

Effects of Diversion on Adults with Co-Occurring Mental Illness and Substance Use: Outcomes from a National Multi-Site Study

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This quasi-experimental non-equivalent comparison group study examines outcomes for participants in eight programs conducting criminal justice diversion for people with co-occurring serious mental illness and substance use disorders compared with jail detainees eligible for diversion, but who were processed through standard criminal justice methods without diversion. Nearly 2000 participants were interviewed at baseline, and 1500 at 3 month and 1300 at 12 month follow-up to baseline. In these interviews, outcome measures of re-arrest, mental health functioning, substance abuse, quality of life, and service utilization were obtained. Those diverted were more likely to have received mental health counseling, mental health medication, and mental health hospitalization than those not enrolled in a diversion program, but were equally likely to have received substance abuse counseling. Overall, the differences in proportions receiving services between the two groups were small, even when these differences were statistically significant. The effect associated with diversion differed somewhat across the individual sites. However, overall cross-site pooled analyses revealed no outcome differences between groups on measures of mental health symptoms, substance use, criminal justice recidivism, or quality of life. Although the immediate benefit

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of diversion as an access mechanism to community treatment is indicated in pooled cross-site results, such access was driven by more coercive (pre-booking and court) models and results suggest that effecting substantially greater access to services or services use did not occur. The findings also suggest that mental health, substance abuse, and criminal justice outcomes remain dependent on the treatment intervention received, perhaps moderated by type of diversion intervention, rather than on a generic and initial diversion event. Copyright © 2004 John Wiley & Sons, Ltd.

INTRODUCTION

There were 13.7 million adults, 18 years and older, arrested in the United States in 2002 (Federal Bureau of Investigation, 2000), 4.7 million adults were under parole or probation supervision, and approximately 2 million adults were incarcerated in jails and prisons in 2002 (Glaze, 2003). The prevalence of serious mental illness in individuals arrested, incarcerated in jails and prisons, or under supervision is between 7 and 18% depending upon methodology, definition of mental illness, and setting (see, e.g., Broner, Lamon, Mayrl, & Karopkin, 2003; Ditton, 1999; Lamb & Weinberger, 1998), generally twice that found in community samples, which is estimated as between 3 and 7% (Robins & Regier, 1991; Department of Health and Human Services (DHHS), 2002). Overall, among those with any criminal justice contact, Steadman and colleagues (1999b) estimate that 700,000 adults have serious mental illness.

Twenty-two percent of arrests in 2002 were drug or alcohol related (FBI, 2003). Approximately 60% of adults at arrest test positive for drug use (National Institute of Justice, 2000) and over half of those incarcerated are believed to be drug dependant or to have alcohol problems (Lo & Stevens, 2001; Wilson, 2000). Given the robust relationship between substance use—particularly regular use—and criminal justice involvement (Mateyoke-Scriver, Webster, Hiller, Staton, & Leukefeld, 2003) and that substance use among the mentally ill is also associated with arrest, violence, and medication non-compliance (Borum, Swanson, Swartz, & Hiday, 1997; Steadman *et al.*, 1998; Swartz *et al.*, 1999), it is not surprising to find high rates of co-occurring serious mental illness and substance use disorders among those involved with the criminal justice system. Almost three-quarters of jail-incarcerated adults with serious mental illness have a co-occurring substance abuse/dependence disorder (Abram & Teplin, 1991; Abram, Teplin, & McClelland, 2003), as compared with 25% of those with mental health problems in community samples (DHHS, 2002). While they are a relatively small subset of the population, those with co-occurring serious mental health and substance use disorders more frequently utilize the criminal justice, health, emergency treatment, and shelter systems and generally are at higher risk for co-morbid sexually transmitted diseases, homelessness, suicide, and a myriad of functional problems (Broner *et al.*, 2003; Drake, Mercer-McFadden, Mueser, McHugo, & Bond, 1998; Charles, Abram, McClelland, & Teplin, 2003; Edens, Peters, & Hills, 1997; Peters, Kearns, Murrin,

& Dolente, 1992; RachBeisel, Scott, & Dixon, 1999). However, this population is in fact less likely to receive community mental health treatment than other mental health populations (Wu, Kouzis, & Leaf, 1999).

