental health problems that best explains jail recidivism.

Both domestically and internationally there is legal consensus that mentally ill inmates, many of whom have complicated criminal pasts and unique psychological needs, should be treated with some special considerations while incarcerated. In the United States beginning with the landmark Supreme Court case *Estelle v. Gamble* (1976), it was officially established that correctional facilities must provide a minimum standard of “adequate” or “reasonable” health care for serious/chronic symptoms, including mental disabilities and impairments. Although, there is much variation nationwide in what constitutes how adequate or reasonable institutional health care is. Other landmark cases (e.g., *Washington v. Harper*, 1990; *Sell v. United States*, 2003) extended the rights of correctional facilities to impose treatment upon inmates in extreme or dangerous circumstances, even if inmates refuse to be treated or medicated. Internationally, the United Nations’ *Basic Principles for the Treatment of Prisoners* and the *Principles for the Protection of Persons with Mental Illness and the Improvement of Mental Health Care* both state that persons should receive the best health care available regardless of criminal status. Most recently in July 2009, the United States signed the Convention on the Rights of Persons with Disabilities, which supports fair treatment for the mentally disabled, which, as argued by Human Rights Watch (2009), “is essential for proper administration of justice” (p. 9).

Despite major legal reforms that call for reasonable standards of health care, many inmates with mental illness still pass through the system with inadequate services or without treatment altogether (Hodgins, 1995; Ogloff, 2002a; Human Rights Watch, 2003). These inadequacies may be due to a
longstanding over-reliance on correctional facilities that were not designed or intended to manage mentally ill populations. One Bureau of Justice Statistics (BJS) study of federal, state, and private adult correctional institutions nationwide reported that about two-thirds of inmates receiving therapy or medication were incarcerated in facilities that did not specialize in mental health care (Beck & Maruschak, 2001). Shortcomings in national standards of care may also be attributed in part to a lack of specially trained psychiatric staff, as one investigation of 13 prisons in England and Wales concluded (Reed & Lyne, 2000). Moreover, a shortage of specially trained staff and treatment facilities simply could be symptomatic of an under-funded system, where billions of dollars are invested for inmate health care but still fall short of high operating costs.2

Short on staff and funding, correctional systems (particularly, maximum security facilities) often have relied upon administrative segregation and seclusion to control potentially dangerous and psychologically unstable inmate populations (Rhodes, 2004; O'Keefe, 2007; Kupers et al., 2009). Sadly, it is well established that long-term isolation and segregation have profound deleterious effects on people (Hodgins & Cote, 1991; Toch & Adams, 2002; Haney, 2006). The negative effects of isolation are compounded among persons with mental illness. Stuart Grassian (2006), an expert on the psychiatric effects of isolation, explained:

Those most severely affected are often individuals with evidence of subtle neurological or attention deficit disorder, or with some other vulnerability. These individuals suffer from states of florid psychotic delirium, marked by severe hallucinatory confusion, disorientation, and even incoherence, and by intense agitation and paranoia. (p. 332)

These insights about the deeply troubling effects of isolation among prisoners are informed by an abundance of research conducted over the last thirty years, including Grassian’s (1983) own work. In his study of 14 prisoners held in solitary confinement at the Massachusetts Correctional Institution (MCI) at Walpole, Grassian observed cognitive disturbances and impulse control problems among study participants. The severe physiological and psychological effects of isolation also were reported in many later studies and included severe depression, hallucinations, weight loss, heart palpitations, confusion,

2 Tremendous financial investments in correctional health care are cited federally and locally. In fiscal year 2007, the Federal Bureau of Prisons (BOP) allocated $736 million to inmate health care (U.S. Department of Justice, 2008). In Massachusetts alone, the state Department of Corrections (DOC) spent $94.4 million on inmate medical care in 2010, which comprised 18 percent of the total prison budget for that year (Puleo & Chedekel, 2011). Total costs are estimated to be more than $3.5 billion each year in the United States (National Commission on Correctional Health Care, 2002).
irrational anger, headaches, lethargy, sleep disturbances, psychological distress, anxiety, panic, aggression, and rage (Korn, 1988; Brodsky & Scogin, 1988; Hodgins & Cote, 1991; Toch, 1992; Miller, 1994; Miller & Young, 1997; Haney, 2003; Rhodes, 2004). A single study in Colorado recently found, contrary to the wealth of research just mentioned, that long-term solitary confinement and administrative segregation did not exacerbate pre-existing mental illness but did negate the benefits of ongoing treatment for psychological wellbeing (O’Keefe, Klebe, Stucker, Sturm, & Leggett, 2010). In light of this evidence, solitary confinement at worst leads to and exacerbates mental illness and at best diminishes, if not completely eliminates, the positive effects of treatment. A few critics have offered a more conservative interpretation of the available literature on the psychological effects of segregation. They point out that there is tremendous variation in inmates’ responses to segregation depending upon the extent of their psychological vulnerabilities and severity and duration of isolation (Smith, 2006; Clements et al., 2007). Given that other research has demonstrated that treatment and counseling for seriously mentally ill offenders has significantly reduced their institutional misconduct (Condelli, Dvoskin, & Holanchock, 1994), there is a compelling alternative to minimize any potential damage from segregation and isolation tactics.

To date, correctional facilities and staff remain encumbered by the clinical demands and exorbitant health care costs associated with mentally ill offender management, but despite these challenges there is a movement to reform current practices. Highly regarded government and public non-profit organizations\(^3\) are embracing a multi-systems approach, which brings together representatives from public health, law, and criminal justice to improve the diagnosis and care of people with mental illness who are in contact with the justice system. Among the many federal and public initiatives are specialized police responses (SPR) for identifying and managing mental illness during police-citizen encounters at the street-level (Reuland, Draper, & Norton, 2010). State departments of health and corrections are also forging new partnerships to this end (Correctional Association of New York, 2004). In Massachusetts, for example, a specially designed Forensic Transition Team (FTT) ensures continuity of mental health care for

\(^3\) Not the least of which include the National Leadership Forum on Behavioral Health/Criminal Justice Services (NLF) through the Substance Abuse and Mental Health Services Administration (SAMHSA; http://gainscenter.samhsa.gov/html/nlf/default.asp), the National Alliance on Mental Illness (NAMI; http://www.nami.org/) and the Council of State Governments Justice Center (CSG; http://www.justicecenter.csg.org/).
some offenders as they move from the community at the time of their arrest, through the courts, and into
detainment (Hartwell & Orr, 1999; Hartwell, 2001; Massachusetts Department of Mental Health, 2008).

New programs and policies show promise for reforming the current standards of mental health
care, but they are implemented within an historically fickle correctional system, which has transitioned
between competing ideologies of punishment over the last 40 years. Throughout much of the twentieth
century, there was widespread support for a “rehabilitative ideal” in corrections. The crux of this ideal was
the identification of the underlying causes of crime and the subsequent reformation of offending behavior
through treatment and programming. By the 1970s, a few controversial but revealing evaluation studies
showed that, despite the best of intentions, many of the correctional programs that had garnered so much
political and public support actually did not substantially reduce re-offending (Martinson, 1974; Lipton,
Martinson, & Wilks, 1975). The rehabilitative approach fell out of favor and was eventually overshadowed
by more punitive approaches to policing, sentencing, and incapacitation.

What scholars refer to as a “punitive turn” in America included the introduction of mandatory
minimum sentences that required minimum terms of incarceration for certain offenses; habitual offender
and three three-strikes laws that culminated in lengthy (25 years to life) sentences upon a third felony
conviction; and truth-in-sentencing laws that stipulated offenders must serve at least 85% of their
sentences before being eligible for parole (Pratt, Brown, Brown, Hallsworth, & Morrison, 2005; Frost,
2006). These laws limited judicial discretion—including opportunities for downward departures from
lengthy mandatory sentencing guidelines—and the use of discretionary parole release in many states.
Reliance upon prolonged detainment and incarceration vastly grew the correctional population. The
United States now has the largest prison and jail populations in the world with over 1.6 million prisoners in
state and federal correctional facilities (Sabol, West, & Cooper, 2009) and over five million offenders under
community supervision including probation and parole (Glaze & Bonczar, 2009).

Tremendous growth among correctional populations strained detention facilities that were not
designed to process or hold so many inmates. Limited space and resources put at a premium any
correctional management techniques that could quickly identify and sort groups of offenders that were
entering and exiting facilities at alarming rates. To meet this demand for efficiency, from the 1980s
forward there was widespread adoption of risk assessment methodologies that used standardized
instruments to classify and manage large aggregates of offenders. Feeley and Simon (1992) named this risk-based approach to managing correctional populations the “new penology” to emphasize the departure in theory and practice from older penological and rehabilitative models. Where the rehabilitative ideal was conceived with principles of reformation at its core, the new penology was designed according to principles of actuarial prediction to minimize and control statistically calculated risks.

Risk instruments score and rank offenders’ likelihood of re-offending based upon several key guidelines. In turn, correctional practitioners use risk rankings to determine which inmates will maximally benefit from available treatment and programming, and thus, minimally recidivate after release (Andrews & Bonta, 1998; 2006; Latessa & Lovins, 2010). Informed by a wealth of meta-analytic research, the greatest reductions in recidivism are achieved by assigning high-risk inmates to intensive institutional programming (Thanner & Taxman, 2003; Lowenkamp, Latessa, & Holsinger, 2006; Andrews & Bonta, 2006; Lovins, Lowenkamp, & Latessa, 2009). Relatively lower-risk inmates, however, who are placed into intensive programs have negligible decreases or even increases in their recidivism rates (Andrews & Dowden, 1999; Bonta, Wallace-Capretta, & Rooney, 2000). Experts explain these adverse effects observed in lower-risk inmates who participate in intensive programs could be due to exposure to high-risk participants, who act as models of antisocial behavior, or the inadvertent disruption of pre-existing prosocial ties and routines with intensive supervision (Lowenkamp & Latessa, 2004; Lowenkamp, et al., 2006).

Today, many hundreds of correctional facilities throughout North America use risk assessment and many researchers repeatedly test the validity and reliability of popular risk instruments to determine the most effective strategies for reducing recidivism (Andrews & Dowden, 2006; Vose, Cullen, & Smith, 2008; Lowenkamp, Lovins, & Latessa, 2009). Similarly, the high prevalence and impact of mental illness in corrections and mentally disordered inmates’ rights to institutional treatment are both the focus of much scholarly inquiry. Given the predominance of risk-based management and the alarming numbers of mentally ill inmates in the American correctional system, it is surprising that so few studies try to elucidate the ways in which risk assessment affects mentally ill inmates. Simply put, we do not fully understand how risk-based principles influence mentally ill inmates’ access to key institutional services. To address this gap in our knowledge, this dissertation primarily asks and seeks to answer the question, how do
correctional facilities deal with mental illness inmates in a risk-based system? Specifically, this study examines how inmates’ mental health status and risk scores both separately and interactively influence their placements into institutional programming and segregation within a Massachusetts house of correction (HOC).

**Intersecting Risk with Mental Health**

Before briefly outlining the structure of this dissertation, it is important to explain why I so eagerly intersect risk with mental health in my research. There are unavoidable contradictions that arise when the correctional system uses risk-based practices to manage its mentally ill inmates. Yet, it is these very incompatibilities in theory, policy, and practice that make this area ripe for empirical examination and discussion. In this section, I briefly highlight several conflicts between risk and mental health, which drive my literature review, research questions, and statistical analyses in later chapters.

First, popular risk management models operate by targeting and reducing the effects of empirically-defined criminogenic risk factors, but mental illness is not among them. Influential meta-analytic research has concluded that mental illness is a poor predictor of criminal recidivism (Bonta et al., 1998) and a causal link between mental illness and criminal behavior has not been established (Blackburn, 2004; Mears, 2004; Friedman, 2006; Lurigio, 2011). Therefore, it is entirely possible that treating non-criminogenic mental disorders might not directly prevent crime or decrease recidivism, and could even inadvertently increase recidivism if other interventions are not used concurrently to address known criminogenic factors (Ogloff & Davis, 2004; Lurigio, 2011). However, mental illness does share indirect associations with criminality through substance use disorders and threat/control-override (TCO) symptoms. The co-occurrence of substance use disorders with mental illness greatly increases the probability of crime and violence (Bonta et al., 1998; Lurigio & Swartz, 2000; Monahan et al., 2001). The treatment and relief of psychiatric symptoms and substance dependence could then help someone “become sober and employed, find and retain stable housing, develop better self-control, return to school, mend relationships with family, and follow the designated rules of supervision, thereby avoiding probation and parole violations” (Lurigio, 2011, p. 15). Perceived threats and delusions of persecution, or what Andrews and Bonta (2006) describe as “cognitions supportive of antisocial behavior,” comprise TCO symptoms that are sometimes experienced in psychosis. Several studies have identified TCO symptoms
as predictors of antisocial behavior, aggression, and violence (Link & Stueve, 1994; Link, Stueve, & Phelan, 1998; Swanson, Borum, Swartz, & Monahan, 1996; Fanning, Berman, Mohn, & McCloskey, 2011). Psychiatric treatment that changes people’s responses to their personal cognitions (e.g., cognitive behavioral therapies) may ameliorate TCO symptoms and decrease the potential for aggression and violence. Ultimately, major mental illnesses are defined as non-criminogenic, but because of their strong ties to substance use problems and antisocial cognitions they should be considered alongside criminogenic risk factors as legitimate targets for treatment.

Second, by limiting the field’s definition of effective correctional programming to initiatives that “reduce recidivism,” to our detriment we overlook other crucial rehabilitative goals and responsibilities. While I applaud and acknowledge the work of MacKenzie (2006) and other scholars who have advanced our understanding of what works in corrections, definitions of effective programming focus too narrowly on reducing criminal activity. I argue here, as others have before me (Clear, 1994; Haney, 2006; Abramsky, 2007), that the correctional system has other considerations for harm reduction and the treatment of persons who are dually incarcerated offenders and psychiatric patients. To these ends, it is important that we expand our measures of success beyond risk reduction to include thorough and safe delivery of institutional services to mentally ill inmates toward reducing suffering and promoting patient wellbeing (Hodgins, 2000). Unfortunately, facilities are often torn between the goals of reducing risk to ensure custodial safety and promoting mental health care for psychological wellbeing (Blackburn, 2000).

Third, correctional facilities were not intended nor originally designed to treat mental illness and thusly suffer from noteworthy shortcomings in mental health care. Budget constraints and funding shortages severely limit the hiring of specialized mental health staff to care for incarcerated patients (Human Rights Watch, 2003). In a nationwide survey administered to 41 state correctional systems, 55 percent of systems responded that they needed additional mental health staff, including nurses, social workers, psychologists, and psychiatrists, to meet their facilities’ needs (Hill, 2004). A promising 95 percent of these state systems also indicated that they provide some type of specialized training in the management of mentally ill inmates for their correctional officers and supervisory staff, but the scope and duration of this training varied greatly across systems. Without sufficient staff numbers or adequate training, correctional facilities are particularly challenged to find safe and humane approaches to manage
problematic behavior and minimize risks posed to institutional security. Common institutional strategies for dealing with rule violations are segregation and isolation. Despite their psychological vulnerabilities and the potential damage imposed by these tactics, mentally ill inmates can be punished with segregation and isolation even if their institutional misbehavior is a manifestation of their illness (Fellner, 2006). Use of segregation and isolation for behavioral control has two related implications for inmate management: mentally ill inmates are over-represented in segregation units (Adams & Ferrandino, 2008), and as a result, they are disproportionately restricted from vital programs and services offered outside of segregation. As the primary care providers for mentally ill inmates, correctional facilities have an ethical obligation and moral imperative to treat their myriad disorders (Human Rights Watch, 2003; American Psychiatric Association, 2004; Mears, 2004; Blackburn, 2004). Restrictions to vital services clearly violate these expectations for treatment and health care.

Fourth, risk instruments and subsequent institutional classifications often function as though inmate risk is static and unchanging and disproportionately focus upon the most extreme cases of high-risk offenders (Adams & Ferrandino, 2008). Once correctional facilities determine an inmate’s category of risk (e.g., low, moderate, or high) it may influence classification decisions for that inmate’s entire period of incarceration. Perhaps, this static portrait of risk is never more limiting than when we consider its impact on mentally ill inmates. By definition, mental illnesses that are prevalent in correctional populations (e.g., affective/mood disorders like depression and bipolar disorder) fluctuate in severity, often over a period of days, weeks, or months. Scholars have shown that risk assessment instruments (e.g., the Level of Service Inventories) are valid predictors of institutional and post-release outcomes (Motiuk, Bonta, & Andrews, 1986; Bonta & Motiuk, 1987; Coulson, Ilacqua, Nutbrown, & Cudjoe, 1996; Lowenkamp, Holsinger, & Latessa, 2001; Girard & Wormith, 2004). However, without repeated assessment these measures cannot reliably account for changes in inmates’ risk and behavior that may actually be associated (directly or indirectly) with the mercurial nature of many mental illnesses.

In summary, both inmates’ actuarial risk and mental health status uniquely and interactively affect the ways inmates are managed within correctional facilities, particularly regarding access to institutional programming and treatment. Popular principles of risk management, which function primarily to reduce

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4 O’Keefe (2007) reported that mentally ill inmates are detained within administrative segregation at a rate 50 percent higher than general population inmates.
recidivism, deemphasize the role of mental illness in determining which inmates should get access to treatment. Additionally, mental illness is over-represented within administrative segregation and isolation units, which also can disproportionately limit inmates' access to treatment delivered outside of these disciplinary units. Mentally ill inmates may be unfairly restricted from programming services because of their mental health diagnoses. This dissertation intersects risk and mental health to uncover the extent to which mentally ill inmates who are assessed at all risk levels, from low to high, get placed into institutional programs and segregation.

**Structure of the Dissertation**

In the remainder of this introduction, I provide a description of each of the chapters in this dissertation, which should serve as a guide for readers who are interested in specific sections of the text. In the bulk of Chapter 2, “Mental Illness Moved but Never Went Away,” I trace the migration of mentally ill patients from psychiatric hospitals, to the community, and finally into prisons and jails, a process called “transcarceration” (Arrigo, 1997; 2001). I open the chapter by documenting the rehabilitative ideal and its decline from 1870 through 1970, one hundred years of history that has been referred to as an era of “penal welfarism” (Garland, 2001). Throughout this period of time America witnessed the rise of numerous policy developments purposed to reform and rehabilitate offending populations, including indeterminate sentences, juvenile courts, and parole and probation systems. However, by the 1970s waning social and empirical support for rehabilitative efforts motivated changes in policy. The punitive turn that followed in the 1980s and 1990s is a complicated and oft-told story in American criminology. I effort to acknowledge both politically liberal and conservative perspectives on the decline of rehabilitation, but I recommend that readers consult seminal texts (e.g., Garland, 2001; Frost, 2006) for detailed accounts of how American punitiveness took shape post-1970. I parallel the decline of the rehabilitative ideal with the disappearance of state and county psychiatric hospitals in America after 1950. Both widespread public discontent with patient care captured in popular television and magazine reports and advances in effective antipsychotic medication contributed to sweeping policy changes that brought mental health care out of institutions and into communities. The resulting deinstitutionalization of thousands of mentally ill patients overwhelmed what was a largely unrealized system of community health care alternatives in the 1960s and 1970s. The criminal justice system often compensated for the insufficient community-based programming and housing
options for the mentally ill with arrest and incarceration. The chapter closes with a review of research showing how criminal justice interventions contributed to the high prevalence of mental illness in American corrections today.

In Chapter 3, “Playing It Safe in a Game of Risk,” I chronicle the development and popularization of actuarial risk assessments to control crime rates and reduce the risk of reoffending. I begin by juxtaposing actuarial with traditional clinical approaches to reducing crime. Subsequently, I trace actuarial assessments from their roots in early twentieth-century state parole systems, through widespread federal adoption in the 1970s, and to the contemporary survey measures that guide today’s correctional interventions. I pay special attention to the Risk-Need-Responsivity (RNR) model (Gendreau, 1989; Andrews, Bonta, & Hoge, 1990; Gendreau, 1996; Andrews & Bonta, 1998; 2006), which has been widely adopted throughout North America. Constituted out of a wealth of empirical research, the RNR model provides three major guiding principles for correctional intervention to maximally reduce recidivism: 1) the most intensive programming options should be matched to high-risk, rather than low-risk, offenders, 2) programming interventions should target criminogenic needs, which are changeable risk factors that may be reduced with effective programming, and 3) interventions should cater to offenders’ unique learning styles, motivations, and abilities. I review evidence that supports the appropriateness and effectiveness of these three guiding principles in corrections. However, actuarial risk assessments and the RNR model are not without their critics, so the chapter concludes with a discussion of the new penology (Feeley & Simon, 1992; Simon & Feeley, 1995). This theoretical perspective paints an ugly picture of actuarial risk assessments as a tool for efficient cataloguing and sorting of correctional populations with minimal regard for rehabilitative goals and service delivery.

Having covered both the high prevalence of mental illness and the popularity of risk-based management in correctional institutions in the previous chapters, I synthesize these topics in Chapter 4, “A Framework for Studying Mental Illness and Risk.” Risk-based correctional management strategies, like the RNR model, put a lot of stock in the treatment of criminogenic risk factors that are empirically related to reductions in recidivism. The relationship between major mental disorders and recidivism is weak, so these risk models undervalue mental illness as non-criminogenic, or an ineffective target for correctional intervention. In response to this prevailing conceptualization, I review alternative theoretical perspectives
(e.g., Ogloff, 2002b) that incorporate offenders’ mental health needs into risk assessment. Specifically, I call attention to a burgeoning literature that argues how mental health needs and traditional criminogenic risk factors can both influence the ways correctional practitioners prioritize offenders for treatment. At the end of the chapter, I enumerate my main research questions, which above all else seek to uncover how risk assessments and mental health statuses separately and interdependently determine how inmates are managed by correctional practitioners.

The remainder of the dissertation is devoted to the empirical study of my main research questions. In Chapter 5, I offer the details of my study’s sample of inmates drawn from a Massachusetts HOC, research design, and analytical strategies. Chapter 6 delivers the full extent of my quantitative analyses from basic sample descriptive statistics through multivariate models. I save the discussion of my statistical inquiry, implications for correctional practice, and the limitations of my research for the final Chapter 7. Ultimately, I illustrate how both criminal risk and mental illness influence the ways offenders receive treatment and are punished within the HOC.
CHAPTER 2
MENTAL ILLNESS MOVED BUT NEVER WENT AWAY

It was not always the case that the American correctional system was host to the largest institutional populations of mentally ill in the world. Over the past sixty years, persons with mental illness have been forced through a number of settings, from asylums to communities and into prisons and jails, each seemingly just as unsuitable as the last to handle their housing and treatment. Tragically, there is no easy solution to what is, if recent history is any indication, an insurmountable public health and social justice issue. How do we provide safe living accommodations and ethical standards of care to a sizable population that has psychological and medical vulnerabilities, faces public stigma (whether due to fear or ignorance of mental health issues), and comes into frequent contact with the criminal justice system?

In this chapter, I explain that the American correctional system is the primary site for managing mental illness because of drastic changes in our country’s support of rehabilitation and mental health hospitals since the mid-twentieth century. To this end, my discussion naturally focuses upon the movements of mentally ill persons from mental hospitals to communities—what is called deinstitutionalization (Lamb & Bachrach, 2001) or “dehospitalization” to some (Geller, 2000)—and from communities to correctional facilities, or re-institutionalization. As others before me have (see Arrigo, 1997; 2001), I refer to this complicated migration of patients through civil and penal settings as the transcarceration of mental illness. With correctional facilities as the primary sites for today’s mental health care, I finish the chapter by reviewing estimates of the prevalence of mental illness in prisons and jails and showing that this segment of the population requires continued study.

The Rehabilitative Ideal and Its Decline

As Allen (1981) chronicles, the “rehabilitative ideal” has deep historical roots within the Old Testament and ancient Greek philosophy, which reference the correctional merits of punishment. A more modern take on the rehabilitative ideal with which I will frame my discussion, however, stems from the early positivists’ assumption that crime, deviancy, and mental illness had root causes in social ills and past experiences (e.g., poverty, unstable family life). That penal treatment and therapeutics may remedy these ills and reduce undesired criminal behavior is the foundation of rehabilitative pursuits in contemporary penology (Cullen & Gilbert, 1982; Blomberg & Lucken, 2010). Under the rehabilitative ideal, if the root causes of crime, deviancy and mental illness could be identified, it was then the responsibility of
behavioral and social scientists to validly and reliably measure and describe these causes. Before elaborating upon the decline of the rehabilitative ideal, as I intend in this section, it is crucial to understand just how dominant the rehabilitative paradigm was in America during much of the twentieth century. Indeed, rehabilitation garnered support from diverse sources, including universities, the media, politicians and their constituents, and largely influenced criminal justice policy for a full century, from 1870 to 1970 (Allen, 1959; 1981). Collectively, these 100 years’ worth of policies constituted an era of “penal welfarism” (Garland, 2001). This era was so named not only for the expansion of rehabilitative and welfarist goals, but for its marked departure from earlier nineteenth century Jacksonian Era penology that was deeply rooted in moral and criminal reformation via isolation and hard labor (Cullen & Gilbert, 1982; Foucault, 1995; Rothman, 2002b). Here, Figure 2.1 features some of the key historical policy developments of the rehabilitative ideal that I chronicle in greater detail below.

Figure 2.1
The Rehabilitative Ideal in Policy, 1870-1970
Among the earliest of criminal justice policies premised upon the rehabilitative ideal were indeterminate sentences and early parole release, which were slowly but gradually adopted by many state reformatories and penitentiaries after the first meeting of the American Prison Association in Cincinnati in 1870. The meeting drew hundreds of national and international experts in corrections, who formed what would be called the Cincinnati Congress (see Lindsey, 1925). The Congress put forth a declaration of principles that spoke to the importance of replacing peremptory sentences with indeterminate ones, conditioning release upon demonstrated reformation rather than a lapsed period of time. Additionally, the Congress argued for the value of a reward system for good behavior, alluding to later early parole release policies. Following the Cincinnati meeting in 1886, both parole and indeterminate sentencing were incorporated into Massachusetts reformatories for juveniles. Many states followed suit and adopted similar policies within reformatories in Colorado, Illinois, Indiana, Kansas, Minnesota, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin. By the end of the century and within 30 years of the American Prison Association’s first meeting, indeterminate sentences expanded outside reformatories and into seven states’ adult prison systems, including Massachusetts in 1895, as well as Illinois, Indiana, Michigan, Minnesota, New York, and Ohio. Provisions for early parole release spread even further than indeterminate sentencing during this time, reaching reformatories, penitentiaries, and state prisons in twenty states: Alabama, California, Colorado, Connecticut, Idaho, Illinois, Indiana, Kansas, Massachusetts, Michigan, Minnesota, Nebraska, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Utah, Virginia, and Wisconsin.

Right before the start of the twentieth century, America furthered the rehabilitative agenda with the establishment of its first juvenile court in Cook County, Illinois in 1899. Under the doctrine of parens patriae (“parent of the nation”), which provided states the power of guardianship over juveniles and some persons with disabilities, states intervened in the lives of children who were not provided sufficient or appropriate care and supervision. The intention of the juvenile courts was benevolent, offering protection to vulnerable youths and juveniles, as well as rehabilitative alternatives (e.g., schooling, shelter) in place of strictly punitive legal action (Snyder & Sickmund, 2006). As of 1910, there were 32 states that established juvenile court services. By 1925, all but two states had made special legal accommodations for delinquent youths and juveniles in their court and probation systems.
Through the mid-twentieth century, rehabilitative ideals were echoed beyond the justice system in economic and welfare policies that favored social services in communities. Roosevelt's New Deal programs in the 1930s set the stage for major legislative change and the development of public assistance initiatives, including the Works Progress Administration (WPA) that created jobs for female heads of household. Though not directly attributed to the WPA, in the following years there was substantial growth in the number of social workers, case managers, and other “helping” professionals working with the mentally ill (Barker, 1995). In 1965, President Lyndon Johnson made a panel inquiry of the status of crime in America that ultimately recommended community-based rehabilitation and institutional educational and vocational training. Subsequently, the Omnibus Crime Control and Safe Streets Act of 1968 introduced (beyond the prohibition of interstate handgun trade) alternative sanctions to keep young offenders out of prisons and jails.

Academics and scholars openly embraced the rehabilitative ideal with the rise of scientific criminology within universities and the popularization of psychiatry and psychoanalysis in corrections at the turn of the twentieth century. Arguably, this is why early measurement of the causes of crime relied heavily upon individual case histories and clinical interviewing, the cruxes of early-twentieth century clinical psychology and psychiatry (Bonta, 1996). Out of these detailed histories, there emerged the underlying causes of an individual’s criminal or mentally ill behavior. Early positivists and academic criminologists thought that understanding the antecedents of criminal behavior would inform the best ways to control it and to ensure the wellbeing of the offender and the public at large. Scholarly discourse and scientific control of criminal behavior tended toward therapeutic values, which were “designed to effect changes in the behavior of the convicted person in the interests of his own happiness, health, and satisfactions in the interest of social defense” (Allen, 1959, p. 226).

In *The Decline of the Rehabilitative Ideal*, Allen (1981) contended that the widespread support of rehabilitation from the late nineteenth through much of the twentieth century in America rested precariously upon two major assumptions. First, there was a belief that human character and behavior was “malleable” or, in other words, that treatment could change criminal habits, values, and attitudes to the non-criminal, or pro-social. Major sentencing reforms and social welfare programs discussed above all evidenced the extent to which Americans accepted, both politically and culturally, that the lives of their
fellow citizens could be changed for the better. Second, was a consensus concerning the explicit end goals of rehabilitation, or "what it means to be rehabilitated" (1981, p. 11). In name, the rehabilitative ideal sold itself as humanitarianism. However, explicitly enumerating the goals of rehabilitation complicated matters because of "its fundamental duality" (Cullen, 2006, p. 668). On one hand, rehabilitation aimed to protect the public by reducing the likelihood of future crimes. On the other hand, rehabilitation attempted to provide skills, training, and opportunities to offenders who were in need.

Allen (1981) argued that there was great potential for conflict between the two goals of crime-prevention and social service when the means for rehabilitation (i.e., therapy, treatment programs) were ill defined and poorly realized in institutional policy. For example, under the model of penal welfarism, the rehabilitation of criminals and treatment of mental illness largely relied upon long-term commitments to mental hospitals and indeterminate sentences within penitentiaries, prisons, and jails. In practice, these sentences were based upon broad (sometimes unspecified) parameters so that, ideally, institutions had as much time as was needed to rehabilitate inmates. Indeterminate sentences were justified by seemingly benevolent rehabilitative goals, but they equally served as a form of "predictive restraint," a way to selectively incapacitate the most dangerous, high-risk offenders (von Hirsch, 1983).5 Discretionary power fell to judges, parole boards, and correctional personnel, who all determined and influenced the duration of indeterminate sanctions using different standards. There were tremendous variations in the severity and duration of punishments, which led to frequent reports of differential treatment of similar criminal cases and disproportional sentencing for offenses of equal severity (Cullen & Gilbert, 1982; Lowenthal, 1993). In retrospect, there was obvious tension between the humanitarian and therapeutic goals of rehabilitation and the long-term carceral restrictions of individual freedoms that were used to achieve those goals.

To Allen (1981), to lose belief in the malleability of human character or find evidence against the efficacy of treatment programs was to shake the very foundation of the rehabilitative ideal. The rehabilitative decline, then, can be traced in part to several major research reports that scrutinized the efficacy and utility of rehabilitation programs. Despite continued political and economic investments in

5 There was evidence of selective incapacitation in state parole decision-making as early the 1920s that expanded to the federal parole system in the 1970s, which I entertain in the following chapter on risk assessment.
rehabilitation through the 1960s, reports from within institutions revealed that correctional programs were poorly conceived and rarely implemented with the resources needed to make lasting positive changes in the offending population (Cullen & Gilbert, 1982; Rothman, 2002a; MacKenzie, 2006). Programs were understaffed and the conditions within many state mental hospitals and correctional facilities were deplorable and not conducive to therapy. Further, most any daily routine activities within institutions were being touted as treatment (i.e., milieu therapy) even though there was no justification or reason to believe they had any rehabilitative value (Allen, 1981; von Hirsch, 1983).

A new arm of research grew out of testing the effectiveness of the wide variety of correctional programs available. These program evaluations culminated in a series of now (in)famous publications within the field of criminology published by Robert Martinson (1974) and colleagues (Lipton, Martinson, & Wilks, 1975). The authors reviewed 231 controlled studies with diverse outcome measures, including institutional adjustment, relapse of substance abuse, and recidivism. Even though over 40 percent of the reviewed studies indicated correctional interventions had positive effects with some offender groups, the evaluation report broadly concluded that rehabilitation programs had “no appreciable effect on recidivism” (1974, p. 25). Without ever explicitly stating as much, this interpretation of results had lasting implications and spurred the “nothing works” movement in correctional rehabilitation (Cullen & Gendreau, 2000). Outside the evaluation literature, other surprising findings emerged out of a groundbreaking study conducted by Wolfgang and colleagues (1972) and featured in their book, Delinquency in a Birth Cohort. The researchers sampled all males born in the city of Philadelphia in 1945, and followed most participants until their eighteenth birthday, totaling nearly 10,000 study participants. Using measures of crime and delinquency derived from school, police, and juvenile and criminal court records, the authors conducted descriptive and predictive analyses, which were relatively advanced at the time, to examine the career patterns of delinquents throughout their adolescence. Unforeseen by many of their readers, the analyses revealed that a majority of the crime committed was actually perpetrated by a relatively small number of repeat offenders. In the wake of the Martinson and Wolfgang reports, it seemed that programs were not only ineffective but they were also being administered to huge offending populations when only a small proportion of criminals were apparently responsible for the majority of reported crimes. In turn, many
correctional practitioners, policymakers, and critics of correctional treatment inferred that rehabilitation was a costly and fruitless pursuit (MacKenzie, 2006).

As the empirical foundation for the rehabilitative ideal fractured, several major political, legal, and social movements questioned popular beliefs in the malleability of human character through treatment. Both civil rights protests and the Attica prison riot in 1971 called the public’s attention to deplorable prison conditions and unfair sentencing practices, which seemed to quash what little remaining support there was for forced institutional rehabilitation. Rising out of the civil rights movement of the 1960s, criminology took a sharp turn toward radical theories of crime and punishment. Under the radical framework, the indeterminate sentencing model was sharply criticized for disparities in sentencing, particularly among racial and ethnic minority groups (Cullen & Gilbert, 1982). Once among the staunchest supporters of therapeutic initiatives, academic criminologists grew frustrated with poorly implemented programs and conceded that the rehabilitative ideal had never truly been realized in practice.

Waning support among politically liberal academics and scholars further meant there were very few proponents of rehabilitation to temper attacks on correctional treatment from political conservatives, most notably including James Q. Wilson and Ernest van den Haag. Wilson’s (1975) now classic criminological text, Thinking About Crime, questioned the government’s ability to substantially change the root sociological (e.g., deviant peer values) or biological (e.g., age, gender) causes of crime. Instead, Wilson proposed that uniform sentencing guidelines that used incarceration to incapacitate and deter offenders were the key to crime control. In the same year, unwavering retributivist and death penalty proponent Ernest van den Haag (1975) published his book, Punishing Criminals: Concerning a Very Old and Painful Question. Much like Wilson, van den Haag repudiated correctional rehabilitation and argued in favor of crime control that used deterrence and imposed swift and certain punishment. Both Wilson and van den Haag managed to capture the spirit of the times in their work, which was soon reflected in law and policy. A new retributive justice framework and determinate sentencing system, which established fixed guidelines for formal sanctions, emerged in the 1970s with mixed support across the states to replace indeterminate models. Once a principal goal of sentencing, rehabilitation was gradually overshadowed by principles of uniformity and proportionality as well as crime legislation that aligned with retributive goals (e.g., mandatory minimums, three-strikes, and truth-in-sentencing laws).
Many authors (see for a full review, Pratt et al., 2005) have attempted to explain the wave of punitive policies that spread domestically and internationally from the 1980s onward, including mandatory minimum sentencing, three-strikes laws, super-max prisons and zero-tolerance policing (Stenson, 2000; Frost, 2006). Beck (1992) and Giddens (1991), for example, have argued that these crime control policies were a reaction to perceived danger and insecurity, the natural responses of a uniquely postmodern “risk society.” In this risk society, growing arrest and incarceration rates failed to significantly reduce levels of crime (Blumstein & Beck, 1999; Kovandzic & Vieraitis, 2006; Liedka, Piehl, & Useem, 2006), which spawned public fear and distrust of a government that appeared unable to reduce crime (Garland, 2001; Bosworth, 2010). Public dissatisfaction extended outside the criminal justice system, as well, criticizing government for a lack of public health care options and limited aid for the poor (Caplow & Simon, 1999). The public’s lack of faith in social welfare programs, dissatisfaction with formal mechanisms of social control (e.g., policing and imprisonment), and fear of crime weighed heavily upon government officials, who needed political support from their constituents. In an effort to regain public approval, many government officials and policymakers responded with harsh and expressive policies to denounce criminal acts (Garland, 2001).

The popularity of the rehabilitative ideal might have waned during the punitive turn in the 1980s and 1990s, but a rehabilitative orientation in correctional facilities never really disappeared (Matthews, 2003). A new batch of post-Martinson correctional program evaluations reviewed nearly 100 studies published between 1973 and 1978 and reported positive treatment outcomes in over 80 percent of the research findings (Gendreau & Ross, 1979; Ross & Gendreau, 1980). Not all of the published studies in these reviews used true experimental designs (quasi-experimental methods were common) but the bulk of evidence favored correctional interventions. Later in the 1980s, the authors (Gendreau & Ross, 1987) conducted another review of rehabilitation research published between 1981 and 1987. They concluded in part that programs premised upon deterrence, despite their political viability, were actually among the least effective models for crime reduction, whereas early-intervention and cognitive-behavioral programs showed tremendous promise. While empirical evidence accrued in support of correctional rehabilitation, some correctional experts criticized scholars who assented to the “nothing works” mantra. Cullen and Gilbert’s (1982) book, *Reaffirming Rehabilitation*, was a call to arms for liberals to resist the punitive turn,
in which they wrote, “By rejecting the goal of rehabilitation as a guiding principle of corrections, liberal proponents of the justice model have inadvertently left themselves without any forceful rationale for opposing a conservative agenda that calls for more and longer punishments” (p. 233). Cullen and Gilbert argued that even if some rehabilitation programs were poorly designed or implemented, the rehabilitative sentiment went a long way toward advancing humanitarian goals and improving the conditions of prisons and jails. Ultimately, it was more so an abundance of tough-on-crime policies than it was a scarcity of innovations in correctional treatment that characterized the rehabilitative decline through the turn of the twenty-first century.

The Transcarceration of Mental Illness

The transcarceration of mental illness refers to the movement of mentally ill patients across three distinct loci of treatment: 1) from mental hospitals, 2) to the community, and finally, 3) into prisons and jails. Such a vast and dramatic reformation to mental health care affected the lives of hundreds of thousands of patients, their families and communities, as well as service professionals throughout the public health, social service, and criminal justice systems. Transcarceration can be traced from media reports on the deplorable conditions in mental hospitals published as early as the 1940s through the persistent deinstitutionalization of state psychiatric hospital patients in the 1990s. Figure 2.2 below displays many of these key political and sociocultural events that I discuss in detail throughout this section.

An appropriate place to begin tracing the history of transcarceration is a series of publications in the 1940s that exposed the rampant abuse and neglect of mentally ill patients in state hospitals. In particular, one high-profile article published in LIFE magazine titled, “Bedlam 1946: Most U.S. Mental Hospitals Are a Shame and a Disgrace,” got straight to the heart of the matter (Maisel, 1946). This article increased media attention and public awareness of poorly run psychiatric facilities (National Leadership Forum on Behavioral Health/Criminal Justice Services, 2009). Two other significant works in this decade, including Mary Jane Ward’s (1946) book turned film, The Snake Pit, and Albert Deutsch’s (1948), The Shame of the States, also shined a spotlight on the previously unseen abuses within mental hospitals. Each of these reports condemned states for being irresponsible and negligent in their duties to care for the seriously ill and set the tone for the next 50 years, when public and political support of state hospitals
faded and thousands of mental patients were released to communities (Mechanic & Rochefort, 1990; Harcourt, 2006).

**Figure 2.2**
*Mental Health Care, 1940-2000*

Despite sweeping criticisms of mental health care in state hospitals, the establishment of the National Institute of Mental Health in 1949 gave formal recognition to psychologists and psychiatrists and legitimacy to their popular therapeutic practices. Psychosocial and vocational rehabilitation were commonly used to teach mentally ill patients in hospitals the life skills they would need after release (Peffer, 1956). Given that state hospitals were underfunded, understaffed, and criticized for poor care, it is not surprising that the popular interventions throughout this decade were primarily directed to prepare patients for life outside institutions. It was further believed that community care would be a less costly venture than expensive institutional treatments, which is ironic given the financial deficits that plagued
community health care in the years that followed (Rumer, 1978). Ideally, community care was also
supposed to bring patients closer to their families, rather than keeping them isolated in facilities for
prolonged periods of time (Cole, 1955; Geller, 2000). Despite the push for community treatment,
limitations in the treatment of psychotic disorders had prevented the release of some patients, who
suffered from severe symptoms of schizophrenia (e.g., thought disturbances and inappropriate affect) or
bipolar disorder (e.g., manic behavioral episodes and drastic mood changes) and required around-the-
clock supervision by psychiatric staff. In 1955, the release of chlorpromazine (i.e., Thorazine), the first
effective antipsychotic medication with widespread distribution in the U.S., gave some patients a
pharmacological alternative to hospitalization. If carefully administered and closely monitored,
prescriptions for antipsychotics offered the opportunity for patient care within relatively less restrictive
community treatment settings (Torrey, 1997).

It was not until the 1960s that legal reforms echoed the call for community-based treatment. In
1963, the Mental Retardation Facilities and Community Mental Health Centers Construction Act signed by
President Kennedy authorized the construction of community mental health centers (CMHCs) throughout
the country. Limited by lack of financing, the new facilities were slow coming and ultimately had less of an
impact on mental health treatment in this decade than did major changes to involuntary civil commitment
and due process legislation (Geller, 2000). Traditionally, civil commitment laws used a broad definition of
mental illness to justify involuntary detention and treatment. The new laws, however, specified that
involuntary commitment was contingent upon either: 1) a threat of danger posed to a patient or others due
to mental illness, or 2) the incapability of a patient to care for him/herself. How strictly or loosely mental
health professionals interpreted these criteria to determine a need for hospitalization varied case by case
and state by state. Nonetheless, the new laws limited the duration of commitment to short determinate
periods of time, rather than long indeterminate terms of hospitalization (Lamb & Weinberger, 1998). These
legal changes also reduced the total number of admissions into state mental health hospitals and the total
number of transfers out of prisons and jails for mental health treatment (Simon, 2007).

The 1970s are most often attributed with the start of deinstitutionalization, defined as “the
replacement of long-stay psychiatric hospitals with smaller, less isolated community-based alternatives for
the care of the mentally ill” (Lamb & Bachrach, 2001, p. 1039). Perhaps, this decade earns so much
attention because it was when America finally felt the effects of the previous 20 years of social and legal reform. The rate of depopulation of state and county hospitals in the 1970s far exceeded rates in the previous two decades (Geller, 2000). Below, Figure 2.3 illustrates the overall decline in the number of state and county mental hospital residents over forty years. Note that the greatest drop was between 1965 and 1975.

Figure 2.3
Number of Patients in American State and County Mental Hospitals, 1955-1994

While the figure above clearly portrays a precipitous decline in hospital populations nationwide, it should not be overlooked that there was tremendous variation among states’ rates of deinstitutionalization between 1955 and 1994. These differences in rates are magnified further by controlling for growth in the general population over that time frame, as Torrey (1997) did in his book, Out of the Shadows: Confronting America’s Mental Illness Crisis. Torrey estimated the expected number of hospitalized mentally ill patients in 1994 based upon state population growth since 1955, assuming the ratio of hospitalized mentally ill patients to general population remained constant over those 40 years. The resulting estimate, a theoretical number of patients in public mental hospitals in 1994, yielded what Torrey called an “effective deinstitutionalization rate.” Torrey also calculated an “actual deinstitutionalization rate,” simply reflecting the difference between the number of hospitalized mentally ill patients in 1955 and 1994 without adjusting for population growth.

By juxtaposing the the “effective” and “actual” deinstitutionalization rates, Torrey (1997) demonstrated tremendous interstate differences. In Massachusetts, where there was relatively little
population growth between 1955 and 1994 compared to some other states, Torrey reported barely noticeable differences between the effective (96.7%) and actual (96.6%) deinstitutionalization rates. Florida, however, which exhibited tremendous population growth over the 40-year period, had an effective deinstitutionalization rate (90.7%) that was much higher than its actual (65.5%). One noteworthy anomaly in Torrey’s calculations was the case of Nevada, which had one of the largest intrastate population growths in the country since 1955. Nevada was the only state to exhibit an actual rate of institutionalization because its number of hospitalized mentally ill patients climbed from 440 patients in 1955 to 760 patients in 1994, an increase of 72.7 percent. Yet, after Torrey controlled for population growth, an effective rate of deinstitutionalization of 71.4 percent surfaced in Nevada. Below, Table 2.1 summarizes Torrey’s (1997) findings and shows the actual number of patients in mental hospitals in 1955 and 1994 and the estimated number of patients in 1994 after controlling for population growth. Subsequently, Figure 2.4 displays the corresponding actual and effective deinstitutionalization rates based upon differences in population size reported in the table. By including overall estimates for the U.S. in the table and figure, I reemphasize that the actual (82%) and effective (91.3%) rates of deinstitutionalization for the entire country, aggregating data for all states, were both very high.

Even with substantial decreases among many states’ institutional populations and a new disciplinary focus on community health care, mental health hospitals faced continued criticism. A few shocking video reports emerged that brought viewers inside of mental hospitals and revealed more clearly than ever the unfortunate and sad reality of institutional life. One notorious video created by Frederick Wiseman (1967) titled, Titicut Follies, featured the Massachusetts Correctional Institution at Bridgewater for addicts, deviants, and the criminally insane. Wiseman’s footage showed inmates—who were naked in many scenes and who had obvious behavioral problems and cognitive deficiencies—being ridiculed by staff members, force-fed with unsanitary and rudimentary equipment, and locked within bare cells without any bedding or comforts. The documentary had only a brief run in theatres before it was found to have violated patients’ rights to privacy and was banned from commercial distribution and viewing from 1969 until 1991, when the ban was finally lifted (Anderson & Benson, 1991; Lesser, 1992).
Table 2.1
Number of Patients in Mental Hospitals Controlling for Population Growth, 1955-1994

<table>
<thead>
<tr>
<th>State</th>
<th>1955</th>
<th>1994</th>
<th>1994</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actual Patients in Mental Hospitals</td>
<td>Actual Patients in Mental Hospitals</td>
<td>Estimated Patients in Mental Hospitals</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>23,178</td>
<td>793</td>
<td>23,889</td>
</tr>
<tr>
<td>Florida</td>
<td>8,026</td>
<td>2,766</td>
<td>29,857</td>
</tr>
<tr>
<td>Nevada</td>
<td>440</td>
<td>760</td>
<td>2,658</td>
</tr>
<tr>
<td>U.S.</td>
<td>558,239</td>
<td>71,619</td>
<td>821,586</td>
</tr>
</tbody>
</table>

Note. The estimated number of patients in mental hospitals in 1994 have been adjusted for population growth from 1955 to 1994.

Source: Torrey, 1997

Figure 2.4
Comparing Actual and Effective Rates of Deinstitutionalization by State

Note. The negative actual deinstitutionalization rate for Nevada indicates a growth in the number of actual patients within mental hospitals between 1955 and 1994.

Source: Torrey, 1997

The ban limited the negative media potential of Wiseman’s video, but another revealing investigation at the same correctional institution in Bridgewater was conducted between 1972 and 1975 by a guard, Tom Ryan. Ryan’s findings were later published in a book titled, *Screw: A Guard’s View of*
Bridgewater State Hospital (Ryan & Casey, 1981). The book contains many short stories that vary from Ryan's first attempts to connect with and educate inmates to eyewitnesses' accounts of abuse and attempted escapes from Bridgewater. One of the most disturbing chapters recounts an inmate's self-enucleation after he failed to elicit medical attention from staff members with his repeated complaints of allergies and eye pain. Years later, prison psychiatrist James Gilligan (2001) poignantly remarked about the facility's closing:

> When the McLean Hospital staff closed down the old Bridgewater State Hospital and began transitioning patients to the new buildings, one person was found to be literally chained to the wall. We are all familiar with the story of Pinel taking mental patients out of chains at the time of the French Revolution. In Massachusetts, we were still taking patients out of chains two centuries later. (p. 49)

Another provocative media report on the abused mentally ill was a 1972 television exposé, “Willowbrook: The Last Great Disgrace,” hosted by Geraldo Rivera. The half-hour documentary featured the Willowbrook State School for children with mental retardation in Staten Island, New York (Primo, 1972). Willowbrook, which was the largest facility of its kind in the 1960s, suffered tremendous overcrowding and understaffing, had terribly unsanitary housing facilities, and employed staff who were accused of physically and sexually abusing patients. The video report received national attention, earned Rivera the prestigious Peabody award, and motivated activist groups nationwide to challenge the deplorable institutional treatment of the mentally ill. Increased attention from activists further inspired public support for the Disability Rights Movement (Stroman, 2003). Organized public initiatives and demonstrations spearheaded by groups like the Mental Patients Liberation Front\(^6\) and the National Alliance on Mental Illness (NAMI)\(^7\) drew additional attention to the laws governing care of the mentally ill.

In turn, several landmark cases in the 1970s and early-1980s, including Rogers v. Okin (1979)\(^8\) in Massachusetts, furthered the rights of prisoners and competent mental patients in determining their own courses of treatment (Monahan & Steadman, 1983).

\(^{6}\) http://mplf.org/

\(^{7}\) http://www.nami.org/

\(^{8}\) Throughout much of the 1970s it was legally assumed that hospitalized patients had little to no influence over their own treatment. In this case brought before the Massachusetts Supreme Judicial Court it was decided that a full evidentiary hearing must be held to determine if an incompetent hospital patient should be treated. This contributed to a burgeoning source of case laws supporting prisoners and competent mental patients in their right to refuse hospital treatments, including forced medication.
By the 1980s, the status of community health care interventions in the field of public health was just as bleak as Martinson’s (1974) original assessment of rehabilitation in the field of corrections. Of the 2,000 CMHCs that were proposed for construction in 1963, fewer than 800 were actually built (Mapes, 1985; Schutt, 2011). In response to the failing mental health centers, President Carter convened a Commission on Mental Health that aimed to integrate state and federal funding to revitalize health care delivery to the seriously mentally ill. The Commission’s efforts culminated in the passing of the Mental Health Systems Act by Congress in 1980, but the resulting improvements to service delivery were short-lived. Under the Reagan Administration, the Act was repealed in 1981 and substantial cuts were made to federal support of public housing. What community interventions that were available, including case management and residential treatment services, boarding homes, and halfway houses, also suffered staff and funding shortages (Talbott, 1981; Geller, 2000). It was clear that community-based mental health care was inadequate to handle the nearly 450,000 patients who were deinstitutionalized between 1955 and 1985 (Lamb, 1984; Bassuk & Lamb, 1986). This massive outflow of patients from hospitals presented a variety of problems for public health, criminal justice, and social service systems, which I discuss in the next section.

Responding to Mental Illness in Communities

Since the full potential of community mental health care was never realized, the deinstitutionalization of mentally ill patients had several unanticipated consequences for communities and the justice system. First, the CMHCs proposed in the 1960s were designed to manage short-term outpatient care, but many patients released from state hospitals still needed long-term care for chronic mental health problems. Few options for affordable public housing and prolonged care were barriers to the reintegration of these chronically ill patients (Mechanic & Rochefort, 1990). For example, throughout the 1970s and 1980s, several major cities including New York, Boston, and Chicago lost a substantial proportion of their cheap single room occupancy hotels and boarding houses that had previously provided short-term and temporary accommodation for vagrant populations (Schutt, 2011). This decline in affordable housing was due in part to the reductions in federal funding under the Reagan Administration mentioned above. Substantial increases in homeless populations were later attributed to the lack of suitable housing for deinstitutionalized patients (Burt, 1992; Lamb & Bachrach, 2001).
Second, the increased presence of homeless mentally ill persons on the streets and in public spaces drew much negative public attention. The mentally ill were commonly psychologically and behaviorally unstable, impoverished, and addicted to drugs and alcohol (Lamb & Bachrach, 2001). While public drinking, loitering, and panhandling were relatively minor criminal offenses committed by the homeless mentally ill, they were highly visible public disturbances that tested the patience of communities. It has been argued that society has a limited tolerance for problematic behavior associated with mental illness (Abramson, 1972; Lamb & Weinberger, 1998). When formal mechanisms for managing mental illness are restricted or eliminated (e.g., the closure of state hospitals), the responsibility for managing this population falls to the criminal justice system (Borzecki & Wormith, 1985).

Third, there were few, if any, options for the public to access mental health services that could efficiently respond to calls for service involving persons with severe mental illness. There were no emergency response health care services to de-escalate erratic behavior at the street-level or, in the case of an acute mental health crisis, to intervene on the behalf of a homeless patient who had recently decompensated. As such, the police were more often than not relied upon to target homeless mentally ill patients (Zitrin, Hardesty, Burdock, & Drossman, 1976; Bosworth, 2010). Some partnerships between police and psychiatric emergency services (including mobile crisis teams) developed later to deal with calls for service that were complicated by mental illness (McNiel, Hatcher, Zeiner, Wolfe, & Myers, 1991; Zealberg, Christie, Puckett, McAlhany, & Durban, 1992; Way, Evans, & Banks, 1993; Lamb, Shaner, Elliot, DeCuir, & Foltz, 1995). Unfortunately, some of these partnerships were not forged until long after scholars and practitioners started noticing more patients coming into contact with the justice system. As Whitmer explained (1980), on own their own the police were ill-prepared to respond to acute mental health crises:

He [the policeman] has neither the temperament nor the inclination to function as a mental health outreach worker for the population of forfeited patients, but this has become his new role [...] The policeman must decide the individual is mentally ill, and then take him to a clinician who must decide he is dangerous [...] the clinician may be quite unwilling to collaborate in this role reversal. (p. 72)

Last, but arguably the most unfortunate consequence of deinstitutionalization, zero-tolerance and quality-of-life policing initiatives inadvertently increased rates of arrest among mentally ill persons. These initiatives were purposed to keep streets clean and safe, but they disproportionately targeted mentally ill persons who ended up being charged with disorderly conduct, public drunkenness, malicious mischief, or
possession of drugs (Abramson, 1972; Bosworth, 2010). Sadly, these low-level crimes may actually have been attributed to untreated behavioral symptoms of psychopathology resulting from a lack of medical and psychological services or unstable and unhealthy living conditions (Dvoskin & Steadman, 1994; Lamb & Weinberger, 1998). In a revealing qualitative study, Teplin (1983) observed that mentally ill suspects were more likely to be taken into police custody than non-mentally ill suspects for the same minor offenses. In the years following deinstitutionalization, there were much higher arrest rates among formerly hospitalized patients compared to the general population (Zitrin et al., 1976; Sosowsky, 1978; Steadman, Coccozza, & Melick, 1978; Whitmer, 1980), including patients with no prior history of arrest (Sosowsky, 1980). For example, in one of the earliest large-scale empirical studies of criminalization of the mentally ill, Teplin (1984) spent 14 months observing 498 police-citizen encounters that culminated in arrests and involved 757 citizens. She found that the probability of arrest for mentally disordered citizens (46.7%) was significantly higher than that for non-disordered citizens (27.9%), even after controlling for offense type and severity.

The growth in arrest rates inspired criticisms that persons with mental illness were being criminalized. Criminalization was narrowly defined by Lurigio (2011) as “when people with no criminal intent are placed under arrest and detained for minor crimes or ordinance violations” (p. 11). A close look at the empirical literature in the years after deinstitutionalization, however, indicated that encounters between police and mentally disordered citizens varied greatly and could not all be neatly categorized as criminalization. Reports showed that some persons with mental illness were arrested for committing financially-motivated street (e.g., drug sales, petty theft) and violent crimes (e.g., robbery, assault) with a clear demonstration of criminal intent (Lurigio & Swartz, 2000). Other crimes committed by the mentally ill started off as relatively minor offenses but eventually escalated into assaults on the police officers who tried to intervene (Teplin, 2000). Traditionally, police officers were not trained to identify mental illness, so some behavioral symptoms might not have been recognized at all during these police-citizen encounters or might have been attributed to drug or alcohol abuse (Lamb & Grant, 1982; Lamb & Weinberger, 1998). When mental illness was successfully identified, the police were forced to decide whether or not to bring patients to emergency rooms or hospitals, where patients were often quickly discharged back to the streets after relatively short hospital stays (Rogers, 1990). There were reports that some police officers
deliberately and proactively arrested mentally ill persons to get them access to treatment within the justice system (Laberge & Morin, 1995) or to provide protective custody, food, and temporary lodging during acute crises or even just bad weather (Teplin, 1983; Teplin & Pruett, 1992; Torrey et al., 1992). In light of this evidence, not all patients were blatantly criminalized for having mental illness and not all arrests were motivated by minor crimes or ordinance violations (Teplin, 1991; Draine, 2002; Lurigio, 2011).

Whether or not deinstitutionalization and high arrest rates contributed directly to a higher prevalence of mental illness in prisons and jails has been repeatedly researched and debated (Stevlovich, 1979; Whitmer, 1980; Torrey, 1997). As Penrose (1939) originally proposed, if we analyze the overall rates of institutionalization throughout the twentieth century, there is an inverse relationship between the population size of mental hospitals and prisons and jails. Palermo and colleagues (1991) used institutional census data and confirmed such an indirect relationship between population sizes. More recently, Harcourt (2006) published some compelling analyses that offered further support for Penrose’s theory. In his study of hospitalization and imprisonment rates from 1928 to 2000, Harcourt showed that when hospitalization rates were at their highest prior to 1960, prison rates were relatively low and steady compared to today. Later, when hospitalization rates fell after the 1970s, prison rates began to grow to their current high levels. By aggregating prison and hospital rates, his findings suggest that a total rate of institutionalization is relatively stable over time; a decrease in hospitalized populations results in a proportionate growth in incarcerated populations.

Studies of historical shifts in populations across institutions might establish correlational relationships but they are far from conclusive evidence that deinstitutionalization caused high rates of incarceration among the mentally ill. There simply are not enough methodologically sound studies that predate the deinstitutionalization of patients to establish causality (Lamb & Weinberger, 1998). Our understanding of the growth in mentally ill inmates is complicated by the dramatic increases in all prison and jails over the last 40 years, including non-mentally ill populations. Penrose’s theory and the empirical studies that support it, for example, do not fully explain why hospitalized patient populations have remained relatively stable while numbers in prisons and jails climbed steadily since the 1990s (Frank & Glied, 2006). Lurigio (2011) convincingly argued that criminologists cannot ignore the influence of tough-on-crime initiatives in the 1980s and 1990s (e.g., war on drugs) that targeted impoverished neighborhoods
suffering from high unemployment and low educational attainment. Arrests for drug possession and sales and subsequent sentences to prisons and jails were applied vigorously to many thousands of offenders, both mentally ill and non-mentally ill alike (Lurigio & Swartz, 2000). Without being able to isolate the influences of drug enforcement laws and other punitive crime control initiatives implemented in the years after psychiatric patients were displaced from hospitals, we cannot speak to the extent to which deinstitutionalization alone increased the prevalence of mental illness in prisons and jails.

Where earlier research was inconclusive, contemporary studies of the prevalence of mental illness with robust methodological designs give us some perspective on the degree to which mental health care has shifted from communities to penal institutions. Statistical findings show that the number of mentally ill persons in prisons and jails is alarming, and managing this population may be one of the biggest problems facing correctional staff (Gibbs, 1983). Clinical reports further suggest that many mentally ill persons in prisons and jails today are characteristically similar to the long-term hospital patients of the mid-twentieth century (Lamb, 1982; Lamb & Weinberger, 1998). Prison and jail’s populations may not be so different than psychiatric hospitals’ after all. In the next section, I review this body of research to appraise the current status of mental illness across the American correctional landscape.

Prevalence of Mental Illness in Corrections

Notwithstanding the ongoing debates around transcarceration, it is largely undisputed that there are currently more mentally ill persons in jails and prisons than hospitals nationwide (Torrey et al., 2010) with the greatest increases in these populations reported during the 1990s (Thigpen, Hunter, & Ortiz, 2001). Early prevalence studies of mental illness in jails and prisons were rare and suffered from methodological shortcomings. Estimates in the scholarly literature usually derive from a handful of studies respected for their sampling and analytic strategies, but samples of inmates and definitions of mental illness vary greatly from report to report. Variations in the techniques used to identify mental illness make it very difficult to say with confidence whether the prevalence of mental illness in prisons and jails has increased over time because: 1) there are actually more mentally ill patients in the correctional system; 2) our psychiatric assessment methods are better and we successfully detect mental illness more often; or 3) after years of criticism for deinstitutionalizing and potentially criminalizing mentally ill patients, the
correctional system is now hyperaware of the segment of its population with mental illnesses. Despite multiple possible explanations, mentally ill inmates deserve our attention and it is fruitful to try to understand the extent and diversity of mental illness in prisons and jails.

Among the earliest of the prevalence reports was a study conducted by Arthur Bolton Associates (ABA; 1976), which used an aggregated sample of 1,084 inmates from five California county jails. The authors identified 9.3% of the jail population as having nonpsychotic mental disorders (excluding personality disorders). In the 1980s, using a random sample of over three thousand of New York’s state prison inmates, researchers reported that between eight and sixteen percent of the population required mental health interventions for psychiatric dysfunctions and disabilities of myriad severities (Steadman, Fabisiak, Dvoskin, & Holohean, 1987). Later that decade, a study of 728 new admissions to Chicago’s Cook County Jail used structured clinical interviews to distinguish between lifetime and current disorders (Teplin, 1990b). Teplin reported that 6.4% of inmates suffered from a “current” psychotic illness, defined as having either schizophrenia, bipolar disorder, or major depression. In 1992, Torrey and colleagues published the results of a nationwide survey of 3,353 American county and city jails. The survey asked jail directors to estimate the percentage of inmates in their facilities with serious mental illness, which included schizophrenia, manic depression, and their associated symptoms (e.g., hallucinations, delusions, illogical behavior, severe mood swings). The authors sought to identify only the most severely mentally ill inmates, so their survey explicitly asked directors to exclude inmates with more subtle symptomatology (e.g., paranoia), substance abuse problems, or suicidal ideations, unless they also exhibited the more severe cognitive and behavioral symptoms described above. Based upon the directors’ survey responses, Torrey and colleagues estimated that about 7.2% of the total jail population was severely mentally ill.

As was previously discussed, tremendous variation in arrest and sentencing practices during the 1980s and 1990s likely influenced the frequency with which both mentally ill and non-mentally ill offenders (primarily, drug offenders) entered the correctional system. Therefore, it has been argued that prevalence estimates of mental illness in prisons and jails during these decades are a poor metric for understanding the current prison and jail populations, which are further removed (temporally, anyway) from the punitive policies (Harris & Lurigio, 2007; Lurigio, 2011). We must rely upon more recent estimates to better grasp the scope of mental illness in corrections today. To this end, a widely cited national report on mental
illness by the Bureau of Justice Statistics (BJS) used inmates self-reports from the 1997 Survey of Inmates in State or Federal Correctional Facilities and the 1996 Survey of Inmates in Local Jails (Ditton, 1999). The surveys asked inmates if they had a “mental or emotional condition” or if they ever received treatment (e.g., overnight hospital stay, prescribed medication, counseling, or other mental health services) for mental and emotional problems, excluding substance abuse. The report estimated that 16% of inmates in state prisons and local jails at midyear 1998 had a mental condition or had stayed overnight in a mental hospital or treatment program. In 2002, Veysey and Bichler-Robertson used data from a nationally representative sample of non-institutionalized persons who participated in the the National Comorbidity Survey (NCS). With prevalence rates from the general population, the researchers used key demographic information (e.g., age, socioeconomic status, substance use) to estimate the prevalence of specific mental disorders within state and federal prisons, jails, and community corrections. Results revealed mental illness rates no lower than eight percent among short-term jail inmates and no lower than 13% in state and federal prisons. The NCS findings were based upon impressive sampling strategies and were comparable to results from previous studies performed within correctional facilities, but future research of this scale and rigor would ideally use institutional participants.