To address this population's need for mental health and substance abuse treatment and in an attempt to reduce the established risk of criminal justice involvement for those with co-occurring mental illness and substance use disorders, diversion programs have proliferated (Naples & Steadman, 2004). The assumption is that diversion, which averts or interrupts the traditional criminal justice process, will increase access to community treatment, housing, and adjunctive services, avoid or shorten criminal justice confinement, and, by linkage into treatment, will reduce substance use, psychiatric symptoms, and criminal justice recidivism, and increase quality of life (Steadman et al., 1999b). Diversion approaches are often described in terms of "pre-booking" programs, which occur prior to arrest, and "post-booking" programs, which occur following arrest and being "booked" on charges.

In pre-booking diversion models police officers are trained to recognize mental illness and appropriately manage an encounter with someone who is mentally ill or are accompanied by trained mental health staff (Steadman et al., 2001). The police use discretion to determine the necessity of arrest and appropriateness of diversion and bring the potential arrestee to a centralized location, such as an emergency room or treatment center. The potential arrestee is not charged with a crime, and is linked to the treatment system without further criminal justice involvement.

Post-booking diversion programs are characterized by three primary components: *screening*, *assessment*, and *negotiation* between diversion staff and criminal justice personnel to create a mental health treatment disposition and to waive or reduce charges or time spent in jail or prison (Steadman, Barbera, & Dennis, 1994). Post-booking diversion programs may be administratively and physically housed in different configurations: jail-based diversion, court-based diversion, and specialized diversion courts (Broner, Borum, & Gawley, 2002). Jail-based programs, typically operated by pretrial service personnel or by specialized jail personnel, identify, screen, assess, and divert the defendant from the jail informed by mental health assessments, but determined by the prosecutor and judge with defense consent. Some jail-based programs use community supervision while for other post-booking programs the linkage to treatment marks the end of criminal justice involvement.

Court-based diversion can occur at any stage in the criminal justice process prior to sentencing and may be de-centralized (diversion occurs in multiple courts with multiple judges, often using community-based forensic case management as the monitoring and linkage agent) or centralized (with one primary judge, a specialized team, separate court calendar, court supervision, and interaction with the mental health treatment system) (see, e.g., Broner et al., 2002; Goldkamp & Irons-Guynn, 2000; Watson, Honrahan, Luchins, & Lurigio, 2001). Court models vary in degree of court monitoring and type of sanction imposed, and in terms of whether the charge is dismissed or reduced or sentencing is deferred (Griffin, Steadman, & Petrila, 2002).

The evidence is mixed in the few published empirical studies that those diverted with co-occurring disorders will experience improved mental health, substance abuse, quality of life, access to treatment, and reduced criminal justice recidivism. Depending upon whether the diversion intervention is prior to the booking of charges by police, through the courts, or from jail detention, past studies indicate

that diversion may reduce jail days (court and jail diversion), re-arrests (police and court diversion), police injuries, and substance use (court diversion), while improving access to treatment (police, court, and jail diversion) and providing modest saving or being cost neutral (court and jail) (see, e.g., Cosden, Ellens, Schnell, Yamini-Diouf, & Wolfe, 2003; Cowell, Broner, & Dupont, 2004; Hoff, Baranosky, Buchanan, Zonana, & Rosenheck, 1999; Lamb, Shaner, Elliott, DeCuir, & Foltz, 1995; Lamb, Weinberger, & Reston-Parham, 1996; Steadman, Cocozza, & Veysey, 1999a; Steadman, Deane, Borum, & Morrissey, 2000). These studies, while providing evidence for the practice of diversion, were each limited to one specific diversion model, assessment of a few outcome measures, one jurisdiction, and one point in the criminal justice process.

The present study was funded in 1997 by the Substance Abuse Mental Health Services Administration (SAMHSA) to address the broad question of whether diversion affects service access and receipt, substance use, mental health symptoms, criminal justice activity, and quality of life for offenders with serious mental illness and substance use disorders. The study was structured to both assess the effectiveness of different diversion models (e.g. police, court, jail) through local site evaluation and to pool these data to test the overall effect of diversion on a comprehensive set of outcomes across populations that are representative of different ethnic and racial backgrounds and substance use patterns. Comparing and pooling data presents inherent difficulties, but also provides the opportunity to generalize.

In this paper we present the cross-site findings from the evaluation of criminal justice diversion programs located in Arizona, Connecticut, Hawaii, New York, Oregon, Pennsylvania, and Tennessee. The characteristics of the two study groups—the diverted and non-diverted—are described and the differences between these groups are examined. We then describe the analytic models developed for a core set of outcome variables that reflect and test the hypothesized impact of the diversion programs for this population, namely, that diversion programs lead to (i) increased access to and use of services; (ii) reduced substance use; (iii) reduced psychiatric symptoms; (iv) increased time spent in the community, reduced days incarcerated, and reduced criminal behavior; and (v) improved health, functioning, and life satisfaction.

METHODS

Participants

Nearly 2000 subjects were identified in eight sites, 971 diverted subjects and 995 non-diverted subjects.¹ Three month follow-up interviews were completed with nearly 1500 subjects, 741 diverted and 756 non-diverted. Twelve month follow-up interviews were completed with more than 1300 subjects, which included 697 diverted and 656 non-diverted. A description of the baseline characteristics of those diverted and non-diverted is depicted in Tables 1 and 2 below, with baseline differences between the two groups described in the results section.

¹The eight sites were Memphis, TN; Portland, OR; Pennsylvania; Arizona; Connecticut; Eugene, OR; Hawaii; and New York City, NY. Data from the ninth site, Maryland, which enrolled only a small number of diverted subjects and no comparison subjects, are not included in these analyses.

All participants were 18 years of age or older, met the local program criteria for diversion, and had either been arrested (post-booking sites and comparison subjects) or had police contact (pre-booking experimental groups). Criminal justice charges ranged from misdemeanors to felonies and included violent and non-violent offenses. For pre-booking sites (e.g. Memphis, Pennsylvania, and Portland), the diversion program reported, from police records kept for this study, the charge that would have been filed if the participant had been arrested and not diverted. Post-booking diversion programs (Arizona, Connecticut, Eugene, Hawaii, and New York City) extracted the legal charge(s) from criminal justice records. Participants included in the study had a current DSM-IV diagnosis of a psychotic or major affective disorder and substance abuse or dependence determined by the clinical staff (psychiatrist or psychologist) at the emergency room or treatment center for pre-booking sites or in the jails or court for the post-booking sites. Subjects with cognitive deficits or florid psychosis who were unable to engage in informed consent and/or complete the research interview were excluded.

Study Attrition

The number of participants recruited and retained varied substantially across the sites. Although overall average retention rates for the number of participants recruited and retained were adequate (76 and 69% at 3 and 12 months, respectively) when pooling the data across sites for diverted non-diverted group analyses, individual-site attrition rates varied substantially from 66 and 40% at 3 and 12 months, respectively, in New York City to 87% in Arizona at 3 months and 84% in Portland for 12 months. The attrition impacted the power to detect differences at the 0.05 level or below in the diversion group in comparison to those non-diverted. However, attrition analyses revealed few differences in participant characteristics for the three data collection points. Two logistic regression models were estimated to predict attrition at 3 and 12 months as a function of diversion status (diverted or non-diverted), site, age, gender, race, ethnicity, psychiatric symptom score (measured through the Colorado Symptom Index; Shern et al., 1994), alcohol abuse/dependence score (measured by the Michigan Alcohol Screening Test; Storgaard, Nielsen, & Gluud, 1994) and drug abuse/dependence score (measured by the Drug Abuse Screening Test; Skinner, 1982), as well as some interaction terms. Group (diverted versus non-diverted) was not significant in either model. Older (compared with younger) ($z = -2.74, p < 0.05$) and black (compared with white) subjects ($z = -2.73, p < 0.05$) were less likely to have attrited at 3 months, but not at 12 months. Subjects in five of seven sites were at less risk of attrition at 3 months than subjects in Memphis, which was the reference category. These potential sources of bias were controlled in the analytic models used.