Relative to the studies cited above, a more recent BJS report used the most comprehensive definition of mental illness to estimate prevalence rates (James & Glaze, 2006). This study accessed data from the 2004 Survey of Inmates in State and Federal Correctional Facilities and the 2002 Survey of Inmates in Local Jails, which provided inmates’ self-reports of: 1) recent clinical histories (i.e., in the year before their arrest or since admission) of mental health problems based upon diagnoses by mental health professionals, overnight stays in psychiatric hospitals, prescribed medications, and participation in professional mental health therapy; and 2) extensive lists of symptoms of mental health disorders related to major depressive, mania, and psychotic disorders (e.g.,anhedonia, suicide attempt, psychomotor agitation, delusions, hallucinations). Disorder symptoms were based upon official criteria from the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), and were intended as a “baseline indication of mental health problems among inmates rather than a clinical diagnosis of mental illness” (2006, p. 2). The authors concluded that approximately 56% of state prisoners, 45% of federal prisoners, and 64% of jail inmates had a mental health problem at midyear 2005. I present some of the
most widely cited and discussed of these prevalence estimates drawn from thirty years of empirical literature in Figure 2.5 below. Please note that the 2006 estimate from the BJS study reflects the rate for state prison facilities (56%).

Figure 2.5
Percentage of Correctional Population Identified as Mentally Ill, 1976-2006

Given the marked upward slope in the data above it is tempting to infer that the prevalence of mental illness has substantially increased over time, but I reiterate that this actually may not be the case. Stemming from epidemiological disciplines, prevalence estimates allow criminologists to gauge the extent of the mental health care problems that correctional populations face. While studies often use formal clinical diagnoses derived from editions of the *Diagnostic and Statistical Manual of Mental Disorders* published by the American Psychiatric Association (DSM-IV-TR; 2000), the number and variety of disorders are so vast that researchers frequently define mental illness using a specific selection of disorders. Variations in these definitions may bias estimates and be misleading (Toch, 2007). On one hand, definitions limited to relatively severe psychopathologies that have relatively low prevalence rates in the general population, including schizophrenia and bipolar disorder, may underestimate prevalence rates. The widely cited studies by Teplin (1990b) and Torrey and colleagues (1992), for instance, exclusively focused upon the most severe representations of mental illness, which yielded relatively low prevalence rates. On the other hand, definitions of mental illness that include more commonly diagnosed mood, anxiety, personality, and substance-related disorders could drastically increase prevalence estimates (Pinta, 1999). For example, by using a much more comprehensive measure of mental illness that
included both a recent clinical history of mental health problems and associated symptoms of mental health disorders, the recent James and Glaze (2006) BJS study found much higher rates of mental health problems.

Juxtaposing two recent studies with similar and respectable methodological designs further illustrates the tremendous disparity in prevalence estimates that can result from limiting definitions of mental illness to categorically “severe” disorders, or expanding definitions to include less severe manifestations. Trestman and colleagues (2007) interviewed 307 male Connecticut jail inmates, who were not identified at intake as acutely mentally ill, using multiple versions of the Structured Clinical Interview for the DSM-IV (SCID) and supplemental measures for global assessment of functioning (GAF) and posttraumatic stress disorder (PTSD). Interview and assessment results yielded lifetime psychiatric diagnoses for any Axis I or Axis II disorders from the DSM-IV. Approximately 65% of men had any psychiatric diagnosis, including 38% diagnosed with anxiety disorders (excluding PTSD) and 24% with affective disorders. While inmates with lifetime psychiatric diagnoses did not exhibit overt signs of severe mental illness at intake, they had significantly lower GAF scores that suggested functional impairments compared to inmates without diagnoses. The authors further identified that nearly 50% of the male inmates had current mental illnesses, including psychotic, affective, and anxiety disorders (PTSD included). Two years later, Steadman and colleagues (2009) published the results of their prevalence estimates of serious mental illness in two Maryland and three New York jails. In this study, as well, the authors used the SCID for the DSM-IV to identify psychiatric disorders. However, they restricted their estimates only to “serious mental illness,” including major depressive disorder, depressive disorder not otherwise specified, bipolar disorder, schizophrenia spectrum disorder; schizoaffective disorder, schizophreniform disorder, brief psychotic disorder, delusional disorder; and psychotic disorder not otherwise specified. Comparable to earlier studies that focused exclusively upon major depression, schizophrenia, and bipolar disorders, Steadman and colleagues reported rates of current serious mental illness to be 14.5% among male inmates. Identifying inmates with the most serious and immediate mental health needs for targeted and immediate intervention is laudable. Yet, we must not overlook a substantial proportion of the inmate population (comprising an additional 30-50% of inmates in some studies) who have categorically less serious disorders, but still have mental health needs.
In summary, our understanding of the extent and severity of mental illness across the wide variety of American correctional facilities has vastly improved since the deinstitutionalization movement. Large-scale aggregated data sources derived from different facilities, local jurisdictions, and countries have provided both national and international estimates of mental illness in jails and prisons that are concordant with the statistics cited above (see Fazel & Danesh, 2002). Continued prevalence research is welcomed but, more importantly, future research should advance our understanding of how correctional managers respond to the many mentally ill inmates who populate their institutions. Specifically, our goal should be to elucidate mentally ill inmates’ specific needs for programming and treatment services and to determine if individual correctional facilities are meeting those needs (Mears, 2004; Lurigio, 2011). This dissertation begins to fill this tremendous gap in our understanding of mental illness and program services. In the next two chapters, I review popular risk-based correctional management strategies, and then examine how these strategies specifically impact mentally ill inmates.
CHAPTER 3
PLAYING IT SAFE IN A GAME OF RISK

With branding like “actuarial technologies,” “predictive instruments,” and “evidence-based risk analysis,” risk assessment is easily framed and commonly understood as a contemporary technological innovation in criminal justice. Indeed, it is easy to forget that risk assessment has a long history within the criminological tradition marked by both successes and failures in the prediction of criminal behavior. Short memories are particularly troublesome in the justice system when a tragedy befalls the public, leaving victims and bystanders wondering what, if anything, could have been done to foresee and prevent a violent crime. Such was the case recently in Massachusetts when on December 26, 2010 a Woburn police officer, John Maguire, was shot and killed during a robbery by Domenic Cinelli, a parolee sentenced to life but released two years earlier despite his violent criminal history. In the wake of the shooting, the Massachusetts Parole Board was criticized for its failure to use a formal risk assessment instrument when reviewing Cinelli’s parole eligibility. Public outcry over Cinelli’s release and a formal inquiry by Governor Deval Patrick led to the resignation of key parole board members and a number of other correctional officials associated with the case. State officials subsequently demanded the development of a high-risk offender supervision unit and the adoption of new evidence-based risk assessment practices to identify the highest-risk offenders eligible for early release from incarceration.

The death of Officer Maguire was undeniably tragic, but the Cinelli case is an extreme and isolated example of a failure in an otherwise remarkably successful Massachusetts parole system. A study by the Bureau of Justice Statistics reported that approximately 79 percent of Massachusetts’ parolees completed parole successfully compared to the national rate of 51 percent in 2008 (Glaze & Bonczar, 2009). Nonetheless, some critics have put a lot of stock in risk assessment and have argued that were a risk instrument used Cinelli would have been identified as a high-risk offender and denied release. Risk assessment instruments are often reliable and effective tools in the management of offending populations, but they are not the be-all end-all of decision-making in the justice system. William Burrell, a corrections expert and journalist for The Crime Report, an online criminal justice news site, explained that even with risk assessment tools the Cinelli case was not so cut and dry, “The risk score, however does not automatically preclude an offender from being released. These risk assessments are
not individual predictions; rather they are probability statements for groups of similar offenders. It is one piece of information that parole boards use” (2011).

Risk assessment has many advantages but it is important to acknowledge the myriad limitations and complications of predicting future criminal behavior. For example, an offender, like Cinelli, who is over the age of 50 (an age group characterized by relatively low offense rates) and who serves over two years of supervised parole without incident has a high likelihood for successful reentry into the community. There is no denying the inherent tension between assessing risk based upon (sometimes distant) criminal pasts and awarding early release based upon more recent crime-free behavior. The Cinelli case is a poignant example of how some offenders, regardless of their level of risk, will commit new crimes, and sometimes these crimes will have unexpected and profound repercussions. Violent crime, in particular, is very difficult to predict accurately (see Monahan & Steadman, 1996) because it has a very low base rate (i.e., it occurs very rarely) in the population. As discussed extensively in the present study, risk assessment is complicated even further in the presence of mental illness and its diverse symptomatology (Monahan et al., 2001). Even with recent technological advancements in statistical modeling and risk instrument design we are still limited in our ability to predict future behavior, criminal or otherwise.

The purpose of this chapter is to explore the evolution of risk assessment within criminology and criminal justice to highlight its advantages and limitations in theory and practice. To this end, I first provide a working definition of risk assessment and distinguish between the clinical and actuarial aspects of predicting behavior. Second, I briefly chronicle the early history of risk assessment with greatest emphasis on applications to American adult male offending populations. Third, I review more contemporary theoretical perspectives, namely the risk-need-responsivity (RNR) principles of effective correctional intervention, which have had a dominant presence in scholarly literature and correctional practice over the last twenty years. I give special attention to the empirical status of the risk assessment instruments known as the Level of Service Inventories, which are derived from the RNR principles and commonly used in correctional management. Lastly, I explore some of the provocative criticisms levied against risk assessment. Throughout the chapter I effort to highlight key areas where risk assessment, for better or worse, specifically affects the management of mentally ill inmates.
Actuarial Versus Clinical Risk Assessment

Before undertaking a history of risk assessment, it is prudent to distinguish between its two broad types. The issue at hand is the prediction of future behavior so that we may avoid or prevent undesired, unfortunate, or “risky” outcomes. Within the justice system, for example, we are often concerned with knowing how likely it is that an ex-prisoner will commit a new crime once he is released from custody. We want to know when, how, and what he is going to do after release, so that maybe through targeted program interventions or crime control efforts we can prevent his crime. The trouble is, we are not terribly good at predicting the future and we can hardly assume that we will be able to anticipate the time, location, and context of future crimes. Nonetheless, there are two main approaches that social scientists have developed to improve our success at predicting future behavior: 1) actuarial and 2) clinical.

Actuarial risk assessment involves the collection of data concerning life experiences, demographics, criminal history, or any information that is believed to be relevant to the behavior being predicted (see Harcourt, 2007). This information may be derived from diverse sources, including psychometric scales, surveys, questionnaires, or even qualitative interviews and written narratives. Taken together, these data are statistically scored and provide a classification of the person whose behavior we are predicting. We can compare this classification to a standardized table that lists predicted probabilities of a specific behavior to determine how likely or unlikely it is that our ex-prisoner will commit a new crime. The statistical determination of likely and unlikely behavioral outcomes and the ordinal classifications of people using standardized measures are what define this form of risk assessment as truly actuarial (Meehl, 1954). Inmates classified into higher-risk categories are predicted to have a much greater probability of recidivism after they are released from incarceration than inmates classified into lower-risk categories. Higher-risk inmates are also typically prioritized for placement into intensive institutional treatment and programs, a management strategy known as the “risk principle,” which I will discuss more thoroughly in later sections.

Clinical risk assessment often uses the same data collection methods as the actuarial technique, but the actual predictions are made in a very different way. Rather than relying on standardized tables, clinical predictions are determined by an individual (e.g., a psychologist) or a group (e.g., a team of mental health clinicians) who draw conclusions based upon well-reasoned expectations of what a person will do.
Clinical risk assessment is informed by the full scope of available data, which often includes interviews, questionnaires, and biographical information combined to inform the decision. Clinicians may even refer to quantified actuarial risk scores as a source of data before making their prognoses, but the final predictions and judgments rest upon the shoulders of the decision-makers and stakeholders themselves. While the term "clinical" connotes a psychological or medical application, clinical risk assessment and decision-making is actually commonly found in studies of organizational behavior. Employers frequently attempt to predict work-related behavior (e.g., attendance, workplace accidents, productivity) based upon employees' past performance, motivation, and team skills, for example (Grove & Lloyd, 2006).

The advantages of both actuarial and clinical prediction have long been debated in the clinical psychology literature. Supporters of actuarial approaches tout the scientific rigor of their statistics and discourage the subjective opinions of clinical decision-making, whereas clinicians claim statistical tables are too rigid and oversimplify the complexities of human behavior that can only be predicted with human insight. In one of the most widely cited publications on the matter, Meehl (1954) argues quite adamantly that there is no true mixture of actuarial (i.e., "mechanical") and clinical prediction. To Meehl, even if a clinician refers to actuarial data to inform his decision, if his final prediction of behavior is not derived from a statistical table it must be considered a clinical judgment. Likewise, an actuarial table that incorporates a quantified clinical prognosis is still considered an actuarial prediction model. While he does acknowledge that clinical decision-making has some impressionistic or intuitive advantages that will catch details in exceptional cases, which even complicated actuarial models could not hope to capture mathematically, the bulk of the empirical research to date has suggested that actuarial predictions outperform clinical (1954; Grove & Meehl, 1996; Gardner, Lidz, Mulvey, & Shaw, 1996). The superiority of statistical over clinical techniques was argued quite strongly by Gottfredson and Gottfredson (1988) in their review of the violence prediction literature:

In virtually every decision-making situation for which the issue has been studied, it has been found that statistically developed predictive devices outperform human judgments. This is one of the best-established facts in the decision-making literature, and to find otherwise in justice system settings would be surprising at best and suspicious, or very likely wrong, at worst." (p. 312)

In their article, Gottfredson and Gottfredson (1988) cited a wealth of what are now relatively dated studies to support their conclusions concerning the strength of actuarial tools. Newer research continues...
to lend support to their argument. Grove and colleagues (2000), for example, conducted an impressive meta-analytic review of 136 studies that compared clinical and actuarial predictions of various criminal, psychiatric, medical, financial, and educational outcomes. Results showed that actuarial instruments performed equally or superior to clinical predictions in a majority of studies, whereas clinical predictions performed better only in a minority of cases (six percent of the reviewed studies). The authors’ findings are illustrated in Figure 3.1. In a later review of research that specifically examined general and violent criminal recidivism, scholars again reported that actuarial instruments were consistently better at predicting outcomes than clinical judgments (Andrews, Bonta, & Wormith, 2006).

**Figure 3.1**
**Performance of Actuarial and Clinical Risk Predictions** (N=136 Reviewed Studies)

Despite Meehl’s (1954) thesis that the two approaches cannot truly be hybridized, which inadvertently pits actuarial and clinical methods against each other as discrete assessment methodologies, it is important to know that both methods are frequently used in the correctional system. On one extreme, we find correctional decision-making based upon risk assessments derived wholly and totally from actuarial and statistical tables. At the other extreme, we find clinical judgments in the correctional field that make absolutely no reference to mathematical estimates of probability in the prediction of future behavior. In between the two extremes there are a wide variety of approaches where the actuarial and clinical are brought together to predict future behavior. Where risk assessments are made case-by-case there are times when correctional stakeholders will—and are even encouraged to—
temporarily favor a clinical judgment over an actuarial score or vice versa. Some actuarial risk tools are actually built with a clinical override for cases where there is no way to mathematically capture an important piece of a case file, including a recent and dramatic change in the life events of an inmate (Andrews, Bonta, & Hoge, 1990; Fitzgibbon, 2007). This is not to say that Meehl was wrong nor that actuarial and clinical approaches are ever truly married, but it is important to know there have been periods of time when both actuarial and clinical methods fell out of favor and times when they were the dominant paradigm for predicting future criminality. Especially in the correctional contexts discussed below, both actuarial and clinical approaches are frequently intertwined from the earliest risk assessment models in America to more contemporary examples.

**Early History of Risk Assessment in America**

In the American criminal justice system actuarial risk assessment originated with parole-prediction models in the early twentieth century. One of the first scholarly reports on this subject matter was conducted on behalf of the Massachusetts Department of Correction and analyzed parole releases from the state reformatory (Warner, 1923). The Massachusetts Board of Parole had several diverse sources of biographical, behavioral, and criminal history data on each of the reformatory’s inmates, including written and oral reports from agents of the Board, officials and staff at the reformatory, and friends and family of the inmates. Taken together, these sources provided the data for 64 key items related to family relations, religion, race, nationality, education, drug and alcohol use, gambling, prior and current criminal record information, and institutional conduct. Only one of the 64 items, derived from the results of inmates’ physical examinations, made explicit reference to inmates’ “mental condition” with responses coded into four broad categories, “good,” “sane,” “feeble-minded,” and “not answered.” However, the Board also had access to reports made by the Massachusetts Reformatory’s staff physician and alienist (i.e., psychiatrist), who made parole recommendations based upon a variety clinical classifications and sub-classifications of the inmates. Primary psychiatric classifications included “adult,” “subnormal,” and “segregable.” Adult inmates were believed to be able to care for themselves after release from the reformatory, whereas inmates designated as subnormal and segregable required parole supervision and long-term institutional care, respectively. Clinical sub-classifications further disaggregated inmates into “competent,” “deviate,”
and “deficient” groups, whereby the reformatory’s alienist attempted to distinguish what he called “normal” or “responsible” offenders from “psychopath,” “recidivist,” and “alcoholic degenerate” subtypes.

In his descriptive analysis of the Massachusetts Reformatory, Warner (1923) concluded that despite the 64 indicators, only four key factors were used to determine parole releases, including the type and nature of the inmates’ current crime, prior criminal record, institutional misconduct, and length of time spent in the reformatory. Further, in his report he called for a drastic change to the reformatory’s data collection methods toward adopting ways to verify inmate self-reports with external data sources (e.g., official criminal history records). Concerning the relevance of the alienist’s report in parole decisions, Warner (1923) went on to explain that “This would be of considerable assistance to the Board in a few of the cases, but in many cases it would be of little assistance, because the alienist is no more able than is the Board to work without data,” (p. 196). Here, the author was critical of the alienist for basing his clinical prognoses and parole recommendations upon a single interview with each prisoner. Limited clinical contact with inmate patients was the unfortunate reality for the reformatory’s lone staff psychiatrist who had an insurmountable caseload. The quality of alienist clinical reports aside, Warner himself was also criticized for not using a standardized measure of risk in his analysis (Harcourt, 2007); although, his early work did go a long way toward identifying the important biographical and criminal history variables that would be used in later prediction research.

It was not until Burgess’ work with the Illinois parole system five years later that there was a published example of a standardized risk instrument used in practice. Burgess (1928) and colleagues (Bruce, Burgess, & Harno, 1928) investigated group recidivism rates among parolees and used the results to develop a 21-factor scale for predicting parole success. Later called the “Burgess method” of parole prediction, the factors included: 1) the nature of the crime, 2) number of co-offenders; 3) inmate’s father’s nationality; 4) parental status; 5) inmate’s marital status; 6) a ranking of offender status (first-time versus recidivist); 7) a vague social typology (e.g., “gangster” versus “hobo”), 8) county where the crime was committed, 9) size of community, 10) neighborhood typology, 11) residential status at time of arrest, 12) judicial/prosecutorial recommendation in favor or against leniency in the case, 13) plea bargaining of sentence, 14) sentence length, 15) time served before parole, 16) criminal history, 17) employment history, 18) institutional conduct, 19) age at parole, 20) mental competency/age based upon a psychiatric
exam, and 21) personality type based upon a psychiatric exam and prognosis. The Burgess method earned some scholarly attention but was not popularized until 1935 when his student, Ferris Laune, more widely implemented the scale within the Illinois correctional system (see Laune, 1935). Despite the development of other prediction tools that used much more complicated statistical techniques, over the next 30 years the Burgess method remained the popular choice among parole boards because it was validated (Hakeem, 1948) and much easier to use than the alternatives. Indeed, two independent studies later found that the Burgess method, with its simple scoring of dichotomous items, performed just as well as other more complicated statistical models (e.g., multiple regression) in the prediction of parole outcomes (Simon, 1971; Wilbanks & Hindelang, 1972).

Arguably, scholars and practitioners so eagerly embraced the early actuarial prediction models because they fit well within the positivist framework that dominated American criminology for the first half of the twentieth century (Harcourt, 2007). At this time, the justice field widely supported a scientific and systematic approach to crime control and punishment, which individualized and adjusted criminal sanctions based upon each offender’s unique biographical and criminal histories. With their standardized probability models that boasted substantial improvements to the prediction of individual behavior, it is not at all surprising that the early actuarial techniques were a welcomed addition to the positivist school of criminology and inspired debate among well-known social scientists in the field through the mid-twentieth century. For example, Sheldon and Eleanor Glueck (1930) proposed an alternative to Burgess’ parole-prediction model that was based upon only seven designated risk factors detailed in their book, *Criminal Careers*. Twenty years later, Lloyd Ohlin (1951) used data from over seventeen thousand prisoners paroled in Illinois between 1925 and 1945 to test and update the Burgess method. His results were published in the first official handbook on parole prediction titled, *Selection for Parole: A Manual for Parole Prediction*. Parole studies provided new and technically advanced predictive models that were rarely put into practice. LeClair and colleagues (1980) explained that the actuarial research of this era might have been ahead of its time:

> These studies, spanning a period of 50 years, are characterized by increasing increments of mathematical and statistical sophistication. Additionally, as the prediction techniques approach the higher levels of methodological sophistication, a dependence on modernized computer technology concurrently occurs [...] neither the availability nor the increased variety, nor the widening span in the levels of sophistication has necessarily led to an increased usage of prediction devices in the correctional decision making process. (pp. 1-2)
It was not until the last quarter of the twentieth century that parole prediction was widely adopted outside the borders of Illinois, where the Burgess method originated. This expansion of risk assessment was initiated by federal parole reform, which introduced actuarial parole-prediction models to other states. In the following sections, I chronicle the growth and popularization of risk assessment from the 1970s onward.

**Expansion of Risk Assessment**

By 1973, the use of risk assessment expanded when federal parole authorities developed a new actuarial aid in parole prediction, the Salient Factor Score (Hoffman & Beck, 1974). In its design, this new scale emulated the simple dichotomous scoring technique of the popular Burgess method so it was easier to use in the field than more technically demanding instruments that used regression techniques (Harcourt, 2007). The scale contained two trichotomous factors, ordinal ranks of the number of prior convictions and incarcerations (e.g., no prior record, one or two priors, three or more priors), as well as well seven other dichotomous factors, including: 1) age at first commitment, 2) offense involving auto theft, 3) previous parole revoked, 4) history of opiate or barbiturate use, 5) years of education, 6) employment status, and 7) living with children/spouse. It is worth noting that there were no factors directly referring to mental health status in the original scale. Salient factor scores ranged from zero to eleven and determined one of four parole risk prognoses: “poor,” “fair,” “good,” and “very good.” These classifications were used in conjunction with a six-category severity-of-offense scale previously established by the Board of Parole. The resulting “risk by severity” matrix provided the guidelines “intended to structure discretion in order to provide more rational, consistent, and equitable parole selection decisions” (Hoffman & Beck, 1974, p. 200). Combining measures of risk and offense severity afforded the Board of Parole the consistency of an actuarial device without altogether abandoning the option to depart from the guidelines for special case considerations. While such departures—sometimes referred to as “clinical judgments”—were permitted case by case, the Board was required to provide thorough written justification for overriding the actuarial recommendation (Hoffman & Adelberg, 1980).

After the Salient Factor Score’s implementation throughout the federal parole system, risk assessment grew in popularity among state departments of correction over the next 25 years. The first adaptation of the federal parole-prediction tool was within California, but one of the first evaluation studies
of the instrument was actually conducted in Massachusetts. There, state officials used a version of the Salient Factor Score to predict recidivism among 925 state prisoners and found only weak evidence for the instrument's validity (LeClair, Metzler, & Landolfi, 1980). Notwithstanding weak empirical support at its start, the instrument was later revised and re-validated several times (see Hoffman, 1994) and some versions are still used in practice today (Ratansi & Cox, 2007). Even with the substantial decline in the number of states offering parole since 1979, the number of states using actuarial parole-prediction tools continued to grow drastically, as depicted in Figure 3.2 below. Some states adopted the Salient Factor Score (e.g., Connecticut, Florida, Missouri), while others created their own instruments throughout the 1980s and 1990s (e.g., Alabama Risk Assessment Tool, Colorado Actuarial Risk Assessment Scale, Wisconsin Risk and Needs Assessment). Many other states, however, opted to use a new package of risk assessment scales developed by Canadian criminologists Gendreau, Andrews, and Bonta in the 1980s and 1990s called the Level of Service Inventories, which are discussed in greater detail below.

*Figure 3.2*
*Number of States Offering Parole vs. Using Actuarial Instruments, 1979-2004*

Actuarial assessment widely appealed to many state justice systems at a critical moment in correctional history when rehabilitation and indeterminate sentencing fell out of favor. As discussed in the last chapter, weakened support of rehabilitation and the decline of indeterminate sanctions in the 1970s left legislatures demanding more standardized and empirically objective methods in the management of criminal populations. As a result, actuarial parole-prediction was used in addition to, and often instead of,
the clinical recommendations for release decisions made by psychologists, psychiatrists, and counselors. Rehabilitative penology fell to legal, political, and scientific criticisms that blamed corrections for facilitating preventive sanctioning rather than retributive punishment (Simon, 2005). Determinate sentencing and actuarial risk prediction, with their standardized and fixed guidelines coveted by many state justice systems, inevitably overshadowed indeterminate sentencing and clinical case management, which were perceived to be subjective and unsystematic.

Many scholars responded to the correctional field’s increased demand for more and better actuarial prediction tools. What followed was a proliferation of actuarial risk assessment in research and practice. Notably, two pioneers in this field, Monahan and Steadman, developed a wealth of evidence-based research that expanded existing actuarial parole models to include the prediction of violent behavior, particularly among persons with mental disorders (Monahan, 1981; Monahan & Steadman, 1983; Monahan & Steadman, 1996; Monahan et al., 2001, Monahan et al., 2005). Among mentally ill populations, risk assessments stemmed from formal clinical and diagnostic assessments using the Diagnostic and Statistical Manual (DSM-IV-TR; American Psychiatric Association, 2000), the International Classification of Diseases (ICD-10; World Health Organization, 1993), and standardized psychometric scales. Psychometric scales included instruments designed to assess psychopathy and personality disorders like the popular Psychopathy Checklist-Revised (PCL-R; Hare, 1991). Violence-prediction models were found to have some success among patients recently discharged from psychiatric facilities (Monahan et al., 2005) and among personality disordered patients in a secure facility (Duggan, Mason, Banerjee & Milton, 2007). However, the bulk of theoretical development and empirical testing since the 1980s focused upon the risk management of non-mentally ill offending populations using what are known as the Risk-Need-Responsivity (RNR) principles of correctional intervention.

**Principles of Effective Correctional Intervention: Risk-Need-Responsivity**

In response to criticisms from respected social scientists Jean-Paul Brodeur and Anthony Doob, who argued throughout the 1980s that program evaluations exaggerated the positive effects of correctional treatment, Paul Gendreau (1989) published the first edition of what became the principles of effective correctional intervention. Gendreau’s work called attention to a burgeoning “what works in corrections” literature that showed programs that worked, required revision, or clearly did not work based
upon the available empirical evidence. Additionally, Gendreau highlighted the importance of matching
correctional programming to offenders’ specific needs, learning styles, and offense histories. Counter to
prevailing arguments at the time, he further predicted that high-risk offenders would respond better to
carefully designed treatments than low-risk offenders.

Since its inception, Gendreau’s main tenets have been widely investigated and inductively
informed by over twenty years of meta-analyses, individual program evaluations, and scholarly
monographs led by his Canadian colleagues Andrews and Bonta (Andrews et al., 1990; Andrews, 1995;
& Dowden, 2005; Andrews & Bonta, 2006). Results from this body of scholarly work showed effect sizes
ranging from low to moderate, indicating an average 10-30%, and as high as 35% (see Andrews & Bonta,
2010 for a review), decrease in recidivism rates among offenders in treatments that adhered to the
principles of effective intervention as compared to controls. Concordant with this body of research there
emerged a major theory of offender rehabilitation, often referred to as the Psychology of Criminal Conduct
(PCC; see Andrews & Bonta, 1998; 2006), from which derived three major principles of effective
correctional intervention: risk, need, and responsivity. The risk principle identified who should be targeted
for interventions, the needs principle identified what problems should be addressed during interventions,
and the responsivity principle identified how we should design and implement interventions.

The Principle of Relative Risk. Criminal risk can be predicted according to a hierarchy, where low-
risk offenders have the lowest recidivism rates and higher-risk offenders have relatively higher recidivism
rates (Andrews & Bonta, 2006). The principle of relative risk states that treatment should be matched to

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9 Cohen’s $d = .10$ to $.30$; refer to Cohen (1988) for a full discussion.

10 Ward and colleagues (2007) point out that other related but discrete theoretical sources have been
used to frame the principles of effective correctional intervention in addition to the Psychology of Criminal
Conduct (PCC), including the General Personality and Social Psychological Perspective on Criminal
Conduct (GPSPP) and the Personal Interpersonal Community-Reinforcement (PIC-R) perspective. It is
beyond the scope of this dissertation to extensively review all three of these major theoretical
frameworks. Rather, I focus upon the three core principles that drive correctional intervention specifically
framed under the PCC model.
offenders based upon their likelihood of re-offending. Specifically, intensive programs\(^\text{11}\) should be delivered to higher-risk offenders rather than lower-risk offenders to maximally reduce recidivism. Numerous studies have demonstrated that the greatest reductions in recidivism derive from placing high-risk offenders into intensive programming (Thanner & Taxman, 2003; Andrews & Bonta, 2006; Lovins et al., 2009). By contrast, it has been repeatedly reported that intensive programming can actually be counterproductive, sometimes increasing recidivism rates, when targeted on lower-risk offenders (Andrews, 2006; Andrews & Dowden, 2006).

In their impressive investigation of 53 residential and 44 non-residential programs in Ohio, Lowenkamp and colleagues (2006) provided a thorough test of the risk principle. The authors’ findings, summarized in Figure 3.3 below, demonstrated that the greatest reductions in recidivism were achieved by intensive residential programs that targeted high-risk offenders. Intensive nonresidential programs, a majority of which were intensive supervision probation programs, that targeted high-risk offenders also reduced recidivism rates, but to a lesser extent. The other residential and nonresidential programs that did not specifically target high-risk offenders and included relatively large proportions of low-risk offenders (i.e., more than a third of participants were low-risk) had increased recidivism rates.

Experts have concluded that increased recidivism rates among low-risk offenders can be attributed to three factors. First, lower-risk inmates might learn antisocial behavior from higher-risk inmates who share the intensive programming environment. Second, intensive program environments might disrupt the prosocial networks and routines of lower-risk inmates (school, employment, family). Third, intensive programs that rely upon increased supervision and treatment evaluations (e.g., drug testing) might detect more rule violations and antisocial behavior that would otherwise go undetected in less stringent programs (Lowenkamp & Latessa, 2004; 2005; Lowenkamp et al., 2006).

\(^{11}\) Bourgon and Armstrong (2005) estimated that treatment effectiveness varies by the dosage (i.e., duration of programs) given to offenders of varying risk. Programs of approximately 100 hours are suggested for offenders with moderate risk and few criminogenic needs, while programs lasting up to and beyond 300 hours are recommended to decrease recidivism among high-risk, multiple needs offenders.
The Principle of Criminogenic Needs. Criminogenic needs are empirically-derived variables that when targeted with interventions have been associated with significant reductions in recidivism. Needs may be broken into two distinct categories: 1) static risk factors, which refer to more permanent historical variables that tend not to fluctuate over time (e.g., criminal history), and 2) dynamic risk factors that fluctuate over time. There are eight major categories of dynamic risk factors/criminogenic needs stemming from extensive meta-analytic research (Gendreau, Little, & Goggin, 1996; Bonta et al., 1998; Andrews & Bonta, 2006; Andrews et al., 2006). A number of minor risk factors have also been identified as non-criminogenic, meaning that when they are targeted through interventions these factors show little to no effect in reducing future crime (Andrews et al., 2006). These major and minor risk/need factors are displayed in Table 3.1 below. According to this principle, the most effective programs provide services to target dynamic factors that are criminogenic.
Table 3.1
Major and Minor Risk/Need Factors

<table>
<thead>
<tr>
<th>Major (criminogenic) Factors</th>
<th>Minor (non-criminogenic) Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antisocial behavior</td>
<td>Family/marital</td>
</tr>
<tr>
<td>Antisocial personality</td>
<td>School/work</td>
</tr>
<tr>
<td>Antisocial cognition</td>
<td>Leisure/recreation</td>
</tr>
<tr>
<td>Antisocial associates</td>
<td>Substance abuse</td>
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<tr>
<td>Major mental disorders</td>
<td>Self-esteem</td>
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<tr>
<td>Emotional distress</td>
<td>Social class</td>
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<tr>
<td>Low IQ</td>
<td>Group cohesion</td>
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<tr>
<td>Physical health problems</td>
<td>Fear of punishment</td>
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Sources: Ogloff, 2002b; Andrews et al., 2006

Of particular relevance to the current study is the classification of major mental disorders as a minor, non-crimogenic variable in the RNR model. Mental disorders have been found to be poor predictors of recidivism and the causal relationship between mental illness and crime is undetermined (Bonta et al., 1998; Gray et al., 2004; Blackburn, 2004; Mears, 2004; Friedman, 2006; Lurigio, 2011). Any predictive validity of mental disorders has been attributed to antisocial cognitions and personality, specific psychotic symptoms (e.g., perceived threats, threat/control override\(^\text{12}\)), and co-occurring substance use problems (Link, Andrews, & Cullen, 1992; Swanson et al., 1996). Without empirical ties to reductions in future offending, mental illness is typically subsumed under the principle of responsivity (Blackburn, 2004; Ogloff & Davis, 2004; Ward et al., 2007), which I discuss next.