Procedure

This paper presents the core mental health, substance abuse, and criminal justice findings from a cross-site evaluation of 3 and 12 month outcomes in eight sites. Each site and the coordinating center received local institutional review board approval and a federal certificate of confidentiality prior to protocol field-testing and data collection. At the site level, local field interviewers were bachelor-to-doctoral-level

trained staff. Field interviewers received a common cross-site protocol and two days of training delivered by RTI, and completed three to five mock interviews with similar subjects; a minimum of 95% agreement was required prior to implementing data collection.

Each site identified subjects for two groups, diverted and non-diverted, during the study intake period (October 1998 through May 2000). Baseline interviews were administered within 2 weeks of diversion acceptance for those diverted and within 2 weeks of identification and meeting of study criteria for the non-diverted; following diversion acceptance, the time to community treatment ranged from 0 days in pre-booking sites to on average 3 months in post-booking jail-based diversion sites (e.g. in New York City). The mechanism for diversion varied across the sites, although less so in the pre-booking sites. In the pre-booking sites, the decision to divert was made by police officers at the time of the police encounter—diverted subjects were taken to emergency departments or otherwise to services rather than being arrested. Jail personnel or local project team members identified potential diversion subjects in the post-booking sites and participants generally received treatment in jail while awaiting diversion. Comparison subjects were selected from populations likely to provide subjects who could be matched on the selection criteria for the targeted population. Comparison subjects for pre-booking sites were primarily post-booking detainees, thus were more similar to the post-booking site experimental and comparison group subjects. There was no randomly identified comparison group. Pre-booking baseline interviews for diverted participants were held in community treatment facilities; the majority of post-booking baseline interviews and pre- and post-booking comparison participant interviews were held in detention facilities.

Follow-up interviews were conducted between January 1999 and June 2001. Three and 12 month interviews were conducted during an “interview window” that began 2 weeks before and ended 3 weeks after the target interview date. There was a 1 week interview completion window once the interview had been begun. Follow-up interviews for participants in both groups were held in a variety of community and criminal justice settings. The amount participants were paid for study participation varied by site, but was on average \$60.

Intervention

Each site implemented a site-specific diversion program that differed with respect to the mechanism for diversion, the point at which the diversion occurred, and the degree to which treatment services were integrated within the diversion program. The three pre-booking sites were similar, with two of the three sites, Memphis and Portland, employing the Crisis Intervention Team model (Steadman *et al.*, 2001). The post-booking sites differed substantially not only with regard to the mechanism for diversion and point of diversion—jail (Arizona, Hawaii, New York City), specialized court (Eugene), arraignment (Connecticut)—but also in the manner in which treatment was included as part of the diversion, from simple referral to services in the community in one site to provision of integrated substance abuse and mental health counseling in another site (Lattimore, Broner, Sherman, Frisman, & Shafer, 2003). The mechanism for diversion varied across the sites, although less so

in the pre-booking sites. In the pre-booking sites, the decision to divert was made by police officers at the time of the police encounter: Diverted subjects were taken to emergency departments or otherwise to services rather than being arrested. Jail personnel or local project team members identified potential diversion subjects in the post-booking sites and participants generally received treatment in jail while awaiting diversion. The characteristics of the eight diversion programs and a site-by-site comparison of the baseline characteristics of those diverted is described elsewhere (Lattimore et al., 2003).

Measures

Cross-site questionnaires were developed and used at all sites. The intake and 12 month instruments required approximately 2 hours; the 3 month instrument required an hour. The interview consisted of a variety of self-report measures, including demographic, psychosocial, service utilization, housing, and criminal justice questions. Imbedded in the cross-site instrument were a number of standardized instruments to assess change in mental health and health symptoms, substance use, and quality of life.