The Principle of Responsivity. The principle of responsivity states that treatment interventions should be delivered in ways that cater to the unique abilities, motivations, and learning styles of participants. There are two components to this principle: 1) general responsivity and 2) specific responsivity. General responsivity refers to the importance of using intervention strategies, namely cognitive behavioral and social learning programs, which have demonstrated (see MacKenzie, 2006 for the related *what works* in corrections literature) to reduce recidivism (Andrews & Bonta, 2006). Specific responsivity, on the other hand, refers to the unique characteristics of offenders that must be matched to specific treatments. To continue the example from above, if not a criminogenic need, mental illness is conceptualized as matter of specific responsivity, an impediment to personal wellbeing and motivation that

\(^{12}\) Briefly mentioned in the introductory chapter, threat/control override (TCO) is one of many identified symptoms of psychosis and refers to a patient’s likelihood to perceive and overestimate the potential that an outside agent, person, or entity will inflict harm or control the patient’s behavior. The TCO symptom has been found to mediate the relationship between psychosis and both aggression and violence (Link et al., 1998; Fanning et al., 2011).
may influence how an offender responds favorably or unfavorably to specific interventions. To give some context in practice, consider how an offender with an anxiety disorder and a limited cognitive capacity might respond in a group treatment setting that emphasizes personal insight, modeling, and role playing. Not all treatment strategies can easily accommodate the unique limitations and strengths of participants, so alternative interventions must be considered for some offenders. The responsivity principle stresses the importance of adapting to offenders using whatever strategy may be deemed appropriate. To this end, Andrews and Bonta (2010) explained, “The principle invites treatment planners to build on strengths and consider removal of any barriers to full participation in service, issues particularly important to minority cultural groups and women” (p. 47).

Both critics and proponents of the RNR have responded to Andrews’ and Bonta’s repeated invitations to explore and inform the principle of responsivity. Particular attention has been paid to high-risk groups and their motivations to remain engaged in treatment. Some practitioners fear that high-risk participants will drop out of treatment for the same unfortunate reasons that earned them the “high risk” label in the first place (Andrews & Bonta, 2006). However, studies of the responsivity principle have demonstrated that techniques like motivational interviewing, treatment maintenance, relapse prevention, and service integration (e.g., combining substance use counseling with intensive supervision) can be effective ways to ensure high-risk offenders remain in programs (Thanner & Taxman, 2003; Ogloff & Davis, 2004). More research is needed concerning the effectiveness of different treatment strategies to promote treatment adherence and overall effectiveness for particular subpopulations, including female offenders, sex offenders, ethnic minorities, and offenders with mental illness (Andrews & Bonta, 2006; Lamberti, 2007). Further, the distinction between criminogenic/non-criminogenic needs and responsivity impediments remains ambiguous (see Blackburn, 2004). Even the principal authors of the RNR model acknowledge that the responsivity principle is open to further development through empirical investigation as it relates to mental health, other “human” needs, and specific impediments (Bonta & Andrews, 2003; Andrews & Bonta, 2006; Andrews et al., 2006). In the following chapter, I will review both the hotly debated theoretical and empirical perspectives concerning the role of mental illness in risk management.

To measure and quantify offenders’ risk, needs, and responsivity, the authors of the RNR principles designed a series of questionnaires, known as the Level of Service Inventories. These
inventories were considered the next important stage in the evolution of risk assessment, which can be broken into four distinct generations (Bonta, 1996; Andrews & Bonta, 1998; 2006; see Table 3.2 below). According to the authors, first-generation tools were used in the early twentieth century and consisted of clinical judgments made by correctional staff, clinicians, and social workers without the aid of actuarial methods. Second-generation risk instruments advanced beyond clinical judgments to include actuarial tools that quantified offenders’ criminal and biographical histories toward predicting criminal justice outcomes. The Burgess method and the Salient Factor Score were both considered a part of the second generation. One shortcoming of the second-generation instruments, however, was that they assessed risk based upon static information derived wholly and totally from offenders’ pasts. Each new offense would add to an offender’s criminal history and thereby increase his risk, but there was no way to quantify decreases in risk. Third-generation models were said to improve upon their predecessors by incorporating dynamic risk variables, which accounted not only for potential increases but also decreases in an offender’s risk (Bonta & Wormith, 2007). These new models recognized that an offender’s circumstances might change and indeed improve. Criminal history variables remained an important part of the third-generation risk tools, but these new instruments also acknowledged dynamic factors in offenders’ lives that change over time, termed “criminogenic needs.”

One of the most popular third-generation risk tools still used today is called the Level of Service Inventory-Revised (LSI-R; Andrews & Bonta, 1995). Ten subscales comprised of 54 items assessed the relative contributions of common predictors and correlates of criminal behavior, including substance use, family history of offending, association with deviant peer groups, and antisocial attitudes (Andrews & Bonta, 1998). Scores on the LSI-R ranked the severity of inmates’ risk (e.g., low, moderate, high) and determined offenders’ most salient criminogenic needs and unique learning styles. Most importantly, as offenders’ personal circumstances changed their risk scores on the LSI-R were adjusted to reflect greater or lesser risk. This instrument was found to be a valid and reliable measure across many incarcerated populations with diverse sociodemographic backgrounds (see for a full review, Vose, et al., 2008) and a robust predictor of recidivism (Raynor, Kynch, Roberts, & Merrington, 2000; Raynor, 2007). Studies of this popular instrument that use mentally ill samples have been extremely limited. One study of 630 inmates and probationers under community supervision identified a subsample of offenders with mental health
problems (N=169) to test the validity of the Level of Service Inventory-Ontario Revision (LSI-OR; Andrews, Bonta, & Wormith, 1995) in the prediction of general and violent recidivism (Girard & Wormith, 2004). Mental health problems were defined as depression, psychosis, previous suicide attempts, and non-specific emotional distress, but did not require a formal psychiatric diagnosis. Results showed favorable predictive correlations using this scale to predict general recidivism, but not as much promise for predicting violent recidivism.

A newer version of the LSI-R that has not been used as often in practice is the Level of Service/Case Management Inventory (LS/CMI; Andrews, Bonta & Wormith, 2004). The LS/CMI has been categorized as the first of the “fourth-generation” risk instruments (Andrews & Bonta, 2006), because it expands upon earlier inventories by incorporating case management planning beyond measures of risk, needs, and responsivity (Doyle & Dolan, 2004). By integrating case planning into the instrument, correctional practitioners may consistently monitor, assess, and intervene as an offender’s circumstances and level of risk change over time. The LS/CMI has not been widely tested among diverse correctional populations, and there is still a need to validate this instrument among mentally ill offender populations. As will be discussed in the methodology section, the current study examines the LS/CMI and how it is used within a HOC to manage both mentally ill and non-mentally ill inmates.

Table 3.2
Four Generations of Risk Instruments

<table>
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<tr>
<th>Generation</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Risk estimates are based upon individual or group clinical interviews, judgments, and recommendations</td>
<td>Psychiatrist’s report</td>
</tr>
<tr>
<td>2</td>
<td>Actuarial estimates are based upon static risk factors (e.g., criminal and biographical history)</td>
<td>Salient Factor Score (1973)</td>
</tr>
<tr>
<td>3</td>
<td>Actuarial estimates are based upon both static factors and dynamic criminogenic needs (e.g., pro-criminal attitudes)</td>
<td>LSI-R (1995)</td>
</tr>
<tr>
<td>4</td>
<td>Actuarial estimates incorporate a case management component to aid the institutional management of offenders</td>
<td>LS/CMI (2004)</td>
</tr>
</tbody>
</table>

Sources: Bonta, 1996; Andrews & Bonta, 1998; 2006
The New Penology and Criticisms of Risk Assessment

The proliferation of risk assessment throughout the justice system was not without its critics. Among the most widely cited arguments against the widespread adoption of risk assessment were Feeley and Simon’s collaborative articles in the 1990s (Feeley & Simon, 1992; Simon & Feeley, 1995). The authors contended that the oft-cited narratives of American punitiveness that focused solely upon front-end mechanisms of crime control (e.g., policing and sentencing) largely ignored the major ideological changes in corrections at the back-end of the system. To illustrate the major changes in the field, the authors distinguished between a “new” and an “old penology” in the history of corrections. Traditionally under the “old penology,” the field of corrections was oriented to rehabilitate and reform the individual offender to discourage future criminal acts, an embrace of the rehabilitative ideal. By contrast, the “new penology” was concerned with using technologies in risk assessment and actuarial estimates to separate and order large numbers of incarcerated inmates based upon their potential risk for reoffense. Symptomatic of this shift from old to new penologies was what Feeley and Simon (1992) described as a dramatic change in the “discourse” of corrections:

It [discourse] does not speak of impaired individuals in need of treatment or of morally irresponsible persons who need to be held accountable for their actions. Rather, it considers the criminal justice system, and it pursues systemic rationality and efficiency. It seeks to sort and classify, to separate the less from the more dangerous, and to deploy control strategies rationally. The tools for this enterprise are “indicators,” prediction tables, population projections, and the like. (p. 452)

Actuarial risk assessment allowed for maximally efficient monitoring and confinement by aggregating many offenders into manageable risk groups (Simon & Feeley, 1995), but not without abandoning or undermining core principles of the justice system. This paradigmatic shift was described succinctly by Caplow and Simon (1999), "Moving away from the nineteenth-and twentieth-century aspirations to individualization, normalization, and community benefits, contemporary penal policy is oriented to efficient control of the populations that flow through its institutions" (p. 98). Population control extended beyond the prediction of parole outcomes, where risk assessment originated, and included sentencing. Risk profiles served as justification for the selective incapacitation of higher-risk offenders for longer periods of time to altogether avoid, or at least delay, their future criminal activity (Greenwood, 1982). Rather than punishing offenders based upon the severity of past crimes, selective incapacitation was to detain offenders based upon potential future crimes. Feeley and Simon (1992) criticized that while
fixed sentencing guidelines were designed to equalize punishments, the actuarial tables upon which they were based ultimately over-aggregated disparate criminal cases. Despite having remarkably different offenders with different offenses, punishments were applied too broadly to groups of offenders who had been lumped together in actuarial prediction tables.

Feeley and Simon were not alone in their apprehension toward an actuarial criminology. In his book, Against Prediction, Harcourt (2007) critically examined actuarial prediction used in police stop-and-search procedures to target high-offending groups of motorists and pedestrians traveling with contraband. While Harcourt’s extensive mathematical analyses of police data are beyond the scope of this paper, the author made a compelling argument for what he called the “ratchet effect” of actuarial methods that is worth consideration here. The ratchet effect is the eventual over-representation of high-risk group members in institutional populations due to risk profiling. By using actuarial methods to identify high-offending groups, police have statistical justification to invest and allocate more resources to search, investigate, and arrest members of those groups. Harcourt (2007) likened the ratchet effect to non-random sampling, “when police profile frequent offenders, they are essentially sampling more among members of the higher-offending group. Instead of sampling randomly […] [police are] skewing the sampling results in favor of frequent offenders” (p. 147). Targeted policing can increase the success of finding contraband, which indeed seems to be the point of actuarial prediction—improving crime detection and prevention. Regardless of the improved proficiency of search and seizures, Harcourt warned that the ratchet effect could have delayed repercussions. If police resources are overwhelmingly dedicated to high-risk offenders, they will be disproportionately arrested and incarcerated relative to their actual levels of crime commission in the general population. In unfortunate circumstances where minority group members are associated with high-risk profiles and are over-represented in prisons and jails, actuarial prediction dangerously approaches racial profiling (2007).

As we transition from a discussion of policing to managing mentally ill inmate populations, there are new criticisms against risk assessment to consider. First, it is important to recognize that to construct and validate an actuarial tool is a costly and time consuming process that individual jurisdictions rarely

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13 Harcourt cited Bureau of Justice Statistics (1997, 2000) reports that showed recent historical trends of new prison and jail admissions who were African American. He admitted that these statistical trends alone were not sufficient verify his “ratchet effect” thesis, but they were nonetheless consistent with his observations.
have the resources to accomplish on their own (Jones, 1996). This is why, with very few exceptions, throughout the 1980s and 1990s many states adopted popular risk assessment tools like the Salient Factor Score and Level of Service Inventories to assess the risk of parolees and incarcerated populations. Widespread adoption of the same few instruments throughout so many different jurisdictions saved time and money; unfortunately, it was also done under the assumption that these instruments were valid wherever they were applied, when they likely were not (Wright, Clear, & Dickerson, 1984; Gottfredson & Moriarty, 2006). Statistical risk assessment and prediction tools demand testing and validation for each new target population to which they are applied. A number of validation studies were conducted for popular instruments like the Salient Factor Score (Hoffman, 1994) and the Level of Service Inventories (Vose et al., 2008), but there are subpopulations of offenders, including mentally ill inmates, for whom these scales remain invalidated.

Second, if what Feeley and Simon (1992) argued in their work on the new penology is true, then inmates who are assessed for risk are overly aggregated, categorically labeled, and institutionally managed according to predicted levels of dangerousness. To manage large groups of inmates according to risk labels undermines attempts to better understand and address an inmate’s individual circumstances and criminogenic needs, like mental illness. Even in institutions where the preferred risk assessment tool was specially constructed to account for both static risk factors and dynamic needs, like the popular LSI-R or LS/CMI, the final actuarial prognosis could boil down even the most complicated cases to a one- or two-word ordinal label (e.g., “low,” “moderate,” or “high” risk). There must be an opportunity for professional discretion or clinical judgment made by correctional practitioners who can appreciate both the actuarial prognosis and the intricacies of an inmate’s case file (Andrews et al., 1990; Fitzgibbon, 2007). The opportunity for departing from actuarial guidelines is particularly important among mentally ill inmates, where risk prognoses commonly determine inmates’ access to programming or restriction within administrative segregation units but concerns for psychological wellbeing must be considered. Whether through professional discretion or some other clinical screening method, there should be some attempt to monitor and incorporate inmates’ mental health status into processes of institutional management.

Finally, lest contemporary applications of risk assessment fall victim to the same shortcomings of early actuarial tools, there must be an opportunity for inmates’ level of risk to not only increase but
decrease throughout detainment. Newer risk tools like the LSI-R and LS/CMI boast that they measure criminogenic needs that are dynamic and, by definition, should fluctuate over time as inmates’ personal circumstances change. However, even when using third- and fourth-generation instruments, there is a potential for risk assessment to portray inmates as static, unchanging, and stuck within the same risk prognosis for the entire duration of their detainment. As such, to be able to measure dynamic needs and attributes of an inmate it is required that risk assessments are used repeatedly over time. Initial risk assessment may be completed immediately when an offender is detained, but later reassessment is crucial to detect decreased risk due to treatment or programming, for instance, or possibly increased risk (Bonta & Wormith, 2007). Relying upon initial intake risk assessments could be misleading in that “the simple predictive criterion validity of original risk and/or need scores will be greatly reduced when following up cases that have been appropriately treated” (Andrews et al., 2006, p. 17). After intake, follow-up assessments at key times throughout an offender’s service planning from intake through release. For example, strategic assessments could be conducted during and after a specific program intervention, or immediately before or after significant changes in an offender’s service plan (e.g., right after transitioning into a new program or security unit, or right before release to the community). Arguably, repeated assessment is most crucial among mentally ill inmates who could have any of a diverse array of psychopathologies characterized by mercurial symptoms. The perceived level of dangerousness of a patient with schizophrenia, for example, could drastically change when he is medically stable compared to when he has recently decompensated.

In summary, the actuarial approach to identifying offender groups who are mostly likely to recidivate has become a popular crime reduction strategy in the correctional field. To this end, thousands of correctional facilities across the United States have adopted special risk surveys and instruments to evaluate their inmate populations. Their goal is to prioritize specific groups of high-risk offenders for treatment programs, which are often expensive and scarce in underfunded and understaffed systems, to maximize the crime prevention and rehabilitative potential of service delivery. While there is much empirical support for risk assessment models like the RNR discussed above, there is very little research that has considered the impact of risk-based correctional management strategies on mentally ill
subpopulations. In the following chapter, I synthesize theoretical discussions, empirical research, and practical concerns about mentally ill inmates in risk-based correctional systems.
Feeley and Simon's (1992) new penology described what arguably is the most extreme variation of risk-based correctional management strategies: one that is driven wholly and totally by the risk classification and subsequent aggregation of offenders into rank-ordered categories of dangerousness. However, nearly twenty years have passed since the authors’ original thesis, and actuarial justice models have evolved and diversified throughout corrections. Hannah-Moffat (2005) offered pointed criticism of Feeley and Simon’s thesis and gave an alternative perspective on the evolution of risk-based penology. In her work, she invoked a substantial body of theoretical and empirical literature concerning the RNR model and convincingly argued in favor of a hybridized understanding of criminogenic risk/need:

[...] the current generations of risk/need technologies reflect a significant departure from the pessimistic theoretical accounts of risk in criminal justice associated with the 'new penology' and 'actuarial justice' [...] risk knowledges [sic] are fluid and flexible and capable of supporting a range of culturally contingent penal strategies [...] need is fused with risk to create 'dynamic risk/criminogenic need', how particular conceptions of 'need' and 'risk' are situated in local penal narratives, how need reconstructs risk and revives correctional treatment as an efficient risk minimization strategy. (pp. 30-1)

Hannah-Moffat (2005) described a “transformative risk subject,” who escapes the static and unchanging portrait of risk derived from early (second generation) risk models and who is responsive to a variety of correctional treatments and programming. To acknowledge and include needs within risk assessment links together risk management with rehabilitative strategies. Principled placement into programming and rehabilitation need not only be based upon level-of-risk classifications alone (e.g., high-risk inmates prioritized for the most intensive interventions), but may include legitimate targets for correctional intervention in a composite risk/need assessment. Herein lies one of the greatest dilemmas for the transformative risk subject, the correctional administrators who manage him, and the scholars who contribute to contemporary risk/need discourse. What determines if a need is a legitimate target for intervention and, therefore, worthy of the often limited programming and institutional resources within corrections?

Inmate populations have a variety of basic human needs concerning their overall wellbeing and livelihood, including mental health, emotional stability, self-esteem, physical health, and substance use problems among others. As discussed in the last chapter, however, under the RNR model of correctional intervention, needs are defined as being either: 1) criminogenic if they are empirically related to the
likelihood of future offending, or 2) non-criminogenic if they are not (or are only weakly or indirectly) related to future offending. By these criteria, major mental disorders are non-criminogenic and are not considered worthy targets of correctional interventions because their amelioration has not yet been associated with decreases in recidivism. The conceptualization of inmates’ needs, including mental health status, does not have to be so narrowly defined by the probability of future offending or recidivism. Rather, there are alternative criteria for defining and identifying inmates’ needs that must be considered.

The purpose of this chapter is to review theoretical and empirical literature that debates the importance of mental illnesses in risk/needs assessment. I begin the chapter by summarizing alternative conceptualizations of mental illness in the risk/need theoretical framework. I then argue that by including mental health status as key component of risk/needs assessment, we have the opportunity to assess the extent of what Mears (2004) called a “need-services gap” for mentally ill offenders. Given the high prevalence of mental illness in prisons and jails and the prominence of risk management strategies, it is crucial that we determine the relative importance of mental health status and criminogenic risk in determining which and how many inmates get access to specific institutional interventions and services. It would be shortsighted, however, to only focus on rehabilitative services without entertaining the inherent tension between treatment and concerns for institutional safety and security. Both high-risk inmates and inmates with mental health problems present unique challenges to correctional administrators, who want to maximally allocate valuable institutional resources for treatment and programming but maintain institutional safety using a variety of behavioral controls (e.g., disciplinary restrictions, isolation). Thus, I also discuss the role of mental health and risk in determining inmates’ placements within disciplinary or administrative segregation units. I close the chapter by describing how I will conceptualize mental health status within this study and by stating my main research questions that drive my empirical inquiry in later chapters.

**Conceptualizing Mental Health Needs in Risk Management**

It has been discussed at length in this dissertation that mental illness is not a causal predictor of crime, and in a risk-based framework there is weak empirical evidence that targeting major mental disorders in treatment will lead to reductions in offending after release from incarceration. However, there are a number of reasons why, even when conceptualized as a non-criminogenic need, mental health
status should be explicitly addressed in risk assessment, inmate management, and institutional programming. Primarily, while it is widely debated which concerns take precedent in prisons and jails, treatment or security, there are ethical obligations to provide treatment and reduce the suffering and distress of psychiatric patients in the care of the corrections system (Hodgins, 2000; Blackburn, 2000; 2004; Adams & Ferrandino, 2008). To not consider mentally ill inmates’ needs for treatment because their major mental disorders do not qualify them for risk-based placement into institutional services is to violate an ethical commitment to patient care and harm reduction.

Secondarily, mental disorders and psychopathology are poor predictors of longer-term recidivism, but they are strong predictors of more immediate outcomes that could threaten both custodial security and rehabilitative ideals. For example, symptoms of some mental illnesses (e.g., affective disorders) include acute negative emotions (e.g., anger) and suspension of self-regulation (i.e., impulsivity). Such fast-changing mental states are important clinical and dispositional factors found to immediately precede re-offending and noncompliance with supervision (Quinsey, Coleman, Jones, & Altrows, 1997; Hanson & Harris, 2000), as well as aggression and violence (Monahan & Steadman, 1996). It is true that violent and angry outbursts and other endangering behavior are common among both mentally ill and non-mentally ill institutionalized persons (Blackburn, 2004), but knowing an inmate’s mental health status provides clinical and diagnostic indicators for anticipating and managing this behavior in a secure setting. Mental health diagnoses may lead to the prescription of important psychotropic medications to curb symptoms and help stabilize behavior, or indicate when to implement isolation and intensive supervision to quell violence among inmates and staff or prevent self-harm on a short-term emergency basis (Adams & Ferrandino, 2008). Further, while mental disorders are generally poor predictors of recidivism, treatment for some specific symptoms of mental disorders, like negative emotional states or antisocial cognitions, may actually decrease the risk of re-offending (Day, 2009; Lurigio, 2011). Clearly, correctional facilities do and should use mental health needs in making institutional treatment and security decisions. It is crucial, then, to consider inmate management models that capture the importance of mental health needs in addition to the empirically-based criminogenic risk factors of the RNR model.

14 Of course, the previously mentioned negative effects of long-term isolation are never to be ignored and need further study, particularly, among mentally ill inmates.
Despite a wealth of empirical support, the RNR model has been extensively criticized on theoretical grounds regarding its treatment of criminogenic and non-criminogenic needs. The punchline of these criticisms is "that a focus on reducing dynamic risk factors (criminogenic needs) is a necessary but not sufficient condition for effective treatment" (Ward et al., 2007, pp. 209-210; see also, Birgden, 2002; Ward & Gannon, 2006). For the last ten years, Ward, his colleagues, and fellow scholars (Ward, 2002; Birgden, 2002; Ward & Stewart, 2003a; 2003b; 2003c; Ward & Gannon, 2006; Ward et al., 2007; Wilson & Yates, 2009) have proposed and discussed a theoretical expansion of the Bonta and Andrews’ RNR theory, called the Good Lives Model (GLM). Collectively, this body of work conceptualizes a risk-based model that promotes what they have called “human needs,” which include non-criminogenic risk factors, like self-esteem, offender motivation, and major mental disorders.

Many of the ongoing theoretical debates between proponents of GLM (Ward & Stewart 2003a; 2003b) and RNR traditionalists (Bonta & Andrews, 2003) go well beyond the scope of my research, but there are a few contentious issues they have raised that I must consider. The GLM upholds that the goal of rehabilitation should not only be to remove and reduce criminogenic risk factors, but to improve the wellbeing of offenders by offering them opportunities for improvement—that is, the opportunity for “good lives.” Improvements may be achieved, for example, by relieving personal distress associated with mental health needs through targeted programming and treatment. Conversely, traditional RNR theorists counter that the GLM lacks empirical support and it is ill-advised to re-frame rehabilitative efforts to treat non-criminogenic needs that will not reduce the likelihood offending (2003). More to this point, to treat low self-esteem, anxiety, and other mental illnesses, while an admirable goal of many psychotherapeutic interventions, may actually increase re-offending if criminogenic risk factors are not first addressed (Ogloff & Davis, 2004). These theoretical arguments force us to consider how mental health needs can be reconciled in risk-based management.

Rising out of these debates over non-criminogenic needs and criminogenic risk factors, Ogloff (2002b) offers an alternative and fruitful perspective. He argues that psychological needs and criminogenic needs must be addressed for a variety of reasons (many already mentioned), so we must

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15 Readers interested in following the well argued but, at times, acerbic exchange between Ward and Stewart and Bonta and Andrews are encouraged to consult a special issue in the journal, Psychology, Crime & Law, published in 2003.
acknowledge the unique and overlapping demands for services that address both rehabilitative ideals and risk reduction. Adapted from Ogloff (2002b), Figure 4.1 below displays a simple and straightforward way to conceptualize how “from a correction services perspective, the highest priority is given to treating offenders for whom both their traditional psychological needs and criminogenic needs are high” (p. 250). Regardless of the criminogenic status of major mental disorders and psychopathology, both criminogenic and psychological needs can be assessed and used to determine the inmates who have the greatest needs for institutional services and rehabilitation. Different services can separately and jointly address criminogenic risk factors to promote reductions in reoffending and alleviate psychological distress to promote overall wellbeing. Moreover, it is important to deliver services to both: 1) an inmate with many criminogenic needs but few psychological needs, and 2) an inmate with many psychological needs but few criminogenic needs.

*Figure 4.1*
*The Interplay of Psychological and Criminogenic Needs*

A cumulative body of research has broadly addressed the prevalence of mental illness in prisons and jails, ethical and moral dilemmas facing practitioners concerning segregation, isolation and harm reduction, as well as what works in the rehabilitation of mentally disordered offenders (e.g., Childs & Brinded, 2002; Blackburn, 2004). Yet, to the best of my knowledge, there are no empirical studies that have examined the separate and overlapping effects of criminogenic needs (i.e., dynamic risk factors) and mental health needs in predicting inmates’ access to institutional services, as Ogloff (2002b) proposed. Mears (2004) explained that there is a lot we do not know about the services that are provided for
mentally ill offenders. If we are to begin to understand the extent to which there is a needs-services gap, we must identify how many offenders with mental illness get access to treatment. This pursuit is particularly important in correctional systems where principles of criminogenic risk are the dominant framework for prioritizing and placing offenders into programming. In the following section, I conceptualize mental health needs and criminogenic risk in the current study toward investigating this needs-services gap.

Joining Principles of Criminogenic Risk and Mental Health Needs in Program Placement

Below, Figure 4.2 demonstrates how the priority for placing inmates into programming changes as a function of both their unique level-of-risk classification (based upon the LS/CMI rankings from very low to very high risk) and their mental health needs (low to high needs). According to principles of risk-based penologies, higher-risk inmates should be prioritized for programming over lower-risk inmates. If we embrace principles of humanistic and rehabilitative penologies described by Ogloff (2002b), however, prisoners with immediate criminogenic and mental health needs should both have priority for program placement. With these guiding principles in mind, I propose that there are four important ways that risk classifications and mental health status will interact to influence inmates’ placement into programs. First, inmates with low-risk classifications and no immediate needs for mental health treatment will have the lowest relative priority for placement into programming. Second, inmates with the highest risk classifications and most immediate mental health needs for treatment will have the highest relative priority for placement into programming. Third, there will be some inmates who have high-risk classifications but do not have needs for mental health treatment. Fourth, there will be some inmates who have immediate mental health treatment needs but have low-risk classifications. The latter two examples, where inmates have a combination of high-risk/low needs or low-risk/high needs, provide a unique opportunity to study whether risk classifications or mental health status will be most (or equally) important in determining priority for placement into programming.

Generally, these aforementioned principles will determine if mentally ill inmates are managed (e.g., housed, detained and placed into programming) in ways that are similar to or different from non-mentally ill inmates. Specifically, these principles will influence how criminogenic needs, like clinical mental health status, and level-of-risk classifications interact to affect inmates’ access to programming and
institutional services in a correctional facility. It is crucial for criminal justice researchers to scrutinize the managerial processes through which mentally ill inmates must pass from intake until release so we may understand how correctional administrations deal with mental illness. To better understand this process of management will allow us to identify inequitable practices and any differences between mentally ill, non-mentally ill, low-risk and high-risk inmates. Therefore, to study the management of mentally ill inmates I will analyze their unique movements through a Massachusetts HOC from intake to release, compare their movements to non-mentally ill inmate groups, and examine the relationships among mental health status, level-of-risk classifications and placement into institutional programming.

Figure 4.2
Principled Program Placement

Treatment-Security Conflicts and the Use of Administrative Segregation

Principles of inmate management not only guide the placement of inmates into institutional programs, they also provide ways to maintain institutional order by identifying at-risk offenders who may
pose danger to other inmates, custodial staff, or themselves (Brennan, 1987). As they are more likely to commit behavioral infractions, assaults, and institutional violence and are at an increased risk for violent and sexual victimization (Toch & Adams, 1986; Toch & Adams, 2002; James & Glaze, 2006; Haney, 2006), inmates with mental illness are generally considered an at-risk group that poses a potential threat to security. Clinical mental health diagnoses, then, simultaneously inform administrators of inmates’ unique needs for treatment and the potential ways in which symptoms of their mental illnesses may interfere with their ability to follow institutional rules or actively engage in programming. For example, the illogical thinking patterns and persecutory hallucinations of a paranoid schizophrenic may present as bizarre or irrational behavior that is disturbing to other inmates and guards. An inmate who is confused or incapable of understanding what is going on around him may lash out violently against any perceived threat, real or imagined. It is a delicate balance for administrators to keep mentally ill inmates in the least restrictive settings that still permit access to much needed treatment services, as opposed to potentially damaging isolated and segregated cells, knowing that the mercurial nature of some mental illnesses will always pose a threat to institutional order. Administrators are challenged to avoid punishing inmates and withholding treatment because of misconduct that occurs in the presence of mental illness and, as such, may be out of the inmates’ direct control (Faiver, 1998; Fellner, 2006). To reduce this tension in determining which behaviors merit disciplinary action, Toch and Adams (2002) note that within institutions sometimes “a redefinition of disruptive behavior occurs in the presence of serious psychopathology. Behavior that otherwise might be regarded as a violation of prison rules becomes viewed as part of the overall symptomatic picture, and punitive responses come to be seen as less appropriate” (p. 103).

Despite treatment ideals and mental health considerations, punitive responses to inmate misconduct, namely administrative segregation, are commonly used to achieve temporary and long-term institutional goals (Rhodes, 2004; Kupers et al., 2009). Short-term removal of an inmate exhibiting problematic behavior may restore immediate custodial order, while prolonged placement of an inmate into segregation or alternative detainment areas may minimize or completely rid of any anticipated threats to institutional order. Inmates who feel scared, confused, or threatened by their surroundings may even request or prefer to be put into protective custody or isolated areas of a facility that are removed from perceived dangers. In the short-term, isolation within protective custody may provide a quick solution and
reduce inmates’ stress, but over the long run it means reduced access to services and treatments that are
not offered within restricted housing units (Johnson & Toch, 1982).

Notwithstanding their practical, goal-directed uses mentioned above, there are far more severe
applications of isolation and segregation. A Human Rights Watch report on super-maximum security
confinement warns that isolation and segregation are sometimes indiscriminately used: 1) against non-
violent inmates who pose minimal security risks, and 2) when there are simply shortages in mental health
treatment or specialty housing units (Fellner, 2000). Truly, the justifications for and applications of
segregation, isolation, and solitary confinement vary greatly (see Cohen, 2006 for a full discussion).
Isolation that is carefully monitored and used as a targeted behavioral intervention may reestablish
custodial safety, while more extreme long-term applications (e.g., in super-maximum facilities) may be far
too restrictive and potentially damaging. Sequestering inmates for long periods of time could, at best,
drastically impede (if not entirely negate) any positive effects from treatment that were already gained
(O’Keefe et al., 2010) and, at worst, exacerbate mental health problems, inflict tremendous psychological
pain, and increase the chances of inmate suicide (Human Rights Watch, 2003; Grassian, 2006).

Given the extent to which administrative segregation and isolation are used in correctional
management, particularly with mentally ill inmates, it is important to determine how inmates’ risk
classifications and mental health statuses separately and interactively determine which inmates are
placed into administrative segregation units. Therefore, as a part of my previously mentioned tracking of
inmates’ movements through the HOC in this study, I will also compare mentally ill, non-mentally ill, low-
and high-risk inmate groups’ placements into administrative segregation. In the final section of this
chapter that follows below, I organize my theoretical framework for mental health, risk, programming, and
administrative segregation into my study’s main research questions, which are the foundation for my study
methodology and empirical analyses in later chapters.

Research Questions

This study’s main research questions concern the relative importance of both criminogenic risk
and mental health needs in inmate management. My study first seeks to address the broad question, are
mentally ill inmates managed differently than non-mentally ill inmates at the HOC? As I have discussed at
length in this and previous chapters, there are various practical concerns that may lead to fundamental
shifts in the ways correctional staff manage mentally ill inmates. Mental illnesses may simultaneously suggest a greater need for treatment services and a greater likelihood of behavioral and cognitive instability, which could lead to behavioral misconduct that threatens institutional security. Given that the HOC proposed for study must serve both as a detention facility and as a center for the administration of mental health care, it is important to investigate if mentally ill and non-mentally ill inmates are differentially placed into institutional programming and administrative segregation.

To address the first research question, I identify both mentally ill and non-mentally ill inmates within the HOC and track the movements of each group of inmates from intake through release within the facility. Within the HOC under study there are three main institutional placements between intake and release that I use to demonstrate differences in inmate management: 1) intensive programming, 2) administrative segregation units, and 3) pre-release, community work programming. There are two ways I examine inmates’ pathways from intake through release. Primarily, I conduct basic group comparisons on the frequency of placements into different programming services and segregation between mentally ill and non-mentally ill inmates. If mentally ill inmates are placed with greater frequency into programming units, it would indicate that the HOC administrators are prioritizing those inmates with greatest psychological needs for institutional services. Conversely, if inmates are placed less frequently into programs, it would suggest inmates with the greatest psychological needs are not prioritized for programming. If mentally ill inmates are placed with greater frequency into administrative segregation units, as previous research has so often reported, it would point to administrators using separation and isolation tactics to control this population. Even still, it is possible that there are no group differences in placements between mentally ill and non-mentally ill inmates, an indication that mental health status has no relation to the frequency of placements into programming or administrative segregation. Secondarily, I will model pathways into programming areas and into administrative segregation units for groups of inmates with various levels of criminogenic risk (low to moderate, high, very high) and mental health needs (absence/presence of mental illness). To maximize inmates’ access to institutional services, inmates’ paths would lead them into intensive and pre-release, community work programming without any diversions to administrative segregation. Alternatively, pathways could lead inmates away from programming services and into administrative segregation units.
Findings that suggest mentally ill inmates are disproportionately restricted from programming areas or are disproportionately placed into administrative segregation might speak to the behavioral and custodial challenges faced when balancing programming ideals with concerns for institutional security. Past research demonstrates that mentally ill inmates are more likely than non-mentally ill inmates to be violent toward staff, other inmates, and themselves, receive disciplinary infractions more frequently, and have more severe criminal histories. Given this body of research, my study’s second question asks, are mentally ill inmates more difficult to manage than non-mentally ill inmates within the HOC? To address this question, I test for group differences between mentally ill and non-mentally ill inmates’ average number of prior youth dispositions, prior adult convictions, and disciplinary infractions while incarcerated. These tests serve to: 1) reveal which inmate group, on average, has a more severe criminal history and exhibits more institutional misconduct, and 2) replicate prior research on key differences between mentally ill and non-mentally ill inmates’ histories of criminal and institutional misconduct.

My third and most important research question concerns the separate and joint importance of mental illness and criminogenic risk in inmate management and asks, what principles determine inmates’ placement into programming services? Under a traditional psychological rehabilitative approach, the mental health needs of inmates would be the driving force in the institutional management of inmates. Under a traditional risk-based framework, such as the RNR model, inmates’ level-of-risk classifications would determine which inmates are placed into programming according to the risk principle. A hybridized model, such as that proposed by Ogloff (2002b), brings together both criminogenic risk and mental health needs into one management framework. In this proposed hybridization, criminogenic risk and mental health needs would equally—or, if not equally, they would both be significantly—determine which inmates are placed into programming.

I address my third research question by predicting placement into programming using measures of criminogenic risk and clinical mental illness. It is possible that both criminogenic risk and mental illness predict inmates’ placement into programming. If this is indeed the case, the relative strength of these variables in the prediction model will reveal the importance of criminogenic risk versus mental illness in managing inmates. It is also possible that only one variable, risk or mental illness, significantly predicts placement into programming, which would suggest that the HOC favors one set of management principles.
over another. Even still, if neither risk nor mental illness predict program placement, inmates placement into programming may not be principled at all. Indeed, placement into programming may entirely be determined by other institutional factors, inmates' demographics and personal characteristics, or other criminal history information for which I have controls in my analyses, but that are not accounted for in the RNR model and the hybridized model proposed by Ogloff (2002b).

Prediction models that incorporate measures of criminogenic risk and mental illness offer some great opportunities for comparisons between unique inmate subgroups. Specifically, they allow me to identify inmates at any risk level (low versus high) and with different mental health needs (having a mental illness or not), and predict the probability of program placement for different inmate groups. The subgroup with the greatest probability for program placement would reflect the dominant principles that govern inmate management at the HOC. For example, if high-risk inmate subgroups, regardless of mental illness status, have a high probability of placement, it suggests the facility adheres to the risk principle proposed by the RNR model. If mentally ill subgroups, regardless of levels of risk, have a high probability of placement, it suggests the facility is trying to attend to inmates’ mental health need by granting access to key programs. If, however, the high-risk mentally ill subgroup has the highest priority for placement, it would suggest that a hybridized model of criminogenic risk and mental health needs guides inmate management.

Addressing these research questions requires extensive descriptive, univariate, bivariate, and multivariate analyses on a sample of inmates who, first and foremost, have been evaluated for criminogenic risk and clinical mental health. Additionally, to examine the institutional management of inmates requires that I be able to track and quantify inmates’ movements through key areas of the facility during the full duration of their sentences. Details concerning the institutional setting for this study, including a full description of my sample, methodology and research questions follow in the next chapter.
CHAPTER 5
RESEARCH DESIGN AND METHODS

In this chapter, I describe the research design and methodology employed to conduct my empirical analyses. I open with a profile of the Massachusetts HOC where I conducted this study with particular attention paid to the structural organization of the facility. Subsequently, I discuss the inmate population and the working sample used for statistical testing, as well as the key predictor and outcome measures used in the dissertation. The chapter closes with an outline of my analytical strategy, including descriptive univariate, bivariate, and multivariate techniques.

The Research Setting: A Massachusetts House of Correction

Massachusetts’ correctional institutions are unique compared to most other states. County-operated jails typically hold pretrial detainees and inmates sentenced to less than one year, while state prisons detain inmates with sentences for more than two-and-a-half years. Houses of correction are managed by county sheriffs’ offices and are intended to hold offenders who are sentenced for two and a half years or less. On average, HOC inmates are serving sentences for nonviolent offenses and substance use problems are common throughout the inmate population. In cooperation with a local Massachusetts House of Correction (HOC) and its managing sheriff’s office, the present study analyzed data collected on a diverse sample of inmates released from the facility over a specific three-year period, from January 1, 2007 through December 31, 2009.

I chose this three-year sampling period for two important reasons. First, during late 2006, the HOC underwent a major structural and administrative renovation, including the addition of four modern podular units to the older traditional tiered-style building and housing units (see Appendix A). Each pod serves a different purpose: 1) inmate orientation and classification, 2) intensive programming in the form of a 90-day social skills and educational program called Step into Recovery (i.e., the SIR program),\textsuperscript{16} 3) The SIR program is comprised of modules that include diverse topics including general life-skills training, anger management, addiction recovery, controlling compulsive behaviors (e.g., gambling), and reducing intimate partner violence. These modules recycle every 90 days; they are designed so that an inmate can enter into the program at any time, and within 90 days he will have satisfied all required modules. A staff member moderates and teaches the modules to groups of 20-40 inmates who are seated classroom-style in rows. Supplementary lesson materials are provided to inmates in the form of handouts from a program course book. Inmates are invited to participate in discussions and ask questions so they may share their personal experiences related to module topics. The HOC contracts the SIR program staff members from an independent Boston-based offender programming initiative, called STEP Inc. (http://www.stepboston.org/).
less intensive supplementary programming (e.g., suicide prevention, life skills training, victim impact panels), and 4) housing for the general population. These pods supplement the facility’s older tiered building, which includes a segregation and isolation unit, separate detainment areas exclusively for pre-trial detainees, and additional housing for general population inmates. Second, in addition to the major structural changes, the HOC also adopted new risk and mental health assessment procedures. In late 2006, the facility began to use the LS/CMI to measure criminogenic risk among inmates who were sentenced to a minimum of 90 days incarceration. In 2007, the facility also started to use new mental health screening forms to help identify mental health problems among its inmates. Given that the present study investigates the importance of criminogenic risk and mental health needs in determining inmates’ access to programming, I needed to target my sampling on inmates who had available data from these new risk and mental health measures and who had access to the new programming in the new podular units.

Like many correctional facilities, this HOC is a complex organization and its effective management relies upon core institutional processes that guide inmates from intake through release (see Appendix B). At intake, correctional officers collect demographic and personal history information from inmates while mental health staff members administer brief screening measures. After intake, all inmates are placed into an orientation pod for approximately 30 days where they are further evaluated by mental health staff. Additionally, during orientation many inmates complete the LS/CMI survey instrument with staff to determine their risk classifications. While some inmates may be diverted from orientation to health services for immediate medical and/or psychological care, the majority of inmates are subsequently placed into either programming or non-programming/general population units. Typically, case management staff place inmates based upon the elements of each inmate’s unique case files. Case files include completed LS/CMI risk classifications, clinical mental health reports, offense history, current sentence length, as well as criminal, substance use and personal history information that may be relevant to the administration of the HOC (e.g., an inmate’s unique history within this HOC or with a staff member or program within the facility). Inmates serve a majority of their sentences in either programming or non-

17 Pretrial detainees are typically housed in county jails, but due to overcrowding and delayed processing of cases through the courts the county HOCs are used to accommodate any population overflow. Even when housed within a HOC, the pretrial detainees are still officially considered a jail population and must be completely separated from other sentenced HOC inmates.
programming/general population housing units, and indeed, many inmates are moved between both types of units throughout their time served. Some inmates may be diverted to short-term regional stabilization or health services units during their time in housing for acute medical or mental health treatment, while others may be isolated within administrative segregation units for punishment. It is possible for inmates to be released to the community directly from programming or general population housing units, however, a number of inmates may be placed into a dorm-style, minimum-security community work program before they leave the HOC.

Sample and Data

From January 1, 2007 through December 31, 2009, the HOC released 4,287 inmates\(^{18}\) who were eligible for sampling. While it was tempting to stratify this inmate population according to mental health status or LS/CMI risk classification, the availability and nature of the data did not permit me to identify mental health status or risk scores before drawing my samples. Rather, I was forced to draw a sufficiently large enough sample from the entire population of inmates, using institutional identification numbers to subsequently match inmates’ data to their risk classifications and mental health statuses, which were stored in separate, secure databases.\(^{19}\) To this end, I drew a simple random sample of 1,954 inmates with the goal of capturing as many inmates as possible with available criminogenic risk and mental health data. Additionally, simple random sampling had a noteworthy advantage; it helped ensure the likelihood that my sample was statistically and demographically representative of the wider inmate population. Ultimately, there were 866 inmates within the simple random sample who had complete LS/CMI risk and mental health data, and thus, comprised this study’s working sample. I used the data from these 866

\(^{18}\) This number excludes 1,555 pretrial detainees and 1,291 HOC inmates with sentences fewer than 90 days. The pretrial detainees were ineligible for sampling because they were a jail population and not officially part of the sentenced HOC inmate population. The inmates with sentences with fewer than 90 days were ineligible for sampling because the HOC managerial staff members use this sentence length as a cutoff to determine eligibility for some initial risk assessments, classification, and housing. Correctional administrators need sufficient time to assess and classify inmates for placement into certain housing units before their sentences end and they are released. Given that my study examines placements into programming and inmates’ movements (pathways) throughout the facility, it follows naturally that my participants must have actually moved through the facility to be included in my analyses.

\(^{19}\) Inmate data at the HOC is tracked in three electronic systems in which a unique institutional number identifies each inmate. The first system tracks inmates’ basic demographic, sentencing, criminal record, and institutional assignment data (i.e., inmates’ movements throughout the facility and access to program units). The second system stores LS/CMI risk assessment data. The third system is reserved for medical and mental health data, which includes clinical histories, responses to screening measures, DSM-IV-TR axis diagnoses, lists of medications, recommended treatments, and clinical case notes.
inmates to conduct all subsequent descriptive, univariate, bivariate, and multivariate statistical analyses in this dissertation. Descriptive statistics of the inmates who were eligible for sampling, actually sampled, and ultimately selected because of complete data, as well as statistical tests to establish the representativeness of each are in Appendix C.

**Measures**

*Institutional Placement into Programming and Segregation.* My primary outcome measures were inmates’ institutional placements into different areas of the facility, specifically, programming and segregation units. This information is stored within an inmate tracking system at the HOC. This system records where all inmates are located (e.g., programming units/pods, general population units, segregation, pre-release services, etc.) and their length of stay in any particular area of the facility (measured in days) for the entire duration of inmates’ sentences. Programs at the HOC are many and diverse, including substance abuse recovery programs (e.g., Alcoholics Anonymous, Narcotics Anonymous, and other recovery groups), cognitive life skills training, spiritual values courses, and victim impact panels. Save for Alcoholics Anonymous and Narcotics Anonymous, which are offered to all inmates (including the general population), institutional programming is offered only within specific housing areas at the HOC, called programming units/pods.

Using the inmate tracking system, I identified any inmates who were placed into the intensive SIR programming unit and the pre-release community work program (CWP) unit. For the purposes of this study, an inmate who spent at least one day in a programming unit was considered *placed into programming*. At best, this definition allowed me to determine which inmates, having different mental health statuses and level-of-risk classifications, were placed into institutional services. That said, I did not have data on program intensity and effectiveness nor inmates’ engagement in and satisfaction/dissatisfaction with programming. These variables would be necessary to evaluate programs for their appropriateness and efficacy—determining which interventions work and which do not in corrections (see MacKenzie, 2006)—for inmates of all levels of risk and mental health statuses. Just as important, though, was the study of the managerial practices, risk classifications and mental health assessments that affected inmates’ access to programs and interventions in the first place. This study was concerned with the latter.
Similarly, I was able to determine if inmates were placed within administrative segregation units during their period of incarceration. For the purposes of this study, an inmate who spent at least one day in a segregation unit was considered placed into segregation. Administrative segregation was typically, but not always, used for short-term custodial isolation. Some inmates were sequestered multiple times during their entire length of stay in the facility.

**Criminogenic Risk: Level of Service/Case Management Inventory.** In addition to major structural changes in 2006, the HOC adopted the Level of Service/Case Management Inventory to assess its inmates’ risk of recidivism (LS/CMI; Andrews, Bonta, & Wormith, 2004). This inventory is separated into eight sections: 1) General/Risk Need Factors, 2) Specific Risk/Need Factors, 3) History of Incarceration, 4) Other Client Issues (Social, Health, and Mental Health), 5) Special Responsivity Considerations, 6) Risk/Need Summary and Override, 7) Risk/Need Profile, and 8) Program/Placement Decision. Sections 1, 2, and 5 of the LS/CMI specifically pertain to the Risk-Need-Responsivity (RNR) principles of inmate management covered in chapter three (Andrews & Bonta, 2006). It is these three sections, particularly Section 1, upon which this study focused.

As a fourth-generation risk instrument, what makes the LS/CMI unique compared to its popular predecessors (e.g., the LSI-R; please refer to the discussion of earlier generations of risk instruments in chapter three), is that it has a case management component that supplements its quantitative rank-ordered risk scores. The idea to incorporate case management into risk assessment was borne out of findings from a few studies showing that some correctional practitioners were administering risk instruments to participants without using the results to inform correctional decision-making (Andrews & Bonta, 2006). One of these studies used multiple large datasets compiled on offenders in halfway houses and community-based correctional facilities in Ohio and found that programs were not following the risk principle (Lowenkamp et al., 2006). Program administrators failed to prioritize higher-risk offenders for services over lower-risk offenders, so some individuals classified at low- and moderate-risk were placed into more intensive and structured programs. In their conclusion, the researchers warned that failure to match program intensity to risk level can have adverse effects and actually increase recidivism among lower-risk cohorts. Another of these studies coded audiotape interviews with 64 probation officers in Manitoba, Canada, and compared how closely community supervision plans for probationers adhered to
the recommendations of a risk/needs assessment, the Primary Risk Assessment (PRA) instrument (Bonta, Rugge, Sedo, & Coles, 2004). Researchers found that probation officers implemented community supervision plans that followed court mandates but did not address inmates’ criminogenic needs based upon the PRA as often as expected.

To ensure practitioners not only administer risk/needs assessments but actually adhere to the empirically-informed principles of offender management, scholars developed ways to marry assessment and management (Andrews, 2006). To this end, Andrews & Bonta (2006) explained the important contributions of fourth-generation instruments:

Fourth-generation assessment emphasizes the link between assessment and case management. This means more than adhering to the risk principle and targeting criminogenic needs. It also acknowledges the role of personal strengths in building a prosocial orientation, the assessment of special responsivity factors to maximize the benefits from treatment interventions, and the structured monitoring of the case from the beginning of supervision to the end. (p. 292)

With the LS/CMI, case managers interview offenders for more complete descriptions of their personal, family, and offense histories to better facilitate classification and treatment planning. Sections 2 and 5 of the LS/CMI measure inmates’ specific criminogenic needs and responsivity issues, respectively. Section 2, Specific Risk/Need Factors, is comprised of 35 dichotomous questions that indicate the presence/absence of offenders’ personal problems and specific criminal history information, including: anger management deficits, poor social skills, perpetration of sexual and physical assault, and participation in gangs or organized crime, among other forms of antisocial behavior. It is worth noting that there are only two questions in Section 2 that explicitly reference offenders’ mental health status by measuring the presence or absence of a diagnosis of psychopathy or “other personality disorder.” Section 5, Special Responsivity Considerations, includes eleven dichotomous items that indicate the presence/absence of motivational barriers and low intelligence, among other factors that reflect offenders’ learning styles, personal interests. Again, as is relevant to this study of the management of mental illness in corrections, I point out that Section 5 includes three items that address the presence/absence of three mental health-related issues: interpersonal anxiety, (any) mental disorder, and antisocial personality/psychopathy.

In their work on the RNR principles, Andrews and Bonta (2006; 2010) admitted that the list of responsivity factors are not exhaustive nor particularly detailed and that anyone concerned with
responsivity assessment should be encouraged to investigate other possible responsivity issues. The authors, however, were not as critical of the lengthier 35-item specific needs assessment in Section 2. This section of the LS/CMI is sophisticated enough to collect several important details surrounding an offenders’ personal problems and criminal past. For example, a violent offender may indicate in Section 2 that he has at one time perpetrated a physical assault. The LS/CMI allows for the measurement of the offender’s relationship to the victim (extrafamilial/intrafamilial/intimate partner), the age of the victim (child, adolescent, adult), as well as the presence of intimidating, stalking or harassing behavior, and use of a weapon. Interviews with offenders are needed to gather such crime-specific details. Though, responses boil down to simple dichotomous (yes/no) indicators, which can obviously lose some of the rich detail of the original interview. The simplicity of the survey items in Section 2 is desirable and may filter out extraneous criminal history information, but it may also oversimplify the circumstances surrounding offenders’ specific needs.

Sections 2 and 5 provide important information regarding needs and responsivity, but Section 1 of the LS/CMI provides the very important overall risk score that may be used independently of the other sections of the instrument for two different purposes. First, the total risk score differentiates among low-, moderate-, and high-risk offender classifications, so practitioners know who to prioritize for services according to the risk principle (Gendreau, 1989; Bonta, 1996; Andrews & Bonta, 2006). Second, it is the total score that is used to predict violent and non-violent/general recidivism (Andrews et al., 2004; Girard & Wormith, 2004; Bourgon & Armstrong, 2005; Andrews & Bonta, 2006). Section 1 measures risk using eight major subscales, including: criminal history, education/employment, family/marital, leisure/recreation, companions, alcohol/drug problems, pro-criminal attitudes/orientation, and antisocial patterns. Each subscale consists of dichotomous and ordinal questions, 43 items in all, which are summed into eight separate scores. Subscale scores are then summed into a total score that may be broken into five meaningful diagnostic risk categories: very low (0-4); low (5-10); medium (11-19); high (20-29); very high (30-43).

The 43-item Section 1 of the LS/CMI is derived from the slightly longer 54-item third-generation instrument, the LSI-R. The two instruments are very similar, but much more research has been dedicated to testing the validity of the LSI-R than the LS/CMI (see Vose et al., 2008). The LSI-R is one of the most
widely tested and empirically validated measures of risk adopted throughout Canada, the United States, and Europe. The inventory has been implemented across a wide variety of correctional populations to assess offenders’ risk posed to the community, help build case and individual program plans, and allocate correctional resources to those inmates with the greatest criminogenic need. In two studies, Holsinger and colleagues (2003; 2006) have shown the LSI-R has acceptable levels of predictive validity for White male and female samples and alpha-reliability among Native American subsamples. Similar publications have suggested the inventory has acceptable predictive validity across other racial and ethnic groups, including African American and Hispanic populations (Schlager & Simourd, 2007). Additionally, the LSI-R has undergone extensive reviews of its psychometric properties across various offender populations with diverse criminal histories, including long-term incarcerated offenders (Simourd, 2004), substance abusers (Kelly & Welsh, 2008), and sex offenders (Simourd & Malcolm, 1998). The inventory has also been adapted to specific program models for youth offenders (Youth Level of Service/Case Management Inventory, YLS/CMI; Hoge, Andrews & Leschied, 2002; Schmidt, Hoge, & Gomes, 2005). Of particular relevance to my study of institutional outcomes, the Level of Service Inventories have also been found to be valid predictors of the completion of institutional programs (Motiuk et al., 1986; Bonta & Motiuk, 1987; Coulson et al., 1996; Lowenkamp et al., 2001). Although, the predictive relationship between risk scores and program completion was not found in a later study of male community corrections clients conducted by Dowdy and colleagues’ (2002). Given the extensive empirical support for and favorable psychometric properties of the Level of Service inventories, I used inmates’ total risk scores and ordinal classifications derived from Section 1 of LS/CMI as one of my key independent variables throughout my empirical analyses.

**Mental Health Status.** Next to risk, the other key independent variables used in my quantitative analyses was inmates’ mental health status. Mental health status was measured in two different ways in this study: 1) an institutional definition derived from the HOC, whereby inmates were referred to as

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20 Holsinger and colleagues (2003) reported LSI-R reliability scores for their Native-American subsample as $\alpha=.84$ and their non-Native American subsample as $\alpha=.88$. Holsinger et al. (2006) found weak, but statistically significant correlations between LSI-R scores and an outcome measure of rearrest for their entire sample ($N=403$, $r=.18$, $p=0.001$). However, when disaggregated by race there were some inconsistencies, where significance was found among White males ($N=262$, $r=.22$, $p=0.006$) and White females ($N=101$, $r=.26$, $p=0.009$) but not for Native American males ($N=100$, $r=.19$, $p=0.060$) and Native American females ($N=40$, $r=-.13$, $p=0.428$). More research is needed to uncover if the non-significant findings were due to small categorical sample sizes or limitations of the LSI-R itself.
“mental health consumers,” and 2) a clinical definition derived strictly from formal diagnostic criteria. Both measures of mental health status are described below, including how they were used in my statistical analyses.

To begin, it is prudent to give a brief overview of the organization and practices of clinical mental health workers at the HOC. The HOC employs full-time and part-time correctional health services staff, including caseworkers, nurse practitioners, psychologists, and psychiatrists who are responsible for the screening, diagnosis, case management, and treatment of mentally ill inmates. At intake, every inmate undergoes extensive interviewing during which time inmates self-report their medical and substance use histories to nurse practitioners and respond to a battery of mental health screening questions, including: clinical assessments of cognitive and affective statuses, items regarding past/current suicidal thoughts and behavior, and a detailed personal history of mental illness and psychological treatment (e.g., current psychotropic medications, previous diagnoses, and evidence of family members with mental illness). This screening process involves both situational assessments (e.g., inmate’s hygiene, coherency, and overall demeanor) and quantitative measures (e.g., dichotomous indicators of the presence/absence of symptoms on a checklist). In total, all of this information is compiled into a correctional health file.

Clinical nurse practitioners review every case file and make one of three referrals: 1) no mental health follow-up necessary, 2) recommend for mental health services within 30 days, 3) refer immediately to mental health services. Inmates who receive either of the latter two referrals for mental health services are formally labeled as “mental health consumers” at the HOC. These mental health consumers subsequently receive follow-ups from licensed clinical psychologists and a staff psychiatrist, who make new formal diagnoses, or confirm and rule out pre-existing diagnoses that an inmate may have been given prior to incarceration.21 New and confirmed diagnoses are made according to the clinical guidelines for all five axes of the Diagnostic and Statistical Manual of Mental Disorders published by the American Psychiatric Association (DSM-IV-TR; 2000).

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21 At intake, some inmates are immediately identified as Massachusetts Department of Mental Health (DMH) clients and the DMH may provide the house of correction with diagnostic, treatment, medical and psychological history reports compiled before the inmate’s current incarceration. Inmates with DMH case histories still undergo standard screening procedures at intake, but because of their DMH status they are automatically referred for mental health follow-ups. Few other inmates enter the facility with diagnoses from and a treatment regimen prescribed by clinicians they saw in the community or, for inmates who are military veterans, they accessed through service connections at the Department of Veterans Affairs.
For all intents and purposes, administrators at the HOC consider inmates who are mental health consumers to be mentally ill. This definition of mental illness is particularly broad and not very stringent for a few reasons. First, formal clinical diagnoses using the DSM-IV-TR are not made by clinicians until after inmates have already been identified as mental health consumers. Therefore, there are some inmates who meet the minimal screening criteria to be considered mental health consumers, but who do not meet the more rigorous criteria for any formal clinical diagnoses. Second, the standards set forth by the American Psychiatric Association (2000) articulate the criteria for mental illness that are widely accepted, studied, and practiced in the United States and abroad. If some mental health consumers do not meet these criteria, they cannot be defined as mentally ill while still respecting the national standards of practice. Nonetheless, the HOC administrators use the mental health consumer status as their own institutional definition for mental illness. Even if some mental health consumers do not have formal diagnoses of mental illness, this institutional definition is obviously still relevant to the clinical and managerial practices conducted at the HOC. This study is primarily concerned with how mentally ill inmates are managed, so I must not fail to consider the ways in which administrators might treat or manage their mental health consumers differently because their institutional status.

As important as the mental health consumer status may be to the particular institution under investigation, the reality is that this definition of mental illness has little relevance to other institutions and scholarly research that use different standards. If my research is to have any true meaning or impact it must be generalizable and relatable to the field of correctional mental health care. Therefore, I now turn away from the institutional definition of mental illness to a more formal clinical definition, which I derived from DSM-IV-TR axes diagnoses. Specifically, from the clinical mental health data compiled by HOC staff psychologists and psychiatrists I coded three variables related to mental health problems. First, I identified inmates’ major mental disorders (e.g., depression, bipolar, schizophrenia) derived from Axis I diagnoses. Second, I separately coded the presence/absence of any substance dependence or abuse disorders (e.g., alcohol, opiate, cocaine, polysubstance), which were also derived from Axis I. Third, I coded the presence/absence of any personality disorder (e.g., Antisocial, Borderline, Personality Disorder Not Otherwise Specified), which were derived from Axis II diagnoses in the mental health data files.
Widely cited studies on the prevalence of mental illness in America’s prisons and jails (reviewed in chapter two) have defined mental illness in many different ways. Some studies have used any of three major mental disorders, including psychotic disorders and schizophrenia, major depression, and bipolar disorder (Arthur Bolton Associates, 1976; Teplin, 1990b; Torrey, 1992). Others have defined mental illness by prior hospitalization for mental health treatment (Ditton, 1999) or, more broadly, by a history of mental health treatment, diagnosis, or symptoms within the past year (James & Glaze, 2006). For the purposes of this study, mental illness included any major mental disorder from Axis I, including substance abuse/dependence, and any personality disorders from Axis II.

Criminal History and Institutional Disciplinary Infractions. There were a number of criminal history and institutional variables for which I tested for group differences between mentally ill and non-mentally ill inmates or used as controls in my multivariate models that predicted institutional outcomes. The criminal history variables included counts of inmates’ number of prior youth dispositions and adult convictions, both of which were derived from supplemental survey responses in Section 1 of the LS/CMI. In addition, using data collected at intake by HOC staff, I was able to code for inmates’ current major offense type for which they are incarcerated, including: personal, drug/alcohol, property, sex, and “other” offenses. Lastly, throughout the duration of inmates’ sentences, the HOC tracked the total number of disciplinary infractions inmates received for instances of institutional misconduct. I used a total count of these disciplinary infractions to measure inmates’ problematic behavior and frequency of rule violation.

Control Variables. I used two demographic control variables, age (measured in years) and race/ethnicity, which were both collected by HOC staff at intake and entered into the facility database. The race/ethnicity information was broadly coded into four categories: White, Black, Hispanic, and other. My final control variable was a measure of inmate’s sentence length (measured in days), which was also entered into the facility’s database by HOC staff.

Analytical Strategies

Comparing Inmates’ Criminal Histories and Disciplinary Infractions. I tested for differences between groups of mentally ill and non-mentally ill inmates on a variety of independent variables, including counts of disciplinary infractions, as well as numbers of prior youth dispositions and prior adult convictions. I treated the count data at the ordinal level of measurement, and therefore I chose to run
Mapping Inmates Pathways through the HOC. A major goal of my analyses was to determine the ways in which correctional management differed for mentally ill inmates and non-mentally ill inmates. I have argued that group differences in inmate management can be accounted for using measures of institutional placements into key areas of the HOC. Perhaps the simplest and most straightforward way to show these group differences was to chart inmates’ pathways in the HOC. Pathways are the collection of inmates’ total movements into and out of key areas of the facility from intake to release. I analyzed pathways in two ways. First, I calculated frequencies and percentages for inmates who were placed into: 1) intensive programming, 2) segregation units, and 3) pre-release community work programming. Using these simple descriptive statistics, I used nonparametric chi-square tests to compare the relative frequency with which different inmate groups were placed into programming and segregation. While nonparametric hypothesis tests generally have less statistical power than their parametric equivalents (e.g., t-tests, analysis of variance) and may be biased by very small categorical sample sizes, they are the most appropriate option for comparing groups separated by discrete independent variables (Fox, Levin, & Forde, 2008). Further, chi-square tests have been used in past prison research on institutional misconduct to determine if inmate subsamples were disproportionately represented in disciplinary records (Flanagan, 1983). These nonparametric tests indicated which subsample of inmates had the greatest relative frequency of placement into institutional programming and segregation units.

Second, I analyzed pathways using aptly titled path analyses. Specifically, the path analyses consisted of multivariate logistic regressions that predicted three dichotomous outcomes, including placements into: 1) intensive SIR programming, 2) segregation units, and 3) the pre-release CWP. The independent variables in the path analysis were dummy-coded nominal variables that separated inmates into six groups based upon risk and mental health status: 1) low- to moderate-risk without mental illness, 2) high-risk without mental illness, 3) very high-risk without mental illness, 4) low- to moderate-risk inmates with mental illness, 5) high-risk with mental illness, and 6) very high-risk with mental illness.

The chief advantage of conducting path analysis above and beyond nonparametric testing of group differences was that it allowed me to calculate path coefficients. Path coefficients represent...
correlations that quantify both the strength and direction of relationships shared between each of the inmate groups (i.e., the dummy-coded independent variables) and the institutional outcomes (i.e., the dichotomous dependent variables). Typically, path coefficients within a multivariate logistic regression model are expressed as unstandardized regression coefficients that indicate a change in the log-odds (i.e., logit) of the dependent variable associated with a change in an independent variable. Unfortunately, unstandardized coefficients are limited in application in two ways. First, units expressed as a change in the log-odds of the dependent variable are not practically interpretable. Second, unstandardized coefficients do not allow for comparison of the relative strengths of different pathways in the model because of differences in levels of measurement and parameters across all of the independent and dependent variables in the path model. For example, comparing the strength of unstandardized path coefficients between different inmate groups (e.g., low- to moderate-risk, non-mentally ill inmates versus high-risk, mentally ill inmates) and different institutional outcomes (e.g., placement into intensive programming versus placement into segregation units) would not be meaningful.