To assess mental health change over time two instruments were used, the Colorado Symptom Index (CSI) (Shern et al., 1994) and the mental health section of the SF-12 (Ware, Kosinski, & Keller, 1996). The Colorado Symptom Index (CSI), administered at baseline, is a multi-item scale on which clients report the frequency of specific psychiatric symptoms, yielding two global scores: anxiety symptomatology and psychotic symptomatology (Shern et al., 1994). The CSI was developed and validated among clients with serious mental illness including the homeless mentally ill, during a 4 year follow-up study that included collateral interviews, yielding good internal consistency (0.77 for anxiety; 0.85 for psychotic symptoms). The SF-12 (Ware et al., 1996), administered at all three interviews to assess mental health and health status over time, was derived from the SF-36, a well validated general health and mental health self-report measure normed on medical patients and a general population in the U.S. and the U.K. The SF-12's two subscales, the PCS-12, physical health component score, and the MCS-12, mental health component score, have been found to be highly correlated with the health and mental health components of the 36 item version of this instrument (0.94, $p = 0.001$, and 0.96, $p = 0.001$, respectively) (Jenkinson & Layte, 1997).

The Michigan Alcohol Screening Test (MAST; Storgaard et al., 1994) and the Drug Abuse Screening Test (DAST; Skinner, 1982) were administered at baseline to estimate alcohol and drug abuse/dependence using a five-point cut-off score. The psychometric properties of the MAST have been extensively evaluated (Zung, 1979; Saltstone, Halliwell, & Hayslip, 1994). It has been used widely among forensic, substance using, and psychiatric populations (Blevins, Morton, & McCabe, 1996; Firestone et al., 1998; Saltstone et al., 1994; Searles, Alterman, & Purtill, 1990). Across numerous studies, the MAST has shown sensitivity rates between 0.36 and 0.98 and specificity rates from 0.36 to 0.96 (Storgaard et al., 1994). The DAST, based on the MAST, is also widely used and has been found to have sound psychometric properties in psychiatric and forensic populations (Cocco & Carey, 1998; Saltstone et al., 1994; Staley & El Guebaly, 1990).

As neither the MAST nor the DAST assess frequency or severity and the lifetime time frame of the questions renders them inapplicable for measuring a change in status over time (Lyons, Howard, O'Mahoney, & Lish, 1997), the Dartmouth Drug/Alcohol 6-Month Follow-Back Calendar (Follow-Back Calendar; Dartmouth Psychiatric Research Center, 1997) was adapted for a 3 month retrospective rather than a 6 month retrospective timeframe, administered at baseline and follow-up points. This measure provides an estimate of severity and captures type of substance use and patterns over time. While this measure has not been formally validated, the reliability and validity of the time-line follow-back approach using a calendar and other cues to prompt memory has been documented among psychiatric outpatients (Carey, 1997).

To measure participants' assessment of their quality of life in terms of general life satisfaction, finances, living situation, health/daily activities, and personal safety, the Lehman Quality of Life Interview (QOLI; Lehman, 1988) was administered at all three interview points. The QOLI was normed on chronically mentally ill populations, and internal consistency and predictive and divergent validity are good. Depression and anxiety were found to be consistently, negatively associated with general life satisfaction (e.g., for depression, $r = -0.17$ to -0.56 ; $p < 0.05$); thought disorder did not correlate with life satisfaction. Reliability of the QOLI subscales range from 0.80 to 0.92 (Russo *et al.*, 1997).

Dependent Variables

Twenty dependent variables were used in this study's model. These include criminal justice recidivism (any arrests and felony arrests in past 30 days), measures of mental health symptom change (CSI and MCS-12), alcohol and drug use (from the Follow-Back Calendar, consumed more than four (female) or five (male) drinks in one episode in the last two full months prior to interview and used any illegal substance in last two full months prior to interview), self-reported change in physical health (PCS-12), and measures of functioning and quality of life including current homelessness (lived on street during previous 30 days), employment, victimization (past 3 months violently victimized; past 3 months non-violently victimized), and satisfaction with life in general, living situation, finances, and health (QOLI). Six service utilization variables were also included as dependent variables: mental health counseling (defined as receiving three or more counseling sessions), mental health medications taken as prescribed, mental health hospitalizations, substance abuse counseling (three or more sessions), total number of mental health and substance abuse counseling sessions, and total number of mental health or substance abuse emergency room (ER) visits.

Covariates

Covariates included a variety of demographic, criminal history, mental health, and substance use measures as well as days at risk (defined as days not institutionalized either in jail, prison, hospital, or residential treatment facility and thus at risk for committing criminal acts). These variables are described in more detail below and in Tables 1 and 2.

Statistical Analysis

Baseline participants' characteristics were described using means and the diverted and non-diverted groups were compared using *t*-statistics when appropriate. We used multivariate regression techniques to examine the effect of jail diversion on each of the 20 outcomes described above for 3 and 12 months following the baseline interview. In each of these models, the data from the three interviews was included to control for the quasi-experimental design. By including multiple observations for each subject (repeated measures), the models correct for potential selection bias (whereby the diverted and non-diverted groups could differ by key unobserved characteristics) and for potential maturation bias (whereby changes in the average of the dependent variable could occur naturally over time). Rather than use stepwise regression to determine the appropriate set of covariates for each dependent variable at each site, a common core set of covariates was used to control for a number of potentially confounding influences and allow for comparisons across sites and across dependent variables: a modeling strategy common in economics and quantitative criminology (see, e.g., Levitt, 1997). Additional covariates were added where theoretically valid. For example, in addition to the core set of covariates, age of first arrest was a covariate in the arrest models. Models were estimated in a general estimated equations (GEE) framework. For binary outcomes, logistic regression was used; for continuous outcomes, ordinary least squares (OLS) regression was employed.

Using the example of receipt of mental health counseling, MHCou, as the dependent variable, we estimate the following model for person *i* in time period *t*:

$$\begin{aligned} \text{MHCou}_{it} = & \gamma_0 + \gamma_1 \times \text{diverted}_i + \gamma_2 \times \text{3month_followup}_{it} + \gamma_3 \\ & \times \text{12month_followup} + \gamma_4 \times \text{3month_intervention}_{it} + \gamma_5 \\ & \times \text{12month_intervention}_{it} + \beta Z_{it} + e_{it} \end{aligned} \quad (1)$$

In Equation (1), *diverted* = 1 if the person was diverted, and *diverted* = 0 if the person was not diverted. The variables *3month_followup* and *12month_followup* = 1 if the observation is at a follow-up period (3 or 12 months), and 0 if it is at baseline. In the model, "diverted" controls for *a priori* differences between the characteristics of those assigned to diverted and non-diverted groups (selection bias) and "followup" controls for maturation effects (changes over time that affect all groups). The variables *3month_intervention*, which is the interaction between *3month_followup* and *diverted*, captures the influence of the jail diversion program at 3 months. This variable is equal to unity if person *i* is diverted and is at the 3-month follow-up; otherwise, *intervention* = 0. The corresponding coefficient, γ_4 , measures the association between jail diversion and mental health counseling (MHCou) at 3 months. Similarly, γ_5 measures the effect of jail diversion at 12 months.

Z represents the core set of covariates that are included to control for selection bias due to omitted variables. Included in *Z* are site (with Memphis as the reference category), age, gender, race/ethnicity, whether the person had a diagnosis of schizophrenia or mood disorder with psychotic features (psychotic), whether the respondent was held in a locked facility as a juvenile, number of (self-reported) past arrests, substance use scores (MAST and DAST), "time at risk," the CSI, and

SF-12 (mental health and physical health components) scores. For the outcome measuring whether the person had been arrested in the previous 30 days, we also included the age of first arrest as an additional control variable. β is the corresponding set of coefficients for Z . If respondents were randomly assigned, we would reasonably expect Z to be unrelated to the dependent variable; that is, $\beta = 0$.

RESULTS

In this section, we first compare the baseline characteristics of those in the experimental group (diverted) with those in the comparison group (non-diverted). We then present the estimates of the effect of diversion on the dependent variables measured at 3 months and 12 months. These results are organized by domain, beginning with a description of the effects of diversion on service utilization, then mental health symptoms and substance use, followed by criminal justice activity and quality of life measures.