Rather than relying upon impractical unstandardized path coefficients, it was fruitful for me to calculate standardized logistic regression path coefficients. Standardized coefficients reduce all variables in the path model to a common metric so that the relative strength of the relationships between different independent and dependent variables may be compared to one another. Some traditional approaches to calculating standardized logistic coefficients utilize different forms of structural equation modeling (SEM)—for example, in popular statistical analysis programs like LISREL and PRELIS (Jöreskog & Sörbom, 1988; 2006)—but these approaches assume dichotomous outcomes actually represent underlying continuous latent variables. The SEM approach to estimating standardized coefficients is not always the appropriate choice when a dichotomous outcomes is truly dichotomous and does not actually represent an underlying latent continuity. In my study, for example, the dichotomous outcomes were mutually exclusive institutional decisions regarding the placements of inmates into programming or segregation units. There was no underlying continuity; inmates were placed into programs or segregation, or they were not. Therefore, the SEM approach was not suitable for estimating standardized coefficients.

While there are still scholarly debates over the different ways to estimate standardized logistic regression coefficients, recent scholarly work has favored one particular approach using path analysis and
multivariate logistic regressions. Expanding upon the earlier work of Goodman (1972), Menard (2010; 2011) developed a method of logistic path analysis that allows for any combination of categorical and continuous independent variables and that preserves the categorical nature of dichotomous outcomes. Additionally, Menard devised a way to estimate a fully standardized logistic regression coefficient that may be interpreted similarly to a standardized regression coefficient estimated in a common ordinary least squares (OLS) regression model. Menard’s standardized logistic regression coefficient, \( b^* \), is calculated using the following equation:

\[
  b^* = b(s_x)R/s_{\text{logit}(\hat{Y})}
\]

In this equation, \( b \) is the unstandardized logistic regression coefficient, \( s_x \) is the standard deviation of any independent variable (X), \( R \) is the correlation between the observed and predicted values of the dependent variable, and \( s_{\text{logit}(\hat{Y})} \) is the standard deviation of the predicted values of logit(Y). While the calculation of Menard’s coefficient required some work (to my knowledge, no popular statistical software packages are pre-programmed to calculate it),\(^{22}\) it was certainly worth the effort. Given its similarity to standardized coefficients in ordinary least squares regression, the interpretation of the Menard coefficient is practical and familiar to readers with even the most cursory understanding of multivariate statistics: a one-standard deviation increase in the independent variables is associated with a \( b^* \) standard deviation change in the logit function of the dependent variable, logit(Y). Thus, by reducing all path coefficients to the same standardized metric, the different pathways among the independent and dependent variables in a path model may be compared according to their relative strength and direction. Positive Menard coefficients indicate direct and negative coefficients indicate indirect relationships. Ultimately, using Menard’s path coefficient I was able to rank different inmate groups, comprised of different risk levels and mental health statuses, according to the strength of their relationships with the outcomes, placements into programming and segregation units.

**Predicting Placements into Programming and Segregation.** This study was concerned with the role of LS/CMI risk classifications and mental health status in inmates’ placements into institutional programming and segregation. To determine the dominant principles of inmate management at the HOC, I gauged the relative importance of these specific inmate characteristics (risk versus mental health needs).

\(^{22}\) Refer to Menard (2010; 2011) for a full discussion of how to estimate this standardized logistic regression coefficient.
To this end, I ran a series of simple and multiple logistic regressions, which were appropriate for my dichotomous dependent variables (Long, 1997). The relationship between risk and programming was estimated with a simple logistic regression model that predicted placement into institutional programming (yes/no, a dichotomous outcome) by an ordinal-level independent variable, LS/CMI risk classification (low-to moderate- versus high- and very high-risk). Similarly, to determine the bivariate relationship between mental health status and programming, I ran a logistic regression model that predicted the dichotomous outcome, program placement, by a categorical (dummy-coded) independent variable, mental health status (mentally ill versus non-mentally ill). Subsequently, I ran similar models using these independent variables and placement into segregation and the CWP as my dichotomous outcomes.

Relatively simple models indicated if the relationships between the key independent variables and the outcome were statistically significant. However, I ran more complex regression models to learn if the significance (or lack thereof) of risk and mental health variables changed in the presence of relevant control variables, including inmates' age, race, offense type, and sentence length. My choice of control variables was informed by past research that predicted inmates' residential placement using risk scores (Lowenkamp & Latessa, 2005) and an earlier study conducted at the HOC by Frost and colleagues (2009). This earlier study at the HOC successfully used logistic regression techniques to predict program placement and completion (a proxy measure of time spent in program units) by a variety of continuous and categorical independent variables, including LS/CMI risk scores but not mental health status.

Both simple and multiple logistic regressions yielded odds ratio values, which are commonly reported in the empirical literature, but do not offer much practical value when interpreting the relationship between dichotomous dependent variables and continuous independent variables (Roncek, 1991). Often, odds ratios are misinterpreted as an indication of the “times more likely” an event will occur based upon a dichotomous characteristic (Roncek, 1993). A much more practical interpretation of logistic regression coefficients may be found in the calculation of percent change in odds values (see Roncek & Swatt, 2006) or predicted probabilities (see Liao, 1994). Thus, while I presented the popular odds ratio values in my findings, I also calculated and interpreted predicted probability values. Predicted probabilities were especially useful for comparing interesting cases in my dataset. For example, I was able to compare the
probability of placement into programming or segregation for inmate groups with different risk levels and mental health statuses.

The following chapter provides the full extent of my statistical analyses and results, including descriptive statistics, group comparisons, path analyses, and logistic regressions.
In this chapter, I present the results of my quantitative analyses. First, I review the overall sample characteristics with univariate descriptive statistics on demographics, criminal and institutional histories, criminogenic risk, mental health diagnoses, and placements into key programming and segregation units. Second, I show tests for differences between mentally ill and non-mentally ill inmate subgroups’ criminal and institutional histories, placements into programming and segregation, and levels of criminogenic risk. Third, I review the results of path analyses that uncovered if unique inmate subgroups with varied risk levels and mental health statuses had different pathways into programming and segregation. Finally, I examine results from a series of logistic regressions that determined the separate and combined influence of risk and mental health status in the prediction of key institutional outcomes. A brief interpretation of statistical findings accompanies each of the many tables and figures that follow. However, I have reserved the more substantive discussion of my findings, including policy implications and study limitations, for the final chapter.

Overall Sample Characteristics

Descriptive Statistics. The working sample for this study included 866 inmates with an average age of 33.9 years (SD = 10.7) and an average of 11.7 years of education (SD = 1.6). Inmates’ average sentence length was nearly a year ($M = 348.4$ days, $SD = 238.1$), but the average length of their actual stay was closer to six months ($M = 184.8$, $SD = 131.4$). At the HOC, time differences between inmates’ sentence length and actual days spent in detention are due to early parole release or earned work credit allowances (i.e., “good time” awards). Inmates can earn up to 12.5 days of good time per month for participating in institutional programs that can be applied to reduce their original sentence lengths. There was considerable variability in the counts of inmates’ prior youth dispositions ($M = 3.2$, $SD = 7.0$), prior adult convictions ($M = 10.8$, $SD = 10.7$), and disciplinary infractions ($M = 1.2$, $SD = 3.5$). This variability was anticipated given that count data often yields a high proportion of zero values, but is susceptible to exceptional cases and outliers. Incarceration for personal offenses (49.1%) accounted for nearly half the sample, but drug (24.6%) and property offenses (20.0%) were also common. The sample’s descriptive statistics for demographic and criminal history information are shown in greater detail in Table 6.1 below.
Table 6.1
Overall Sample Descriptive Statistics (N = 866)

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>f</th>
<th>% of total N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>33.9</td>
<td>10.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education (years)</td>
<td>11.7</td>
<td>1.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>581</td>
<td></td>
<td>67.1</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>138</td>
<td></td>
<td>15.9</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>119</td>
<td></td>
<td>13.7</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>28</td>
<td></td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td><strong>Criminal/Institutional History</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sentence Length (days)</td>
<td>348.4</td>
<td></td>
<td>238.1</td>
<td></td>
</tr>
<tr>
<td>Length of Stay</td>
<td>184.8</td>
<td></td>
<td>131.4</td>
<td></td>
</tr>
<tr>
<td>Prior Youth Dispositions</td>
<td>3.2</td>
<td></td>
<td>7.0</td>
<td></td>
</tr>
<tr>
<td>Prior Adult Convictions</td>
<td>10.8</td>
<td></td>
<td>10.7</td>
<td></td>
</tr>
<tr>
<td>Disciplinary Infractions</td>
<td>1.2</td>
<td></td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td><strong>Major Offense Type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal</td>
<td>425</td>
<td></td>
<td>49.1</td>
<td></td>
</tr>
<tr>
<td>Drug</td>
<td>213</td>
<td></td>
<td>24.6</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>173</td>
<td></td>
<td>20.0</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>24</td>
<td></td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>31</td>
<td></td>
<td>3.6</td>
<td></td>
</tr>
</tbody>
</table>

Criminogenic Risk. The overall sample’s criminogenic risk statistics are displayed in Table 6.2.

The sample’s average LS/CMI composite risk score was 26.4 (SD = 6.9), which fell into the “high” risk categorical range and was higher than moderate-risk averages derived from normative offender samples’ data used in the original validation of the instrument. Sorting risk scores into their ordinal categories revealed that there were practically no very low- and low-risk inmates in this sample. The majority of inmates were ranked as being moderate (14.3%), high (45.7%), or very high risk (37.9%).

---

23 The normative samples upon which the LS/CMI was originally validated were comprised of 157,947 North American youth and adult, male and female offenders (Andrews et al., 2004).
Table 6.2
Overall Sample LS/CMI Risk Levels (N = 866)

<table>
<thead>
<tr>
<th>LS/CMI Risk Level</th>
<th>Cutoff Scores</th>
<th>f</th>
<th>% of total N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low</td>
<td>0-4</td>
<td>2</td>
<td>0.2</td>
</tr>
<tr>
<td>Low</td>
<td>5-10</td>
<td>16</td>
<td>1.8</td>
</tr>
<tr>
<td>Moderate</td>
<td>11-19</td>
<td>124</td>
<td>14.3</td>
</tr>
<tr>
<td>High</td>
<td>20-29</td>
<td>396</td>
<td>45.7</td>
</tr>
<tr>
<td>Very High</td>
<td>30-43</td>
<td>328</td>
<td>37.9</td>
</tr>
<tr>
<td>Avg. Composite Score (SD)</td>
<td>0-43</td>
<td>866</td>
<td>26.4 (6.9)</td>
</tr>
</tbody>
</table>

Mental Health Status. Mental health diagnoses derived from the DSM-IV-TR are shown in Table 6.3. Over half of the sample (52.2%) had at least one diagnosis. Disaggregated Axis I (major mental disorders) revealed the most common diagnoses to be mood disorders, including bipolar (11.2%), major depression (7.0%), and other depression/mood disorders (9.2%). Anxiety disorder diagnoses (8.3%) were also common in the sample. Axis II personality disorders were relatively uncommon as standalone diagnoses (2.0%), but 5.7% of the sample had an Axis I major mental disorder comorbid with a personality disorder. While they are technically subsumed under Axis I, substance-related disorders were deliberately coded apart from other major mental disorders. For reasons discussed in previous chapters, the intersection of major mental illnesses and substance abuse/dependence presents a host of problems for patients with the dual diagnoses and their treatment providers. Therefore, it was prudent to discern the frequency of standalone substance-related disorders (8.7%) from dual diagnoses with other major mental disorders in Axis I (22.3%) and personality disorders in Axis II (1.0%), as well as the frequency with which all three diagnoses (major mental, personality, and substance disorders) were made (3.5%).
Table 6.3
Overall Sample Mental Health Diagnoses (N = 866)

<table>
<thead>
<tr>
<th>DSM-IV-TR Diagnoses</th>
<th>f</th>
<th>% of total N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major Mental Disorders (Axis I)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developmental/Learning</td>
<td>12</td>
<td>1.4</td>
</tr>
<tr>
<td>Schizophrenia/Psychotic</td>
<td>9</td>
<td>1.0</td>
</tr>
<tr>
<td>Bipolar</td>
<td>97</td>
<td>11.2</td>
</tr>
<tr>
<td>Major Depression</td>
<td>61</td>
<td>7.0</td>
</tr>
<tr>
<td>Other Depression/Mood</td>
<td>80</td>
<td>9.2</td>
</tr>
<tr>
<td>Anxiety</td>
<td>72</td>
<td>8.3</td>
</tr>
<tr>
<td>Adjustment</td>
<td>27</td>
<td>3.1</td>
</tr>
<tr>
<td>Impulse Control</td>
<td>2</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Personality Disorders (Axis II)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any Personality Disorder alone</td>
<td>17</td>
<td>2.0</td>
</tr>
<tr>
<td>Comorbid with Axis I</td>
<td>49</td>
<td>5.7</td>
</tr>
<tr>
<td><strong>Substance-Related Disorders</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any Substance-Related Disorder alone</td>
<td>75</td>
<td>8.7</td>
</tr>
<tr>
<td>Dual Diagnosed with Axis I</td>
<td>193</td>
<td>22.3</td>
</tr>
<tr>
<td>Dual Diagnosed with Axis II</td>
<td>9</td>
<td>1.0</td>
</tr>
<tr>
<td>Dual Diagnosed with Comorbid Axis I and II</td>
<td>30</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any Diagnosis</td>
<td>452</td>
<td>52.2</td>
</tr>
<tr>
<td>No Diagnosis</td>
<td>414</td>
<td>47.8</td>
</tr>
</tbody>
</table>

*Note.* Diagnoses for substance-related disorders include any substance abuse or dependence diagnosis from Axis I. Substance-related disorders are shown separately from other Axis I diagnoses to illustrate the frequency of dual diagnosis with both major mental disorders and personality disorders.

**Mental Health Consumers.** The HOC also tracked inmates’ mental health using its own institutional definition of “mental health consumers.” Consumers included inmates, who through the use of screening measures, case histories, and formal clinical diagnoses, were identified as needing some kind of mental health services at the facility (e.g., psychotropic medication). There were 334 (38.6%) inmates who were identified as mental health consumers. Even though formal DSM-IV-TR diagnoses were a part of determining if inmates were mental health consumers, not all inmates with diagnoses were consumers and not all consumers had diagnoses. To this point, Table 6.4 shows a cross-tabulation of consumer status intersected with inmates’ formal DSM-IV-TR diagnostic status. About one-third of the overall sample had at least one Axis I, Axis II, or substance-related diagnosis and was identified as a mental health consumer. However, there were 167 inmates (19.3% of the total sample) who had diagnoses but
were not identified as consumers and an additional 49 inmates (5.7% of the total sample) who were consumers but did not have any diagnoses. For reasons previously discussed in the methods chapter, I adopted the formal DSM-IV-TR diagnoses to identify and define mental illness for the remainder of the quantitative analyses.

Table 6.4
Cross-tabulation of DSM-IV-TR Diagnosis and Mental Health Consumer Status

<table>
<thead>
<tr>
<th></th>
<th>Institutional Mental Health Consumer Status</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not Consumer</td>
<td>Consumer</td>
</tr>
<tr>
<td>No Diagnosis</td>
<td>365 (42.1)</td>
<td>49 (5.7)</td>
</tr>
<tr>
<td>Any Diagnosis</td>
<td>167 (19.3)</td>
<td>285 (32.9)</td>
</tr>
<tr>
<td>Total</td>
<td>532 (61.4)</td>
<td>334 (38.6)</td>
</tr>
</tbody>
</table>

Institutional Placements. During their time served at the HOC, inmates were placed into key institutional programming areas and administrative segregation units. Figure 6.1 charts these placements for the overall sample. Every inmate in the sample started in an intake and classification unit at the HOC, where they were assessed and accordingly assigned to other areas of the facility. Of the original 866 inmates in the overall sample, 35.5% was placed into the intensive SIR program unit while the remaining 63.5% of the sample was assigned to other non-intensive programs or general population units. At some point during their time in intensive programming, 109 inmates were diverted to administrative segregation units, whereas 190 inmates were diverted from other areas of the facility. Overall, more than one-third of the total sample (34.5%) was placed into administrative segregation units at some point during their time served at the HOC. Placements into administrative segregation units were temporary diversions, so the double-headed arrows in the diagram reflect that inmates returned to their original assignments. Before inmates served out their full sentences and were released from the facility, they were eligible for placement into the pre-release CWP. Nearly half the inmates in the sample (45.7%) from all areas of the facility were placed into this pre-release programming.
Comparing Mentally Ill and Non-Mentally Ill Inmates

In the next stage of analyses, I compared the mentally ill inmate group (i.e., inmates with any DSM-IV-TR diagnosis, N = 452) to the non-mentally ill inmate group (N = 414). First, I compared criminal and institutional history variables, including counts of inmates’ disciplinary infractions, youth dispositions, and adult convictions. As to be expected with count data, there was a high frequency of zero values and, as a result, there was an extreme positive skew for each of these variables. Typical transformations (e.g., log-10, square root, and inverse) on the skewed data were ineffective and did not meet assumptions of normality for parametric tests of mean differences. Therefore, I opted to use the less powerful (i.e., higher probability of Type-II errors) but appropriate Mann-Whitney U test, which ranked the count data on an
ordinal scale to establish differences in the non-normal distributions between mentally ill and non-mentally ill groups (see McKnight & Najab, 2010). Second, I compared groups based upon dichotomously-coded placements into the intensive SIR program, segregation units, and CWP using nonparametric chi-square tests. Last, I compared the average LS/CMI criminogenic risk scores (treated as a continuous variables scored from 0 to 43) between groups using an independent t-test and the relative frequency with which mentally ill and non-mentally ill inmates were classified into three risk categories (very low-moderate, high, and very high) using a chi-square test.

**Criminal and Institutional History.** Table 6.5 displays the results of three Mann-Whitney U tests for each of the criminal and institutional history variables. Findings indicated that there was not a statistically significant difference between mentally ill and non-mentally ill groups’ prior youth dispositions ($U = 90,781.5, p = 0.395$). However, there were significant differences between groups’ prior adult convictions ($U = 83,551.5, p = 0.006$) and disciplinary infractions ($U = 85,663.0, p = 0.008$), even after making a slight adjustment to significance levels with a Bonferroni correction. Specifically, as indicated by mean ranks, mentally ill inmates had a significantly greater number of prior adult convictions and institutional disciplinary infractions than the non-mentally ill inmates.

**Table 6.5**
*The Relationship between Mental Illness and Criminal/Institutional History (Mann-Whitney U test)*

<table>
<thead>
<tr>
<th>Mann-Whitney U</th>
<th>Prior Youth Dispositions</th>
<th>Prior Adult Convictions</th>
<th>Disciplinary Infractions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Rank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Diagnosis</td>
<td>90,781.5</td>
<td>83,551.5</td>
<td>85,663.0</td>
</tr>
<tr>
<td>Any Diagnosis</td>
<td>440.2</td>
<td>409.3</td>
<td>414.4</td>
</tr>
<tr>
<td>Sum of Ranks</td>
<td>182,251.5</td>
<td>169,456.5</td>
<td>171,568.0</td>
</tr>
<tr>
<td>Any Diagnosis</td>
<td>193,159.5</td>
<td>205,954.5</td>
<td>203,843.0</td>
</tr>
<tr>
<td>$Z$</td>
<td>-0.851</td>
<td>-2.726</td>
<td>-2.651</td>
</tr>
<tr>
<td>$p$ (two-tailed)</td>
<td>0.395</td>
<td>0.006</td>
<td>0.008</td>
</tr>
</tbody>
</table>

**Institutional Placements.** I next compared mentally ill and non-mentally ill groups’ dichotomous placements into the intensive SIR program, segregation units, and CWP. Table 6.6 shows the cross-tabulation of mental health status and placement into the SIR program. Results of a chi-square test ($\chi^2 = 2.908, df = 1, p = 0.088$) indicated that there was not a significant difference between mentally ill and non-
mentally ill groups in the frequency of placement into the intensive SIR program. Table 6.7 shows the cross-tabulation of mental health status and placement into administrative segregation units. Chi-square results ($\chi^2 = 5.202, df = 1, p = 0.023$) showed that there was a significant difference between mentally ill and non-mentally ill groups’ frequency of placement into segregation. Specifically, mentally ill inmates were placed into segregation units ($f = 172, 19.9\%$ of the total sample) with greater frequency than non-mentally ill inmates ($f = 127, 14.7\%$ of the total sample). Lastly, Table 6.8 shows the cross-tabulation of mental health status and placement into the CWP. Results ($\chi^2 = 0.347, df = 1, p = 0.556$) showed no significant differences between groups regarding frequency of placement into the CWP.

Table 6.6
Cross-tabulation of Mental Illness and Intensive Program Placement

<table>
<thead>
<tr>
<th>f (% total N = 866)</th>
<th>Placed into Intensive SIR Program</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td>Total</td>
</tr>
<tr>
<td>No Diagnosis</td>
<td>275 (31.8)</td>
<td>139 (16.1)</td>
<td>414 (47.8)</td>
</tr>
<tr>
<td>Any Diagnosis</td>
<td>275 (31.8)</td>
<td>177 (20.4)</td>
<td>452 (52.2)</td>
</tr>
<tr>
<td>Total</td>
<td>550 (63.5)</td>
<td>316 (36.5)</td>
<td>866 (100.0)</td>
</tr>
</tbody>
</table>

$\chi^2 = 2.908$ (df = 1, $p = 0.088$)

Table 6.7
Cross-tabulation of Mental Illness and Segregation Unit Placement

<table>
<thead>
<tr>
<th>f (% total N = 866)</th>
<th>Placed into Segregation Units</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td>Total</td>
</tr>
<tr>
<td>No Diagnosis</td>
<td>287 (33.1)</td>
<td>127 (14.7)</td>
<td>414 (47.8)</td>
</tr>
<tr>
<td>Any Diagnosis</td>
<td>280 (32.3)</td>
<td>172 (19.9)</td>
<td>452 (52.2)</td>
</tr>
<tr>
<td>Total</td>
<td>567 (65.5)</td>
<td>299 (34.5)</td>
<td>866 (100.0)</td>
</tr>
</tbody>
</table>

$\chi^2 = 5.202$ (df = 1, $p = 0.023$)

Table 6.8
Cross-tabulation of Mental Illness and CWP Placement

<table>
<thead>
<tr>
<th>f (% total N = 866)</th>
<th>Placed into CWP</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td>Total</td>
</tr>
<tr>
<td>No Diagnosis</td>
<td>229 (26.4)</td>
<td>185 (21.4)</td>
<td>414 (47.8)</td>
</tr>
<tr>
<td>Any Diagnosis</td>
<td>241 (27.8)</td>
<td>211 (24.4)</td>
<td>452 (52.2)</td>
</tr>
<tr>
<td>Total</td>
<td>470 (54.3)</td>
<td>396 (45.7)</td>
<td>866 (100.0)</td>
</tr>
</tbody>
</table>

$\chi^2 = 0.347$ (df = 1, $p = 0.556$)

Criminogenic Risk. I compared the average composite LS/CMI risk score for mentally ill inmates ($M = 27.3, SD = 6.4$) to that for non-mentally ill inmates ($M = 25.4, SD = 7.2$) using an independent $t$-test.
and found a statistically significant difference ($t = -4.211$, df = 864, $p = 0.000$). However, the composite LS/CMI risk scores for the overall sample were moderately skewed in the negative direction (skew = -0.588, $SE = 0.083$). I used a square root transformation on the risk scores to meet assumptions of normality for parametric testing, which resulted in an approximately symmetric distribution (skew = 0.037, $SE = 0.083$; see Bulmer, 1979). To ensure the moderate negative skew did not affect the results of the original $t$-test, I conducted another $t$-test using the transformed risk scores. Results again confirmed a statistically significant difference between groups ($t = 4.010$, df = 864, $p = 0.000$). Specifically, mentally ill inmates had a significantly higher average composite LS/CMI risk score than non-mentally ill inmates.

While individual composite risk scores were an important component of each inmate’s unique case file, the LS/CMI was used in practice to categorize inmates into different levels of risk. Below, Table 6.9 shows a cross-tabulation of mental health status and three criminogenic risk levels. Risk scores ranging from very low- through moderate-risk were aggregated to boost small categorical sample sizes in the lowest risk categories. Results of a chi-square test ($\chi^2 = 17.264$, df = 2, $p = 0.000$) revealed significant differences in the relative frequency with which mentally ill and non-mentally ill groups were classified across varying levels of risk. In particular, note that the greatest disparities between groups were found in the highest risk level. Mentally ill inmates were classified at the very high-risk category ($f = 198$, 22.9% of the total sample) with much greater frequency than the non-mentally ill inmates ($f = 130$, 15.0% of the total sample).

**Table 6.9**

*Cross-tabulation of Mental Illness and Criminogenic Risk*

<table>
<thead>
<tr>
<th></th>
<th>LS/CMI Risk Level</th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Low-Moderate</td>
<td>High</td>
<td>Very High</td>
<td></td>
</tr>
<tr>
<td>No diagnosis</td>
<td>84 (9.7)</td>
<td>200 (23.1)</td>
<td>130 (15.0)</td>
<td>414 (47.8)</td>
</tr>
<tr>
<td>Any diagnosis</td>
<td>58 (6.7)</td>
<td>196 (22.6)</td>
<td>198 (22.9)</td>
<td>452 (52.2)</td>
</tr>
<tr>
<td>Total</td>
<td>142 (16.4)</td>
<td>396 (45.7)</td>
<td>328 (37.9)</td>
<td>866 (100.0)</td>
</tr>
</tbody>
</table>

$\chi^2 = 17.264$ (df = 2, $p = 0.000$)

**Path Analyses**

The intersection of LS/CMI risk levels with mental health status resulted in six distinct inmate subgroups of interest for the next stage of my analyses: 1) low- to moderate-risk non-mentally ill inmates, 2) high-risk non-mentally ill inmates, 3) very high-risk non-mentally ill inmates, 4) low- to moderate-risk
mentally ill inmates, 5) high-risk mentally ill inmates, and 6) very high-risk mentally ill inmates. Using path analysis via multivariate logistic regression, I modeled dichotomous placements into the intensive SIR program, segregation units, and the CWP for each of these subgroups. Standard deviations of the independent variables (s_x), unstandardized coefficients (b), standardized Menard coefficients (b^*M), odds ratios (OR), and p-values derived from each of the analyses are presented below. The standardized Menard coefficient allowed me to determine which inmate subgroups were most likely to follow pathways to programming and segregation.

Pathways to Intensive Programs. Table 6.10 shows the results of the path model for the intensive SIR program (Model \( \chi^2 = 24.481, \text{df} = 5, p = 0.000 \)). Very high-risk (b^*M = 0.167) and high-risk (b^*M = 0.166) mentally ill inmate groups were most likely to follow pathways to the SIR program. Very high- (b^*M = 0.122) and high-risk (b^*M = 0.107) non-mentally ill inmate groups also followed significant, but relatively weaker pathways to the SIR program. However, membership in low- to moderate-risk inmate groups, regardless of mental health status, did not yield significant pathways to the SIR program, as indicated by negative or nonsignificant standardized coefficients.

Table 6.10
Coefficients for Path Analysis of Placement into Intensive SIR Program

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>s_x</th>
<th>b</th>
<th>b^*M</th>
<th>OR</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td></td>
<td>-1.230</td>
<td></td>
<td>0.292</td>
<td>0.000</td>
</tr>
<tr>
<td>Non-Mentally Ill Inmates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-Moderate Risk (reference)^a</td>
<td>0.296</td>
<td>-1.230</td>
<td>-0.156</td>
<td>0.292</td>
<td>0.000</td>
</tr>
<tr>
<td>High Risk</td>
<td>0.422</td>
<td>0.589</td>
<td>0.107</td>
<td>1.802</td>
<td>0.050</td>
</tr>
<tr>
<td>Very High Risk</td>
<td>0.357</td>
<td>0.792</td>
<td>0.122</td>
<td>2.209</td>
<td>0.012</td>
</tr>
<tr>
<td>Mentally Ill Inmates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-Moderate Risk</td>
<td>0.250</td>
<td>-0.339</td>
<td>-0.036</td>
<td>0.713</td>
<td>0.436</td>
</tr>
<tr>
<td>High Risk</td>
<td>0.419</td>
<td>0.921</td>
<td>0.166</td>
<td>2.513</td>
<td>0.002</td>
</tr>
<tr>
<td>Very High Risk</td>
<td>0.420</td>
<td>0.925</td>
<td>0.167</td>
<td>2.521</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Model \( \chi^2 = 24.481 (\text{df} = 5, p = 0.000) \), OLS R^2 = 0.026, R = 0.163, s_logit(\hat{y}) = 0.38

^a Coefficients for the reference group are derived from the intercept.

Pathways to Segregation. Table 6.11 shows the results of the path model for segregation units (Model \( \chi^2 = 25.517, \text{df} = 5, p = 0.000 \)). By far, the very high-risk mentally ill inmate group (b^*M = 0.248) was most likely to follow a pathway to segregation units. High-risk mentally ill inmates (b^*M = 0.146), as well as very high- (b^*M = 0.142) and high-risk (b^*M = 0.132) non-mentally ill inmate groups also followed
significant, but relatively weaker pathways to segregation. Once again, low- to moderate-risk inmate groups, regardless of mental health status, did not follow pathways to segregation, as indicated by negative or nonsignificant standardized Menard coefficients.

Table 6.11
Coefficients for Path Analysis of Placement into Segregation Units

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>$s_x$</th>
<th>$b$</th>
<th>$b^*_M$</th>
<th>OR</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>—</td>
<td>-1.447</td>
<td>—</td>
<td>0.235</td>
<td>0.000</td>
</tr>
<tr>
<td>Non-Mentally Ill Inmates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-Moderate Risk (reference)</td>
<td>0.296</td>
<td>-1.447</td>
<td>-0.194</td>
<td>0.235</td>
<td>0.000</td>
</tr>
<tr>
<td>High Risk</td>
<td>0.422</td>
<td>0.693</td>
<td>0.132</td>
<td>2.000</td>
<td>0.029</td>
</tr>
<tr>
<td>Very High Risk</td>
<td>0.357</td>
<td>0.878</td>
<td>0.142</td>
<td>2.407</td>
<td>0.008</td>
</tr>
<tr>
<td>Mentally Ill Inmates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-Moderate Risk</td>
<td>0.250</td>
<td>0.302</td>
<td>0.034</td>
<td>1.352</td>
<td>0.466</td>
</tr>
<tr>
<td>High Risk</td>
<td>0.419</td>
<td>0.769</td>
<td>0.146</td>
<td>2.158</td>
<td>0.015</td>
</tr>
<tr>
<td>Very High Risk</td>
<td>0.420</td>
<td>1.305</td>
<td>0.248</td>
<td>3.689</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Model $\chi^2 = 25.517$ (df=5, $p = 0.000$), OLS $R^2 = 0.029$, $R = 0.170$, $s_{\text{logit}}(\hat{y}) = 0.375$

Pathways to CWP. Table 6.12 shows the results of the path model for the CWP (Model $\chi^2 = 32.263$, df = 6, $p = 0.000$). I incorporated an additional variable into this path model, placement into intensive programming, to account for the program participation of inmates before they were placed into the pre-release CWP. By far, prior participation in the intensive SIR program ($b^*_M = 0.186$) was the strongest significant predictor of being placed into the CWP. Membership in most of the inmate subgroups were nonsignificant predictors of placement, save for low- to moderate-risk non-mentally ill inmate reference group that shared a significant, but negative relationship with the outcome ($b^*_M = -0.082$). The most likely pathway to the CWP was indirect by passing through the intensive SIR program.
Table 6.12
Coefficients for Path Analysis of Placement into CWP

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>sx</th>
<th>b</th>
<th>b^*M</th>
<th>OR</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td></td>
<td>-0.564</td>
<td></td>
<td>0.569</td>
<td>0.000</td>
</tr>
<tr>
<td>Non-Mentally Ill Inmates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-Moderate Risk (reference)a</td>
<td>0.296</td>
<td>-0.564</td>
<td>-0.082</td>
<td>0.569</td>
<td>0.000</td>
</tr>
<tr>
<td>High Risk</td>
<td>0.422</td>
<td>0.341</td>
<td>0.071</td>
<td>1.406</td>
<td>0.202</td>
</tr>
<tr>
<td>Very High Risk</td>
<td>0.357</td>
<td>0.108</td>
<td>0.019</td>
<td>1.115</td>
<td>0.598</td>
</tr>
<tr>
<td>Mentally Ill Inmates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-Moderate Risk</td>
<td>0.250</td>
<td>-0.130</td>
<td>-0.016</td>
<td>0.878</td>
<td>0.577</td>
</tr>
<tr>
<td>High Risk</td>
<td>0.419</td>
<td>0.502</td>
<td>0.103</td>
<td>1.653</td>
<td>0.100</td>
</tr>
<tr>
<td>Very High Risk</td>
<td>0.420</td>
<td>0.126</td>
<td>0.026</td>
<td>1.135</td>
<td>0.540</td>
</tr>
<tr>
<td>Placed Intensive SIR Program</td>
<td>0.482</td>
<td>0.786</td>
<td>0.186</td>
<td>2.195</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Model $\chi^2 = 32.263$ (df = 6, $p = 0.000$), OLS $R^2 = 0.037$, $R = 0.192$, $\logit(\hat{Y}) = 0.490$

*a Coefficients for the reference group are derived from the intercept. In this model, the reference group includes low-moderate risk inmates without mental illness who were not placed into intensive programming.

The three multivariate logistic regressions taken together comprised the full path model diagrammed in Figure 6.2. Menard standardized coefficients ($b^*M$) from the tables above label each of the paths to the outcomes. Overall, inmates had pathways toward programming (e.g., the SIR program and CWP) and pathways that diverted them away from programming and to segregation. In this combined model, the Menard coefficient facilitated the comparison and ranking of all pathways based upon strength and sign (i.e., positive or negative), regardless of where pathways started or ended. Therefore, it was concluded that the strongest, statistically significant inmate pathway in the HOC was the movement of very high-risk mentally ill inmates into administrative segregation units ($b^*M = 0.248$). Indeed, pathways into segregation were stronger than the pathways into programming for non-mentally ill inmates in both very high- and high-risk groups, as well. The implications of other significant pathways in the full path model are considered in the next chapter.
Figure 6.2
Full Model of Inmates' Pathways into Programming and Segregation (Menard coefficients shown)

*p < 0.05
Logistic Regression Analyses

To determine the importance of criminogenic risk and mental health status variables in the prediction of institutional outcomes, I ran a series logistic regression analyses. Each dichotomous outcome, including placement into SIR, segregation, and the CWP, was predicted using three different models: 1) a simple model with a dichotomous independent variable indicating the presence of mental illness (i.e., the presence of any DSM-IV-TR diagnosis); 24 2) a simple model with a dummy-coded independent variable indicating inmate’s level of criminogenic risk (low- to moderate-risk was the reference category); and 3) a full model that used both the mental illness and criminogenic risk variables25 and incorporated control variables. The control variables included age (years), sentence length (days), a dummy-coded race/ethnicity variable (White/Caucasian was the reference category), and a dummy-coded offense type variable (personal offense type was the reference category). Both the unstandardized logistic regression coefficients and odds ratios were given for each model, as well as basic indicators of overall model significance ($\chi^2$) and fit (Hosmer-Lemeshow and total percent correctly classified). I first offer simple interpretations of the significance of the overall models, unstandardized coefficients, and odds ratios, but also provide predicted probabilities for a more practical interpretation of results.

Predicting Placement into the SIR Program. Table 6.13 presents the results of the three logistic models that predicted placement into intensive programming. Model 1, the simple model that used a single mental illness variable, revealed mental illness to be a nonsignificant predictor of SIR program placement. Model 2, the simple model that used a dummy-coded criminogenic risk variable, was statistically significant (Model $\chi^2 = 20.951, p < 0.001$) and indicated that both high- and very high-risk classifications were statistically meaningful predictors of placement into the SIR program. In Model 3, the full model (Model $\chi^2 = 159.511, p < 0.001$), mental illness remained a nonsignificant predictor while the high- ($b = 0.945$) and very high-risk ($b = 1.141$) classifications remained statistically significant. In

24 At this point, it is important to note that I also ran all of the logistic regression models in this chapter using the previously discussed institutional variable, mental health consumer status, to see if results changed based upon different definitions of mental illness. There were no substantive differences in the results of these alternative models compared to the findings I present in this chapter.

25 Given the findings of the path analyses in the previous section, it was prudent to model interaction terms between the risk categories and mental illness variable. I ran all logistic regression models in this chapter including these interactions, but none of the terms achieved statistical significance. There were otherwise no substantive differences in the results of these alternative models from what I present in the chapter.
addition, sentence length \( (b = 0.003) \) and incarceration for a drug offense \( (b = 0.814) \) were both significant control variables in the prediction of SIR program placement, while Black/Hispanic/Other (i.e., non-White) racial/ethnic status \( (b = -0.676) \) had a significant, but inverse relationship with the outcome. The percentage of correctly classified outcomes indicated that the full model (70.2%) outperformed both simple logistic models (63.5%) in the prediction of SIR program placement.

Table 6.13
Logistic Regression Models Predicting Placement into Intensive SIR Program (N=866)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
<th>Model 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( b )</td>
<td>OR</td>
<td>( b )</td>
<td>OR</td>
<td>( b )</td>
<td>OR</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.682</td>
<td>0.505***</td>
<td>-1.360</td>
<td>0.257***</td>
<td>-2.621</td>
<td>0.073***</td>
</tr>
<tr>
<td>Independent Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentally Ill</td>
<td>0.242</td>
<td>1.273</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Risk</td>
<td>0.887</td>
<td>2.427***</td>
<td>0.945</td>
<td>2.573***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very High Risk</td>
<td>1.003</td>
<td>2.726***</td>
<td>1.141</td>
<td>3.130***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.000</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sentence Length</td>
<td>0.003</td>
<td>1.003***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black/Hispanic/Other</td>
<td>-0.676</td>
<td>0.509***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug Offense</td>
<td>0.814</td>
<td>2.257***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Offense</td>
<td>-0.312</td>
<td>0.732</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model ( \chi^2 )</td>
<td>2.913</td>
<td></td>
<td>20.951***</td>
<td></td>
<td>159.511***</td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Hosmer-Lemeshow</td>
<td>—</td>
<td></td>
<td>—</td>
<td></td>
<td>19.230*</td>
<td></td>
</tr>
<tr>
<td>% Correctly Classified</td>
<td>63.5</td>
<td></td>
<td>63.5</td>
<td></td>
<td>70.2</td>
<td></td>
</tr>
</tbody>
</table>

* \( p < 0.05 \), ** \( p < 0.01 \), *** \( p < 0.001 \)

Unstandardized logit coefficients and odds ratios indicated the significance and direction of relationships shared between the independent variables and the dichotomous outcome, but I calculated predicted probabilities to provide a more practical interpretation of results for each of the significant variables in the full model. The probability of being placed into the SIR program varied greatly according to LS/CMI risk level. The low- to moderate-risk inmate group had the lowest probability of being placed into the SIR program (20.1%), whereas high-risk (39.3%) and very high-risk inmate (44.2%) groups were much more likely to get access to intensive programming. Probability of placement into SIR also changed depending upon inmates’ sentence length. Inmates’ with relatively short 90-day sentences had the lowest
probability of placement (10.4%), while inmates with one-year (21.0%) and the longest possible sentences (e.g., the 2.5-year maximum sentence at the HOC) had a much greater likelihood (52.5%) of accessing SIR. Inmates who identified as Black, Hispanic, or other non-White races/ethnicities (11.36%) had a lower probability of placement into SIR than White (20.1%) inmates. Lastly, inmates incarcerated for a drug offense (36.3%) had a higher probability of placement into SIR than inmates incarcerated for personal offenses (20.1%). Figure 6.3 illustrates the differences in these predicted probabilities.

*Figure 6.3*
**Predicted Probabilities of Placement into Intensive SIR Program**

Table 6.14 presents the results of the three logistic models that predicted placement into segregation units. Model 1 (Model $\chi^2 = 5.217, p < 0.05$), the simple model that used a single mental illness variable, revealed that having a mental illness ($b = 0.328$) was a significant predictor of being placed into administrative segregation. Model 2, the simple model that used
a dummy-coded criminogenic risk variable, was also statistically significant (Model \( \chi^2 = 21.423, p < 0.001 \)) and indicated that both high- and very high-risk classifications were statistically meaningful predictors of placement into the SIR program. In Model 3, the full model (Model \( \chi^2 = 83.620, p < 0.001 \)), mental illness lost statistical significance in the presence of other independent and control variables. However, high- \( (b = 0.544) \) and very high-risk \( (b = 0.906) \) classifications remained statistically significant. In addition, sentence length \( (b = 0.002) \) had a significant direct relationship with the outcome. Age \( (b = -0.021) \) and incarceration for a drug offense \( (b = -0.440) \) both had significant, but inverse relationships with the outcome. The percentage of correctly classified outcomes indicated that the full model (69.1%) slightly outperformed both simple logistic models (65.5%) in the prediction of placement into administrative segregation units.

Table 6.14

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( b )</td>
<td>OR</td>
<td>( b )</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.815</td>
<td>0.443***</td>
<td>-1.317</td>
</tr>
<tr>
<td>Mentally Ill</td>
<td>0.328</td>
<td>1.388*</td>
<td></td>
</tr>
<tr>
<td>High Risk</td>
<td>0.601</td>
<td>1.825**</td>
<td>0.544</td>
</tr>
<tr>
<td>Very High Risk</td>
<td>1.010</td>
<td>2.746***</td>
<td>0.906</td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.021</td>
<td>0.979**</td>
<td></td>
</tr>
<tr>
<td>Sentence Length</td>
<td>0.002</td>
<td>1.002***</td>
<td></td>
</tr>
<tr>
<td>Black/Hispanic/Other</td>
<td>-0.106</td>
<td>0.899</td>
<td></td>
</tr>
<tr>
<td>Drug Offense</td>
<td>-0.440</td>
<td>0.644*</td>
<td></td>
</tr>
<tr>
<td>Other Offense</td>
<td>-0.020</td>
<td>0.981</td>
<td></td>
</tr>
</tbody>
</table>

Model \( \chi^2 \) 5.217* 21.423*** 83.620***
\( df \) 1 2 8
Hosmer-Lemeshow — — 6.492
% Correctly Classified 65.5 65.5 69.1

* \( p < 0.05 \), ** \( p < 0.01 \), *** \( p < 0.001 \)

Figure 6.4 illustrates the predicted probabilities for the significant independent and control variables in the full model that predicted placement into segregation. Once again, the probability of placement varied greatly according to risk level. The low- to moderate-risk inmate group (22.0%) had the
lowest probability, whereas high-risk (32.7%) and very high-risk inmate (41.1%) groups were much more likely to be segregated. Probability of placement into segregation also changed depending upon inmates’ sentence length. Inmates with relatively short 90-day sentences had the lowest probability of placement (14.4%), while inmates with one-year (22.6%) and 2.5-year sentences (43.0%) had a much greater likelihood of being administratively segregated. Older inmates had a lower probability of placement than younger inmates. As a good example for comparison, the first and third quartiles in the distribution of the age data fairly represented the median "young" (aged 25 years) and median “old” (aged 43 years) inmates, respectively. The median young inmate (25.4%) had a greater probability of placement into segregation than the median old inmate (18.9%). Lastly, inmates incarcerated for a drug offense (15.4%) had a lower probability for placement into segregation than inmates with a personal offense (22.0%).

Figure 6.4
Predicted Probabilities of Placement into Segregation Units
Table 6.15 presents the results of the three logistic models that predicted placement into CWP. Model 1, the simple model that used a single mental illness variable to predict placement into CWP, was not statistically significant. Similarly, Model 2, the simple model that used a dummy-coded criminogenic risk variable to predict placement into CWP, was not statistically significant. Model 3, the full model (Model $\chi^2 = 48.129$, $p < 0.001$), had two control variables that were statistically significant. Specifically, the Black/Hispanic/Other racial/ethnic category ($b = -0.445$) had a significant inverse relationship with placement into the CWP. Further, echoing the findings of the earlier path analyses, prior placement in the intensive SIR program was a significant predictor of subsequent placement into the CWP before release ($b = 0.701$). The percentage of correctly classified outcomes indicated that the full model (60.7%) slightly outperformed both simple logistic models (54.3%) in the prediction of placement into CWP but, overall, all three models performed poorly.

Table 6.15
Logistic Regression Models Predicting Placement into CWP (N=866)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
<th>Model 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
<td>OR</td>
<td>$b$</td>
<td>OR</td>
<td>$b$</td>
<td>OR</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.213</td>
<td>0.808*</td>
<td>0.000</td>
<td>1.000</td>
<td>-0.419</td>
<td>0.658</td>
</tr>
<tr>
<td>Independent Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentally Ill</td>
<td>0.080</td>
<td>1.084</td>
<td></td>
<td></td>
<td>0.016</td>
<td>1.016</td>
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<td>High Risk</td>
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<td>0.868</td>
<td>-0.261</td>
<td>0.770</td>
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<td>Very High Risk</td>
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<td>0.754</td>
<td>-0.405</td>
<td>0.667</td>
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<tr>
<td>Black/Hispanic/Other</td>
<td>-0.445</td>
<td>0.641**</td>
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<td>1.078</td>
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<tr>
<td>Other Offense</td>
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<tr>
<td>Prior SIR Placement</td>
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<td>2.016***</td>
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<tr>
<td>Model $\chi^2$</td>
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<td>2.123</td>
<td>48.129***</td>
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<td>—</td>
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<tr>
<td>% Correctly Classified</td>
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<td>54.3</td>
<td>60.7</td>
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*p < 0.05, **p < 0.01, ***p < 0.001

Figure 6.5 illustrates the predicted probabilities for the two statistically significant control variables from the logistic regression model above. Inmates who identified as being Black/Hispanic/Other (38.8%)
had a lower probability of being placed into the CWP than White (49.7%) inmates. Inmates who were previously placed into the intensive program (66.6%) had a higher probability of subsequent placement into the CWP before their release than inmates who never participated in SIR (49.7%).

Figure 6.5
Predicted Probabilities of Placement into CWP

In summary, study results indicated that there were a variety of statistically significant differences between mentally ill and non-mentally ill inmate groups. Specifically, mentally ill inmates were more frequently classified into very high-risk categories, had more prior adult convictions, and more disciplinary infractions at the HOC than did non-mentally ill inmates. While mentally ill inmate groups had at least equal access to intensive programming services as their non-mentally ill counterparts, they were more likely to be placed into administrative segregation. To this point, as illustrated in the full path model, the relative strength of mentally ill inmates’ pathways to segregation sometimes exceeded the strength of their pathways to the SIR program. Yet, when criminogenic risk and mental health status variables were used to predict placement into the SIR program, segregation, and the CWP, mental illness never achieved statistical significance as a predictor variable in the presence of relevant controls. Rather, criminogenic risk was consistently a significant predictor of outcomes, except in the CWP logistic models that performed poorly in all iterations. The strongest predictor of CWP placement turned out to be prior placement in the intensive SIR program, which paralleled the findings of the full path model. I continue to explore the complicated relationships among risk, mental health, control variables, and institutional placements in the next chapter, where I provide major discussion points, policy implications, and my study’s main limitations.
In this final chapter, I address my main research questions with a summary and discussion of findings. After acknowledging the limitations to study design, I consider implications for policy and make recommendations for future research.

This study was driven by three main research questions. First, much research has demonstrated that inmates with mental illness are more likely than inmates without mental illness to have lengthy criminal histories, exhibit behavioral misconduct, and be violent toward staff, other inmates, and themselves. Therefore, I asked if mentally ill inmates were more difficult to manage than non-mentally ill inmates at the HOC. Specifically, I hypothesized that mentally ill inmates would have more prior dispositions and convictions on their criminal records and that they would pose a greater custodial challenge to institutional security. I further argued that the HOC would respond to this custodial challenge by disproportionately targeting mentally ill inmates with disciplinary infractions and assignments to administrative segregation. Second, since correctional facilities constantly struggle to reconcile concerns for institutional security with mental health care and service delivery, I asked if inmates with different mental health statuses and criminogenic risk levels were managed differently at the facility. I argued that certain inmate subgroups would have different pathways to programming services and administrative segregation because of their unique mental health needs or risk classifications. Third, I asked about the relative importance of criminogenic risk and mental health status in predicting institutional outcomes. Correctional facilities adopt principles of risk management to prioritize delivery of institutional services that do not always coincide with the rehabilitative goals of mental health care. Ultimately, I contended that the predictive value of risk and mental health variables would reveal the overarching principles or goals of inmate management at this facility.

Conclusions

To address my first research question, I compared mentally ill and non-mentally ill inmate groups on a number of criminal and institutional history variables. Supporting my hypothesis and replicating past research, my analyses indicated that mentally ill inmates had significantly more prior adult convictions than non-mentally ill inmates. Additionally, mentally ill inmates received significantly more disciplinary infractions. This indicated that either: 1) in line with past research, mentally ill inmates exhibited more
institutional misconduct and were more difficult to manage behaviorally during their time served, or 2) mentally ill inmates were disproportionately reprimanded by authorities at the facility relative to non-mentally ill inmates. Given their potential for cognitive and behavioral instability as a result of their illnesses, it is possible that mentally ill inmates actually violated institutional norms and rules more often than other inmates and were punished accordingly. However, it is also conceivable that mentally ill inmates’ exhibited levels of institutional misconduct comparable to other inmate groups, but their mental health status motivated additional attention from correctional officers and administrators. Even if each inmate’s mental health status were not necessarily known to all supervisory staff, the additional supervision and contact found in more intensive program units, in particular, provide more opportunities to observe and detect misconduct, some of which could be attributed to overt behavioral manifestations of mental illness. Even still, disciplinary infractions might have been given as formal justification to use other institutional control tactics, like sending mentally ill inmates to administrative segregation. Indeed, mentally ill inmates were also placed into administrative segregation with significantly greater frequency than inmates without illnesses. In this way, disciplinary infractions could have been a catalyst for behavioral intervention when inmates presented particularly dangerous behavior that threatened institutional security. While I predicted and successfully detected these group differences, the exact reasons for the disproportionate application of disciplinary infractions to mentally ill inmate groups still eludes me. Nonetheless, a greater number of disciplinary infractions indicated that mentally ill inmates drew significantly more attention from correctional stakeholders who issued the misconduct reports and meted out the corresponding punishments.

To address my second research question, I used inmates’ mental health statuses and criminogenic risk levels to break the sample into subgroups to compare placements into and pathways to programming and segregation. Basic group comparisons showed that mentally ill and non-mentally ill inmates did not differ in their frequency of placements to the intensive SIR program or the pre-release CWP. However, mentally ill inmates were significantly more frequently placed into administrative segregation units. Subsequent multivariate path analyses incorporated inmates’ levels of criminogenic risk and provided greater insight into these group differences.
Six groups of various risk levels and mental health statuses were included in the full path model that included pathways to the three key institutional outcomes: 1) the intensive SIR program, 2) the CWP, and 3) segregation. Pathways to the intensive SIR program varied in strength depending upon both inmates' risk and mental health status. Generally speaking, the higher the risk the more likely inmates were placed into intensive programming, suggesting that the HOC adhered to the risk principle by prioritizing intensive programs for the highest-risk inmate groups. However, the significant path coefficients leading to the SIR program for high- and very high-risk mentally ill inmates were stronger than their non-mentally ill counterparts. In principle, mental illness is non-criminogenic and an inappropriate target for treatment, so proponents of risk management advise against using mental health status to determine program placement. In practice, according to the path analysis, it was the intersection of high-risk levels with mental illness that resulted in the strongest pathways to intensive programming. At this point in my research, I was left pondering what predictive value mental illness offered above and beyond the risk principle to determine intensive program placement; a question I did not address until my final stage of analyses (see below).

None of the direct pathways to the CWP were statistically significant in the expected direction. Rather, the only significant pathway to the CWP was through the intensive SIR program. I concluded that inmates' risk and mental health status did not factor into their pathways to pre-release programming, at least not directly. Initially, risk and mental health influenced pathways to the intensive SIR program, but it was the participation in the SIR program itself that increased the probability of reaching the CWP. Put another way, the path coefficients indicated that inmates, regardless of risk level and mental health status, who were placed into the SIR program were more likely to reach the CWP than inmates who were never placed into the SIR program. Refer to Figure 6.1 (“Charting Inmates’ Placements into Programming and Segregation”) in chapter six for a simple frequency analysis of the overall sample data that further illustrates this point. Approximately 57% (181 out of 316) of inmates who were placed into the intensive SIR program were subsequently placed into the CWP, whereas only 39% (215 out of 550) of inmates who were not placed into the SIR program ever reached the CWP. I cannot fully explain why the inmate subgroups' direct pathways to the CWP program were not significant, but I offer further discussion of this finding later in the chapter.
Pathways to segregation were strong and positive for all high- and very high-risk inmates both with and without mental illness, but the strongest coefficient in the entire path model corresponded to the very high-risk mentally ill inmate group. The increased probability of administrative segregation for this subgroup may be attributed to the significantly greater number of disciplinary infractions for institutional misconduct among mentally ill inmates. It is worth noting that the highest-risk mentally ill group had both the strongest pathway to intensive programming and the strongest pathway to segregation. Additionally, high- and very-high risk non-mentally ill inmates’ pathways to segregation were stronger than their pathways to programming. In summary, the strength of inmates’ pathways to both the SIR program and segregation varied greatly by risk level, but the strongest pathways in the model were found among mentally ill inmate groups.

To address my third research question, I used logistic regression to ascertain the predictive value of inmates’ criminogenic risk levels and mental health statuses in determining their placements into programming and segregation. In the prediction of SIR program placement, mental illness was a not a significant predictor by itself nor in the presence of relevant controls. High- and very high-risk levels, however, were both statistically significant predictors of the outcome, even after introducing controls. Additionally, in several separate logistic regressions not published here, I included interaction terms between mental illness and risk variables. These interactions were not significant and did not substantively change the other coefficients in the models. Where I had predicted that risk and mental illness might interactively predict institutional outcomes, I did not find support in the logistic regression results. Predicted probability estimates confirmed that placement into the SIR program adhered to the risk principle. Low- to moderate-risk inmates had the lowest probability, while high- and very high-risk inmates had increasingly higher probabilities of placement into intensive programming. In the prediction of segregation, mental illness was a statistically significant predictor in the simple model, but did not remain significant after introducing control variables in the full model. Once again, high- and very high-risk levels were both significant predictors of the outcome in the simple and full models. The probability of placement into segregation nearly doubled between the low- to moderate-risk and the very high-risk inmates. Lastly, in the prediction of placement into the CWP, both mental illness and the criminogenic risk levels were not significant predictors for any of the models. Even in the full model, only a single control
variable, non-White racial status, shared an unexpected significant inverse relationship with placement into the CWP.

In determining the relative importance of criminogenic risk and mental health needs, the results of this dissertation were mixed but nonetheless started to answer a few important questions. First, do mentally ill inmates get access to services in facilities that follow risk-based management principles? In this study, higher-risk inmates were prioritized for intensive programming over lower-risk inmates, but mentally ill inmates still had at least equal access to programs compared to non-mentally ill inmates. Put another way, even though the LS/CMI does not measure mental health needs, adhering to the risk principle will not necessarily preclude mentally ill inmates from accessing institutional program services. Second, do mental health needs factor into institutional outcomes? Given the nonsignificance of psychiatric diagnoses in the prediction of program placement, it seems that mentally ill inmates got access to programs by virtue of their inflated risk scores, and not because of their mental health needs. This is why the low-risk mentally ill inmate group had a low probability for program placement. Therefore, the logistic regression results did not support what other scholars have proposed as a hybridized model of inmate management, where criminogenic and mental health needs overlap to determine the inmates with highest priority for programming (Ogloff, 2002; Ward, 2002; Ward & Stewart, 2002; 2003; Mears, 2004; Adams & Ferrandino, 2008). On the contrary, logit results actually indicated that the HOC adhered very closely to traditional risk-based principles of the RNR model in two ways: 1) the highest-risk inmates were much more likely to be placed into the intensive program than lower-risk inmates, and 2) the non-criminogenic mental health needs of inmates did not contribute to the placement outcome. Regarding other placement decisions for the CWP, neither principles of risk nor mental health needs explained any of the variance in that outcome.

**Discussion**

Now that I have addressed my study’s main research questions, in this section I discuss several descriptive results that were not motivated by particular tests of hypotheses, as well as unanticipated findings and a few exploratory post-hoc analyses that provide some added perspective on my study’s conclusions.
High Levels of Criminogenic Risk. The average composite LS/CMI risk score for my study's sample was in the high-risk range and was greater than moderate-risk averages derived from nationally representative normative samples. Additionally, there were practically no very low- and low-risk inmates. From these simple findings, I inferred that either: 1) the HOC effectively measured risk and accurately detected particularly high levels of criminogenic risk in the current sample, or 2) the HOC did not effectively measure risk and over-classified inmates into the higher-risk categories. Unfortunately, it was beyond the scope of this study to provide external validation of the LS/CMI or its effective use at the HOC, so I must rely upon other research for perspective. An earlier study at this HOC with a different, but smaller sample (N=162) of inmates also reported disproportionately high levels of risk (Frost et al., 2009). It is possible that the inmates sampled in both the previous and current HOC studies accurately represented an especially high-risk inmate population. In Massachusetts, as courts increasingly have diverted offender populations away from houses of correction and prisons, it has become notoriously difficult for an offender to be incarcerated. Typically, only the offenders with the lengthiest criminal histories or the most severe crimes end up in detention. Consider, for instance, that nearly 50 percent of all inmates in my sample had more than seven prior adult convictions and the top ten percent of the sample had 25 or more. Conceivably, the courts have weeded out the low-risk offenders from the incarcerated population, perhaps evidencing the “ratchet effect” (Harcourt, 2007) discussed in Chapter 3, or the eventual over-representation of high-risk group members in institutional populations due to risk profiling.

Alternatively, let us consider one very recent study that compiled five data sources on 2,069 male offenders to analyze LS/CMI risk scores and recidivism rates (Andrews et al., 2012). The authors reported that about a third of these male offenders fell into the low/very low-risk categories, while another third was classified as moderate risk, and the final third of the sample was identified at the high- and very high-risk levels. Relative to the data from Andrews and colleagues' study and the aforementioned normative samples, the HOC inmates in this study appear to be classified at elevated levels of risk. Whether due to over-classification or sampling from a particularly high-risk inmate population, I cannot conclude with certainty why there was such a high proportion of higher-risk inmates in my study. Although, I would be remiss if I did not reiterate that the LS/CMI was only adopted at the HOC in late 2006, so my sample data reflects only the first three years that the HOC has used risk assessment in its
inmate management procedures. If inmates were over-classified into the higher-risk categories, it could be a symptom of the facility trying to adapt to the new risk instrument in practice. To be fair, working toward consistent and reliable classifications takes time for evaluation and any subsequent adjustments to how the instrument is used in practice.

*Prevalence of Mental Illness.* In Chapter 2, I referenced some of the most commonly cited estimates of the prevalence of mental illness in American correctional institutions. Definitions of mental illness varied greatly in these kinds of studies. Some authors chose to study what they categorically defined as "serious mental illness" (SMI), which commonly included diagnoses for schizophrenia and psychotic disorders, bipolar disorder, and major depression (e.g., Teplin, 1990b; Torrey et al., 1992; Steadman et al., 2009). Other studies included recent hospitalizations in psychiatric facilities (Ditton, 1999) as a proxy measure having a mental illness. As definitions of mental illness vary, so do the prevalence estimates, but based upon the collective body of research it is generally accepted that between 10 and 20 percent of male prison and jail inmates nationwide have a SMI. In this dissertation, diagnoses for schizophrenia and psychotic disorders (1%), bipolar disorder (11.2%), and major depression (7%) together accounted for just over 19% of the total inmate sample, which is on par with these previous estimates of SMI.

By comparison, there is another collection of prevalence studies that used much more comprehensive definitions of mental illness that measured the symptoms of diverse clinical disorders (James & Glaze, 2006) or included the full array of Axis I and II psychiatric disorders from the DSM-IV (Trestman et al., 2007). These studies reported prevalence rates for current and lifetime psychiatric diagnoses around and above 50%. Andrews and Bonta (2006) provided a succinct and insightful review of less well-known prevalence research in North America and Japan that defined mental illness using a wide selection of major Axis I disorders, antisocial personality disorders, and substance-related disorders. Some of the cited estimates in their review reached over 80 percent among adult male inmates. The overall prevalence of mental illness in my study, defined as having any DSM-IV Axis I or II diagnosis made by staff psychologists and psychiatrists, was 52.2% of the total sample. Without taking into account diagnoses for the full array of Axis I, personality, and substance-related disorders, researchers risk grossly underestimating the extent and diversity of mental health needs in prisons and jails. Later in the
chapter, I discuss both the reasons why researchers so often focus their attention upon SMI and the limitations and shortcomings of operationalizing mental health problems in this way. I then propose a broad, comprehensive approach to defining mental illness that includes gauging disorder severity and assessing functional impairments, mild or severe.

**Pragmatic Limitations to Principled Program Placement.** Replicating the findings of Frost and colleagues (2009) in the previous study at the HOC, I found that both longer sentences and drug offense types increased the probability of inmates’ placements into intensive programming. In the earlier study and in my present investigation, these findings were not originally anticipated, but after many site visits to the HOC and informal talks with correctional staff and administrators the results were not surprising. No matter how carefully the correctional stakeholders follow the risk principle by prioritizing the highest-risk inmates for intensive programming, there are practical limitations affecting the availability of the SIR program. On occasion, there are inmates who are classified into high-risk levels and are ideal candidates for intensive programs, but there simply is not enough space for them to join the program. These inmates are typically assigned to other areas of the facility—perhaps, general population or other units where there are less intensive supplementary programs offered—and must wait until a slot becomes available. In these special circumstances, longer sentences increase the temporal opportunity for placement into the SIR program. Inmates with shorter sentences may be released before they can engage in intensive programs, but inmates with longer sentences may be detained long enough to fill vacancies that become available over time.

None of the principles of traditional risk-based correctional management nor those of risk/need model hybrids prioritize inmates for correctional programming based upon their specific offense type. Yet, I found that inmates who were incarcerated for drug offenses were much more likely to be placed into the SIR program than inmates with personal, or other offenses. This finding seemed to be the result of programmatic culture at the HOC that is heavily focused upon inmates with drug problems. The truth is that while the 90-day intensive program has a variety of modules that cater to many different inmate needs, SIR (or “Step Into Recovery”) is branded and known for its extensive substance abuse treatment component. Drug offenses seem to draw the attention of case managers and correctional stakeholders,
who believe the SIR program to be particularly effective at treating drug problems. In turn, having a drug offense increases the chances an inmate ends up in the SIR program for drug treatment.

Another unexpected finding from the logit analyses was the significant, inverse relationship minority race status shared with placement into SIR. White inmates were twice as likely to be placed into the SIR program as inmates in the highly aggregated Black/Hispanic/Other racial group. Upon further inspection of the data, I found that there were no racial differences in average sentence length or composite LS/CMI risk scores, which might have explained the racial disparity in program placement. However, I did find that Black/Hispanic/Other inmates had disproportionately fewer drug offenses than White inmates. Of the 581 White inmates, 27 percent were incarcerated for drug crimes, while only 20 percent of the 285 Black/Hispanic/Other inmates were incarcerated for drug crimes. If, as I discuss above, having a drug offense type is likely to sway correctional stakeholders’ decisions to place inmates into programs, the lower percentage of drug offenses among Black/Hispanic/Other inmates could partially explain their low probability of placement. However, this is far from conclusive evidence for what is an entirely new empirical question that grew out of my findings. For now, a fuller explanation of racial disparities and the potential racial bias in program placement is beyond the scope of this dissertation, but I plan to explore the matter in my future research.

**The (Non)Significance of Mental Health Needs.** While mental illness performed very poorly as a predictor of placement into programming and segregation in my logistic regression models, some of my other findings suggested that mental health played an important part in how inmates were managed at the HOC. Chi-square tests showed that mentally ill inmates were placed with greater frequency into administrative segregation than non-mentally ill inmates. Further, the strongest pathways to programming and segregation belonged to inmate subgroups with mental illness. I was left wondering, then, why mental illness (i.e., the presence of any DSM-IV-TR diagnosis) had virtually no predictive value. I thought that one possible explanation for the lack of significance could be that it was not mental illness generally, but more specific categories of disorders that might better account for differences in placements to

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26 The lower levels of drug crimes among minority inmates was surprising, as well, given that they are typically over-represented in correctional populations for these offenses (Tonry, 1995). Therefore, it is important to clarify that drug crimes in this study included incarceration for possession, (intent of) distribution, and trafficking of street drugs (e.g., heroin, cocaine, marijuana) and narcotics, as well as for offenses associated with alcohol abuse. Specifically, incarceration for operating under the influence (OUI) accounted for nearly a third of the drug-related crimes in the sample.
programming and segregation. To this end, I disaggregated the mental health variable into three
dichotomous variables, indicating the presence of 1) any major mental disorder from Axis I, excluding
substance-related disorders, 2) any Axis II personality disorder, and 3) any substance-related disorder.
With these disaggregated mental health variables I ran another sequence of logistic regression models to
predict placement into SIR, segregation, and CWP. The results of these analyses are provided in
supplemental tables in Appendix D. While the CWP models performed no differently than in my original
analyses, the models for SIR and segregation presented new results. Specifically, I found the presence
of a substance-related disorder to be a significant predictor of SIR placement, and the presence of a
personality disorder to be a significant predictor of segregation. That I found substance-related and
personality disorders to predict institutional outcomes is not entirely surprising, given that both diagnoses
parallel core criminogenic risk factors on the LS/CMI. However, these supplemental analyses showed
that some mental health needs managed to explain some of the variability in institutional outcomes in the
presence of criminogenic risk classifications.

*Indirect Pathways to CWP.* The original simple and full logistic regression models used to predict
placement into the CWP performed very poorly. However, given the strength of the coefficient linking
inmates’ pathways from the Intensive SIR program to the CWP in the path analysis, it was worth
controlling for prior placement into SIR in these predictive logistic models. Together, the results of the path
analysis and the logistic regression models have a few possible interpretations. First, administrators at
the HOC were trying to maximize program delivery to some inmate groups by ensuring that participants in
the SIR program also participated in the CWP before release. In this way, the HOC may have developed
a maximum programming pathway that led inmates to multiple institutional services during their time
served. Second, mental health status and risk levels did not significantly account for end-of-sentence
programming decisions as they did for programming decisions that occurred at the earlier stages of
inmates’ sentences. For example, decisions to place inmates into SIR, a 90-day program, must have
been made early enough in inmates’ sentences to provide them sufficient time to complete the program
before release.27 Decisions to place inmates into CWP, a pre-release program, could have been made further along in inmates’ sentences at a time that was temporally distant from their initial mental health and risk assessments conducted at intake. Unfortunately, I was not able to control for the amount of time that passed between initial risk and mental health assessments and subsequent placements into programs. Even still, it is apparent that initial assessments may differentially influence institutional outcomes at different points during inmates’ time served.

Limitations

There are several limitations to this study. First, the measure of mental illness included the presence of any Axis I and Axis II diagnoses that were derived from an archived mental health database at the HOC, so I was not able to account for the reliability of diagnoses made by clinical staff nor the relative severity of inmates’ mental illnesses. Ideally, to establish consistent and reliable diagnostic data for research, mental health staff or clinical research interviewers are trained and evaluated before the collection of the sample’s mental health data. The archived data in this study was not originally collected for research, but rather it was intended for practical daily inmate management and mental health care. Diagnoses in this study were made by experienced clinical psychologists and psychiatrists, but some of the common shortcomings of clinical and correctional research conducted with historical data could not be avoided. Future primary research should strive to build new datasets with their own trained clinical interviewers. Further, a measure of inmates’ day-to-day cognitive and behavioral functioning might have been a good way to capture the severity of psychiatric symptoms. The DSM-IV-TR uses a Global Assessment of Functioning (GAF) scale, a subjective rating of adults’ psychological and social functioning, but I did not have access to these data.

Second, this study examined the role of mental health status and risk in determining placement into programs, but it did not investigate the appropriateness or effectiveness of these programs. Knowing why and how inmates gained access to institutional services is crucial to understanding the guiding

27 I do not mean to imply that all inmates who were placed into the SIR program actually completed the full 90 days of programming. As Frost and colleagues (2009) discussed in their earlier work at this facility, there are many reasons why inmates may not complete the SIR program, including early parole release, transfers to other programming and housing areas, restrictions to administrative segregation, and voluntary withdrawals from the program. Even if program completion is not guaranteed, it is advantageous to prioritize the program for inmates who actually have sufficient time left in their sentences to complete the program.
principles of inmate management, but future research would benefit from measures of programmatic outcomes, including program engagement (i.e., did inmates actively participate or just passively attend program modules) and completion. Inmates' success or failure in programs could be particularly important when placements to institutional services build upon one another throughout inmates’ sentences. For example, in this study placement into the the pre-release CWP largely rested upon an earlier decision to place inmates into the intensive SIR program.

Third, this study used one of a wide variety of risk assessment instruments that are employed in the correctional system today, the LS/CMI. To construct and validate an actuarial tool is a time consuming and costly venture that typically goes well beyond the means of most justice agencies (Jones, 1996). Therefore, it is common for facilities to adopt well-established instruments that have already been tested and validated on other correctional populations. The Level of Service Inventories are widely tested and validated, making them among the most popular instruments used throughout North America (Vose et al., 2008). However, there are plenty of alternative actuarial tools that quantify risk in ways that are sometimes similar to and sometimes distinctly unique from the measure of risk used in this study (see Harcourt, 2007). Thus, my study results derived from the LS/CMI and all associated analyses are most likely generalizable to other inmate populations that are assessed with Level of Service Inventories or comparable third- and fourth-generation risk instruments. Where inmates are assessed with older (e.g., second-generation measures of “static” risk, see Chapter 3) or with strictly clinical methods, findings should be generalized with care.

Fourth, the HOC in this study only assessed inmates’ criminogenic risk at one point in time. This single, static measure of risk was used to predict institutional outcomes throughout the full duration of inmates’ sentences. The principles upon which the LS/CMI is based argue that inmates’ risk is a function of dynamic factors that change over time. Therefore, it is likely that inmates levels of risk will change over the course of their sentences. These changes could be relatively subtle fluctuations, or more substantial decreases and increases in risk scores as the result of effective and ineffective (i.e., iatrogenic) program interventions, respectively. While initial risk assessment scores consistently predicted intensive program and segregation placements, they did not predict pre-release placements that occurred near the end of inmates’ sentences. It is possible that inmates’ risk needed to be reassessed after being placed into the
SIR program or segregation units, but before inmates progressed to pre-release programming. Perhaps, new risk assessments would have better predicted the CWP outcome. Looking forward, I recommend that the HOC reassess inmates’ risk at key points during their sentences (e.g., after the completion of a program). Each institutional placement decision should based upon a current assessment of inmates’ criminogenic risk and needs. Further, future research that analyzes inmates pathways through programming should try to incorporate dynamic repeated measures of risk and mental health needs.

Fifth, this study used a sample of male inmates from a Massachusetts HOC, which is a particular type of correctional facility that is largely unique to this state. In Massachusetts, HOCs hold inmates sentenced for up to 2.5 years and are intermediary facilities that fall between county jails, which hold pretrial detainees for up to one year, and state prisons, which house inmates with sentences over 2.5 years. This study’s sample average sentence length was about one year (average length of stay was closer to six months) primarily for personal, drug, and property crimes. When generalizing the results of this study it is important to acknowledge the composition of other inmate populations (including criminal history and demographics) in different facilities within and outside of Massachusetts (i.e., prisons, jails, and other detention facilities at the local-, county-, state-, or federal-level).

Despite these myriad limitations, the findings in this study have important implications for theory, research, and policy. I endeavor to provide insights and thoughtful recommendations for the field of corrections in the next and final section of this dissertation.

Implications for Correctional Theory, Research, and Policy

Nearly forty years have passed since the peak of the deinstitutionalization of patients from America’s psychiatric hospitals and the growth (or, at least, increased awareness) of mental illness in prisons and jails. In that time, we have learned a great deal about mentally ill offenders in the community and mentally ill inmates within our facilities. Above all, we now know that rates of mental illness among inmates far exceed the general population, and the largest mental health care facilities in the country are actually among our nation’s most notorious and imposing prisons and jails. Reconciling concerns for security and population control with needs for mental health care treatment is a costly and daunting task. It is undeniable, though, that the roles and responsibilities of correctional facilities have broadened. Prisons and jails are also hospitals, treatment centers, and health care facilities that deliver services to a
large segment of the American population. There remain a number of obstacles that stand in the way of integrating a risk-averse, control-oriented penology with rehabilitative and treatment ideals, which I consider here. There are also very promising strategies, research findings, and public and government initiatives nationwide that inspire much confidence for the future management of mentally ill inmates.

To begin integrating security and treatment goals, we must first find out which of our inmates are also mental health care patients. In the identification of mental illness, two things are abundantly clear. One, correctional officials and scholars take estimating the prevalence of mental illness in their facilities very seriously. Two, researchers who estimate prevalence disproportionately focus upon “serious” mental disorders. Since the first reports of criminalization of mentally ill offenders in the community, there has been much empirical research dedicated to uncovering just how many of them ended up in prisons and jails. The most popular approach has been to identify specific mental health disorders that are defined as categorically more “serious” than others, including schizophrenia, psychotic, major depression, and bipolar disorders. Inmates with SMI will: 1) typically have the greatest need for treatment while incarcerated and after release, 2) most likely meet local, state, and federal qualifications for grant funding to receive additional mental health services (e.g., The Mentally Ill Offender Treatment and Crime Reduction Act, MIOTCRA), and 3) be targeted for the most intensive health care programs. For these reasons, identifying SMI among offenders and inmates is desirable to ensure economical and efficient uses of what are often limited resources. Unfortunately, there remain two noteworthy shortcomings to this approach.

First, the methods and definitions used to identify mental illness in corrections are very inconsistent. Some researchers have used inmates’ self-reports of recent stays in hospitals for treatment (Ditton, 1999; James & Glaze, 2006), while others have surveyed correctional administrators for their own estimates of the proportion of inmates with severe mental disorders in their correctional facilities (Torrey et al., 1990) or have based their estimates upon non-institutionalized samples (Veysey & Bichler-Robertson, 2002). These approaches lack the methodological rigor of studies that chose to use formal criteria of mental illness from the DSM and structured clinical interviews (SCID) conducted with actual prison and jail inmates (Teplin, 1990; Trestman et al., 2007; Steadman et al., 2009). Clinical diagnostic criteria and structured interviews are well established and validated and require extensive training of clinical research
interviewers to achieve inter-rater reliability. Further, they can be easily paired with screening measures (e.g., the Brief Jail Mental Health Screen, BJMHS; Steadman, Scott, Osher, Agnese, & Robbins, 2005) that are simple and efficient tools (usually requiring less than five minutes to administer) for initial assessments that reliably and validly detect mental health problems. Put simply, these screening measures and structured clinical interviews that adhere to formal diagnostic criteria are the gold standard of mental health evaluation in clinical psychology, and the field of corrections should strive to adopt and implement these tools whenever and wherever possible. As I discussed in this study’s methodology chapter, it is for these reasons that I favored a measure of mental illness that was based upon short mental health screenings and formal DSM-IV-TR diagnoses made by clinical mental health staff over the institutional “mental health consumer” definition at the HOC.

Second, even where rigorous clinical methods are used, the seriousness of mental illness is too often defined by specific categories of disorders. Categorically identifying SMI helps efficient decision-making, but mental illness is sometimes better understood by its dimensionality (i.e., severity) than by its type (Adams & Ferrandino, 2008). To classify some disorders as serious but not others assumes that the symptoms of certain types of disorders will always be more severe than others, but this is simply misleading. For example, it is possible to have a high-functioning patient with schizophrenia and a patient with a categorically less “serious” learning disorder. While the patient with well managed schizophrenia could participate relatively unimpeded in some programming, the patient with the learning disorder could have drastically reduced abilities to read, write, and engage in institutional services (e.g., classroom education). Research that incorporates psychometric measures of cognitive impairments and functioning (e.g., Trestman et al., 2007) or inventories that are designed specifically to quantify the severity of particular disorders (e.g., the Beck Depression Inventory-II, BDI-II; Beck, Steer, & Brown, 1996) are best prepared to say definitively which inmates have the most immediate and severe mental health concerns. Moreover, to limit our definition of mental illness to schizophrenia, psychotic, major depressive, and bipolar disorders is to overlook a huge segment of the inmate population with other disorders or covert presentations of symptoms, but who nonetheless present substantial challenges to jail and prison management. Contemporary studies have shown that prevalence estimates for mental health problems among male inmates balloon from 10-20% for SMI to well over 50% when researchers account for clinical
symptoms, the full gamut of Axis I and II disorders, and substance-related disorders (James & Glaze, 2006; Andrews & Bonta, 2006; Trestman, 2007). Whenever possible, future research should use the most comprehensive clinical definitions of mental illness, as was done in this dissertation, to identify all possible mental health needs within correctional populations. From there, researchers can use the results of clinical interviews and psychometric tools and instruments to rank the severity and immediacy of mental health needs.

Once mental illness is identified among inmates, the next crucial step for reconciling security and treatment goals is to examine the ways in which these mentally ill inmates are managed during their terms of incarceration. The available literature has told us time and again that mentally ill inmates are more likely to violate institutional rules of conduct, commit self-harm, and act out violently against correctional staff and inmates (Toch & Adams, 1986; 2002; James & Glaze, 2006; Haney, 2006). Administrators face the challenge of choosing to punish misconduct that occurs in the presence of mental illness, which may be out of an inmate’s direct control (Fellner, 2006). Using institutional discipline to control behavior is a particularly important when inmates are in intensive programs and administrators must maintain environmental control and stability among participants. The increased supervision and contact with staff in these intensive programs offer more opportunities to detect rule violations than in less stringent programs (Lowenkamp & Latessa, 2004; 2005; Lowenkamp et al., 2006). Therefore, the chances for observing and punishing misbehavior, attributed to mental illness or otherwise, could be increased in these settings. Even if administrators are keenly aware of all of their inmates’ mental health needs—and, we have established they often are not—the fact remains that mentally ill inmates are over-represented in isolation and segregation units during detainment (O’Keefe, 2007; Adams & Ferrandino, 2008). High rates and prolonged terms of isolation and segregation can negate the positive effects of treatment, exacerbate pre-existing mental health conditions, or disproportionately restrict inmates from participating in vital programs and services. This dissertation replicated these findings and showed that inmates with psychiatric diagnoses were more likely to be placed into administrative segregation than inmates without diagnoses. Additionally, this study confirmed that the group of very high-risk mentally ill inmates who were most likely to be placed into intensive programming were also the most likely to be placed into administrative segregation. This finding could lend provisional support to hypothesize that
higher-risk mentally ill inmates in intensive programs may be subject to increased rates of institutional
discipline. Future empirical research should consider if intensive programming environments are even
appropriate for mentally ill inmates, especially if their presence forces practitioners to employ potentially
harmful administrative controls more frequently.

Where there is an abundance of studies concerning the segregation and isolation of mentally ill
inmates, there is far less research regarding what Mears (2004) called a “need-services” gap for mentally ill
offenders. Generally, we know that correctional facilities are often underfunded, understaffed, and do
not have treatment services available for their mentally ill inmates (Reed & Lyne, 2000; Beck &
Maruschak, 2001). Specifically, we do not always know if mentally inmates are getting access to
institutional programs where and when they are offered. We must turn to the risk assessment literature,
which guides practitioners on how to manage their inmates to maximally reduce recidivism, to improve
our understanding of program access and participation. The RNR principles, including prioritizing high-
risk inmates for intensive programs, provide great insight into how inmates’ personal characteristics and
unique needs can determine how they are managed within a facility.

Unfortunately, studying risk-based management strategies can take our understanding of the
needs-services gap for mentally ill inmates only so far. Primarily, very few studies of risk-based
management strategies have used mentally ill inmate samples (e.g., Bonta et al., 1998). Secondly, the
psychometric properties of risk instruments have been widely tested across diverse samples (Vose et al.,
2008), but rarely with mentally ill inmates. Lastly, research on risk-based penology almost universally
studies post-release recidivism outcomes, thereby overlooking institutional outcomes (e.g., program
placement) and devaluing the relevance of inmate needs that are empirically unrelated to recidivism (e.g.,
mental illness). Some of these limitations could be addressed if the body of scholarly work were to
broaden and include more mentally ill inmate samples in evaluation and validation research. However,
addressing the importance of mental health needs in risk-based penology is a matter of theoretical
debate, which I reviewed in Chapter 4. At the crux of this debate is determining the importance of both
criminogenic risk and mental health needs in predicting institutional outcomes (Ogloff, 2002b), an
empirical question that to the best of my knowledge had gone untested until this dissertation. Ultimately,
based upon my research, I have made a number observations in which I hope others concerned with the
management of mentally ill inmates will find some value.

Future research should continue to examine the importance of mental health needs in inmate
management, particularly in correctional systems where risk-based strategies are used. Where high-risk,
mentally ill inmates are placed into intensive programs, I advise that researchers and practitioners
examine if the intensive program environment is an appropriate setting for service delivery. Structured
program settings may be too rigid for behaviorally unstable inmates with acute or particularly severe
mental health problems, contributing to increases in disciplinary infractions or the use of administrative
segregation and isolation. Determining the appropriateness of both institutional programming and
discipline for mentally ill inmates rests largely upon how mental illness is defined. To reiterate, measures
of mental health should not be limited to broad categorical diagnoses, a noteworthy shortcoming of this
dissertation and other correctional mental health research, but should include ways to rank the severity
and immediacy of psychiatric needs. When practitioners know both the type and severity of an inmate’s
mental health needs, there is an opportunity for well-informed clinical judgments to override or influence
institutional decisions that might otherwise be based upon a criminogenic risk score alone.

When we study mental illness according to both typology and dimensionality it means that mental
illness, much like criminogenic risk, is dynamic. In other words, mental illness can fluctuate over time as
an inmate’s personal circumstances change. For example, the day-to-day functioning of an inmate with
schizophrenia could drastically change when he is medically stable compared to when he has recently
decompensated. Mercurial changes in inmates’ mental and behavioral wellbeing, including increased
confusion, psychological distress, anxiety, panic, aggression, and rage, have been associated with time
spent in isolation and segregation units (Korn, 1988; Brodsky & Scogin, 1988; Hodgins & Cote, 1991;
Toch, 1992; Miller, 1994; Miller & Young, 1997; Haney, 2003; Rhodes, 2004). Not all changes are
undesirable, however. Some counseling and programming services may actually stabilize inmates’
symptoms and reduce their institutional misconduct (Condelli et al., 1994). Indeed, there is great
variability in inmates’ responses to their many different experiences within institutions (Haney, 2006;
Smith, 2006; Clements et al., 2007).
Given the changes (for better or worse) in inmates’ personal circumstances that can occur throughout their time served, it is crucial that practitioners continually assess and reassess both criminogenic risk and mental health needs from intake until release. Repeat assessments should be made at key points throughout an inmate’s term of incarceration. For instance, I recommend reassessments after inmates participate in or complete a program, or when changes in risk level or mental health needs could affect an inmate’s eligibility for new programs. In this dissertation, decisions to place inmates into pre-release programs were not predicted by their initial risk and mental health assessments. Future research could consider differences in placement outcomes that might result when using inmates’ initial risk and mental health assessments at intake compared to using later reassessments.

The portrait of dynamic mental health described above is very different from the way mental health is conceptualized according to the RNR principles and operationalized on the LS/CMI. As non-criminogenic needs, major mental disorders do not factor into the total risk scores that ordinally rank inmates for institutional decision-making. Rather, mental health needs are included under the heading of responsivity with other potential impediments to personal wellbeing and motivation that might influence how an offender responds favorably or unfavorably to specific interventions. Developers of the RNR have repeatedly invited scholars to contribute to the development of the responsivity principle as it relates to mental health needs and specific impediments (Bonta & Andrews, 2003; Andrews & Bonta, 2006; Andrews et al., 2006). To this invitation, I reply that mental health needs may not be directly associated with post-release recidivism outcomes, but they certainly do matter to the institutional decision-making and outcomes that occur well before release. If the goal of the RNR is solely the reduction of recidivism, perhaps mental illness should continue to be measured apart from the core dynamic risk/need factors of the Level of Service Inventories. However, where the RNR model can expand its framework for mental illness under the responsivity principle to improve institutional outcomes and inmates’ program experiences during incarceration, as some scholars have proposed (Birdgden, 2002; Ogloff, 2002b; Ward, 2002; Ward & Stewart 2003a; 2003b; 2003c), I encourage the measurement of a wide array of diverse, dynamic mental health needs. We most assuredly risk stunting the theoretical development of mental health needs under the responsivity principle if we ignore their likelihood to change over time. After all, we must not forget that actuarial measures themselves were once condemned for their static portrayals of
criminogenic risk (Feeley & Simon, 1992). Then again, a longstanding invitation for new empirical findings and theoretical developments inspired discussions of the “transformative risk subject” (Hannah-Moffat, 2005) and the newer generations of widely validated risk instruments used today. With continued dialogue and research, I am confident that best practices for intersecting risk and mental health needs will take shape.

The management of mentally ill persons has been a never-ending public health and social justice issue. The challenge to provide safe living accommodations and ethical standards of care to the many thousands of people with mental health needs has been faced by America’s psychiatric institutions, communities, and now prisons and jails. Purposed to punish and control inmate populations, prisons and jails seem the least likely of places to effectively deliver mental health treatment and services. Yet, the field of corrections has slowly but steadily adapted to the health care demands of its inmate populations. Scholars and practitioners come together at national conferences devoted entirely to the issues of correctional health care (e.g., the National Commission on Correctional Health Care28). Government and public non-profit organizations (e.g., National leadership Forum on Behavioral Health/Criminal Justice Services, Substance Abuse and Mental Health Services Administration, National Alliance on Mental Illness, Council of State Governments) develop new programs and evaluation research to improve standards of care and the quality of mentally ill inmates’ lives after release using millions of dollars of federal appropriations from MIOTCRA and related federal initiatives each year.

In closing, I reflect upon the life of Bennie Anthony, who was introduced in the first chapter. Anthony’s experiences with the justice system began at a most inopportune time for a person with mental illness, the mid-1970s, when deinstitutionalization peaked and the rehabilitative ideal declined. Anthony went through nearly forty years of marginal successes and repeated setbacks within institutions and community-based programs. Undeniably, Anthony endured an imperfect system that failed him on numerous occasions. As tragic as his story may be, I am hopeful that its retelling in both popular media and academic outlets will serve as a poignant reminder that we must continue to improve standards of care. All theoretical and empirical debates over risk and psychiatric measures aside, we must not forget the actual people with unique illnesses and needs who deserve our continued and undivided attention.

28 http://www.ncchc.org/
Appendix A: Old and New, A Massachusetts House of Correction

In 1929, the original tier-style facility was constructed. In 2006, major structural renovations included the addition of four podular units, expanded administrative space, and classrooms for inmate education programs.

Figure A.1
Image of a Massachusetts House of Correction
Appendix B: Organization of the House of Correction

Figure B.1
Managing Inmates from Intake and Screening to Release

INTAKE
- Correctional officers collect demographic and personal history information on inmates
- Mental health staff administer brief screening measures and collect information on medications, physiological and psychological information
- Most inmates are sent to D-Pod orientation, while a few others go to Health Services

D-POD: ORIENTATION
- Case managers administer LS/CMI
- Mental health staff determine inmates' mental health status
- Inmates classified to A-, B-, or C-Pods or the tiered building

HEALTH SERVICES UNIT
- A small number of inmates needing immediate physiological or psychological care (e.g., suicide risk) are diverted from intake to this in-patient unit for acute treatment and observation
- Once stabilized, inmates are classified

A-POD: SIR PROGRAM
- Intensive 90-day psycho-educational program

B-POD: SUPPLEMENTARY PROGRAMMING
- Supplementary programming (AA, NA, Victim Impact Panel, Living Sober program)

C-POD: GENERAL POPULATION
- Limited programming (AA)

TIERED BUILDING: GENERAL POPULATION
- Very limited programming (AA)

POTENTIAL INTERRUPTIONS DURING DETAINMENT AND PROGRAMMING
- Regional Stabilization Unit: a small number of inmates (~10-15) may be diverted here for acute mental health care
- Health Services Unit: inmates with medical/mental health problems may be assigned here for acute care
- Disciplinary Infractions: may lead to segregation from programming or general populations

COMMUNITY WORK PROGRAM
- Dorm-style facility
- Inmates work for the HOC and have some community-based jobs
- Minimum security

PRE-RELEASE FACILITY
- Minimum security unit
- Halfway house-style management (e.g., open facility with curfew)
- Inmates have employment in the community
## Appendix C: Sample Selection

### Table C.1

**Sample Descriptive Statistics and Tests for Representativeness**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Inmates Eligible for Sampling (N=4,287)</th>
<th>Original Simple Random Sample (N=1,954)&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Final Sample with Complete Data (N=866)&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg. Age (SD)</td>
<td>33.99 (10.86)</td>
<td>34.37 (10.98)**</td>
<td>33.91 (10.74)</td>
</tr>
<tr>
<td>Avg. Years Education (SD)</td>
<td>11.63 (1.72)</td>
<td>11.64 (1.66)</td>
<td>11.72 (1.56)**</td>
</tr>
<tr>
<td>Citizenship (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>85.1</td>
<td>85.3</td>
<td>83.1**</td>
</tr>
<tr>
<td>Other</td>
<td>14.9</td>
<td>14.7</td>
<td>16.9**</td>
</tr>
<tr>
<td>Race/Ethnicity (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>65.2</td>
<td>66.4</td>
<td>67.1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>17.5</td>
<td>16.3</td>
<td>15.9</td>
</tr>
<tr>
<td>Black</td>
<td>14.6</td>
<td>14.1</td>
<td>13.7</td>
</tr>
<tr>
<td>Other</td>
<td>2.7</td>
<td>3.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Marital Status (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>76.1</td>
<td>74.6</td>
<td>76.0</td>
</tr>
<tr>
<td>Married</td>
<td>13.0</td>
<td>14.1</td>
<td>13.5</td>
</tr>
<tr>
<td>Divorced</td>
<td>8.7</td>
<td>9.0</td>
<td>8.7</td>
</tr>
<tr>
<td>Separated</td>
<td>2.1</td>
<td>2.4</td>
<td>1.8</td>
</tr>
<tr>
<td>Self-Report Substance Use (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>28.9</td>
<td>28.4**</td>
<td>26.8**</td>
</tr>
<tr>
<td>Alcohol</td>
<td>8.6</td>
<td>10.2**</td>
<td>9.0**</td>
</tr>
<tr>
<td>Drugs</td>
<td>7.6</td>
<td>7.7**</td>
<td>6.7**</td>
</tr>
<tr>
<td>Both Alcohol and Drugs</td>
<td>54.9</td>
<td>53.7**</td>
<td>57.5**</td>
</tr>
<tr>
<td><strong>Criminal History</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg. Days Sentenced (SD)</td>
<td>375.67 (286.63)</td>
<td>372.40 (275.10)**</td>
<td>348.39 (238.14)**</td>
</tr>
<tr>
<td>Avg. Days Detained (SD)</td>
<td>200.23 (172.50)</td>
<td>200.45 (167.83)**</td>
<td>184.76 (131.40)**</td>
</tr>
<tr>
<td>Major Offense Type (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal</td>
<td>48.3</td>
<td>47.4</td>
<td>49.1</td>
</tr>
<tr>
<td>Drug</td>
<td>26.5</td>
<td>27.2</td>
<td>24.6</td>
</tr>
<tr>
<td>Property</td>
<td>18.8</td>
<td>19.1</td>
<td>20.0</td>
</tr>
<tr>
<td>Sex</td>
<td>2.3</td>
<td>2.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Other</td>
<td>4.1</td>
<td>3.7</td>
<td>3.6</td>
</tr>
</tbody>
</table>

*Note. Relative frequencies of binary (citizenship) and nominal (race/ethnicity, marital status, substance use, and major offense type) variables were compared using nonparametric χ² tests. Continuous variables (age, education, sentence and detainment lengths) were compared using independent t-tests.*

<sup>a</sup> Original simple random sample inmates (N=1,954) were compared to those lost to sampling (N=2,333)

<sup>b</sup> Final sample inmates (N=866) were compared to those lost to missing data (N=1,088)

*p < 0.05, a significant decrease in sample means or frequencies compared to excluded data

**p < 0.05, a significant increase in sample means or frequencies compared to excluded data
### Appendix D: Supplemental Logistic Regression Models

**Table D.1**
*Predicting SIR Placement with Disaggregated Mental Health Diagnoses (N=866)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
<td>OR</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.708</td>
<td>0.492***</td>
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<tr>
<td><strong>Independent Variables</strong></td>
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<td></td>
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<tr>
<td>Major Mental Disorder</td>
<td>-0.030</td>
<td>0.971</td>
</tr>
<tr>
<td>Personality Disorder</td>
<td>-0.274</td>
<td>0.760</td>
</tr>
<tr>
<td>Substance-Related Disorder</td>
<td>0.509</td>
<td>1.663**</td>
</tr>
<tr>
<td>High Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very High Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.001</td>
<td>0.999</td>
</tr>
<tr>
<td>Sentence Length</td>
<td>0.004</td>
<td>1.004***</td>
</tr>
<tr>
<td>Black/Hispanic/Other</td>
<td>-0.646</td>
<td>0.524***</td>
</tr>
<tr>
<td>Drug Offense</td>
<td>0.802</td>
<td>2.230***</td>
</tr>
<tr>
<td>Other Offense</td>
<td>-0.318</td>
<td>0.728</td>
</tr>
</tbody>
</table>

| Model $\chi^2$                  | 11.512***      | 167.820***     |
| df                              | 3              | 10             |
| Hosmer-Lemeshow                 | —              | 16.169*        |
| % Correctly Classified          | 63.5           | 70.4           |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
<td>OR</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.803</td>
<td>0.448***</td>
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<tr>
<td>Independent Variables</td>
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<tr>
<td>Major Mental Disorder</td>
<td>0.358</td>
<td>1.430*</td>
</tr>
<tr>
<td>Personality Disorder</td>
<td>0.745</td>
<td>2.105**</td>
</tr>
<tr>
<td>Substance-Related Disorder</td>
<td>-0.145</td>
<td>0.865</td>
</tr>
<tr>
<td>High Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very High Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.021</td>
<td>0.979**</td>
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<tr>
<td>Sentence Length</td>
<td>0.002</td>
<td>1.002***</td>
</tr>
<tr>
<td>Black/Hispanic/Other</td>
<td>-0.136</td>
<td>0.873</td>
</tr>
<tr>
<td>Drug Offense</td>
<td>-0.416</td>
<td>0.659*</td>
</tr>
<tr>
<td>Other Offense</td>
<td>0.001</td>
<td>1.001</td>
</tr>
</tbody>
</table>

Model $\chi^2$                  | 14.946**    | 90.468***   |
\[df\]                          | 3           | 10          |
Hosmer-Lemeshow                 | —           | 4.160       |
% Correctly Classified          | 65.8        | 69.9        |

*p < 0.05, **p < 0.01, ***p < 0.001
### Table D.3
**Predicting CWP Placement with Disaggregated Mental Health Diagnoses (N=866)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( b )</td>
<td>OR</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>-0.222</td>
<td>0.801*</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major Mental Disorder</td>
<td>0.003</td>
<td>1.003</td>
</tr>
<tr>
<td>Personality Disorder</td>
<td>-0.264</td>
<td>0.768</td>
</tr>
<tr>
<td>Substance-Related</td>
<td>0.194</td>
<td>1.214</td>
</tr>
<tr>
<td>High Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very High Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.012</td>
<td>1.012</td>
</tr>
<tr>
<td>Sentence Length</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Black/Hispanic/Other</td>
<td>-0.440</td>
<td>0.644**</td>
</tr>
<tr>
<td>Drug Offense</td>
<td>0.070</td>
<td>1.073</td>
</tr>
<tr>
<td>Other Offense</td>
<td>-0.196</td>
<td>0.822</td>
</tr>
<tr>
<td>Prior SIR Placement</td>
<td>0.690</td>
<td>1.993***</td>
</tr>
<tr>
<td>Model ( \chi^2 )</td>
<td>2.519</td>
<td>48.742***</td>
</tr>
<tr>
<td>df</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Hosmer-Lemeshow</td>
<td>—</td>
<td>13.512</td>
</tr>
<tr>
<td>% Correctly Classified</td>
<td>54.3</td>
<td>60.4</td>
</tr>
</tbody>
</table>

*\( p < 0.05 \), **\( p < 0.01 \), ***\( p < 0.001 \)
REFERENCES


Massachusetts Department of Mental Health. (2008). Forensic Mental Health Services: A Five Year Review. Mass. DMH.


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