Intake Characteristics

Tables 1 and 2 show the characteristics for those in the sample at intake. Table 1 includes demographic and other characteristics that were used as covariates in our models. Table 2 shows the baseline measures of the dependent variables in the analyses: services used, substance use, mental health, criminal activity, and quality of life. The tables show values for the diverted and non-diverted groups, and for the overall sample; p -values are given for t -test comparisons of the means (diverted and non-diverted).

The two groups differ on most measures. As can be seen in Table 1, 69% of all study participants were male, but those diverted included fewer males (66%) than those not diverted (72%). Diverted and non-diverted subjects were equally likely to be black (versus white; 41%) and to identify themselves as Hispanic/Latino (9%). The average ages of subjects in both groups were similar—about 36 years of age—and the subjects in both groups were equally likely to have a high school diploma or GED (62%). Those in the non-diverted group were more likely to have been employed in the 30 days prior to intake (34 versus 28%, respectively).

At baseline, diverted subjects reported an average of five more days at risk—i.e. in the community and not in an institution—than non-diverted subjects (80.1 and 75.4 days, respectively) for the 90 days prior to the police contact that led to inclusion in the study. However, diverted subjects also reported having spent more time in jail during the year prior to baseline than those diverted (55 days versus 38 days for diverted and non-diverted, respectively).

The diverted were more likely than the non-diverted to have a diagnosis of schizophrenia or mood disorder with psychotic features (39 versus 27%, respectively). One-third of the diverted participants had a primary diagnosis of schizophrenia compared with 22% of the non-diverted. Mood disorders (all types, e.g. major depression and bipolar disorder) were the primary diagnosis for 32% of the diverted and 47% of the non-diverted. Other disorders were the primary diagnosis for 35% of the diverted and 41% of the non-diverted. As shown in Table 2, the

Table 1. Subject demographic, psychiatric, and criminal justice characteristics at baseline

Variable	D	% D [Range], (SD)	ND	% ND [Range], (SD)	All	% all [Range], (SD)	<i>p</i> -value**
<i>N</i> *	971		995		1966		
Prebooking	438	45.1%	509	51.2%	947	48.2%	
Postbooking	533	54.9%	486	48.8%	1019	51.8%	
Covariates and demographics							
Male	643	66.2%	716	72.0%	1359	69.1%	0.01
Black	408	42.0%	396	39.8%	804	40.9%	0.32
Hispanic	102	10.5%	82	8.2%	184	9.4%	0.09
Other race	53	5.5%	51	5.1%	104	5.3%	0.74
Age	36.30	[18-68], (9.69)	36.10	[18-68], (8.79)	36.18	[18-68], (9.24)	0.59
High school diploma/GED	606	62.5%	612	61.5%	1218	62.0%	0.66
Employed past 30 days	274	28.2%	340	34.2%	615	31.3%	0.00
Mean days at risk	80.14	[0-91.25], (19.44)	75.47	[0-91.25], (20.59)	77.78	[0-91.25], (20.16)	0.00
Psychotic	382	39.3%	269	27.0%	651	33.1%	0.00
DAST score	9.63	[0-20], (5.13)	11.45	[0-20], (4.93)	10.55	[0-20], (5.11)	0.00
MAST score	26.82	[0-1836], (72.53)	32.81	[0-1842], (69.61)	29.73	[0-1842], (71.11)	0.06
Number past arrests	1.39	[0-64], (3.64)	1.94	[0-59], (3.97)	1.67	[0-64], (3.82)	0.00
Felony arrest	413	42.5%	478	48.0%	891	45.3%	0.01
Ever held in juvenile facility	303	31.4%	360	36.3%	672	33.7%	0.02
Ever arrested for violent crime	257	26.5%	191	19.2%	448	22.8%	0.00
Age first arrest	21.12	[6-59], (9.04)	19.92	[5-67], (7.86)	20.50	[5-67], (8.48)	0.00
No. days in jail, past 12 months	55.04	[0-365], (101.70)	38.43	[0-365], (74.12)	46.63	[0-365], (89.2)	0.00
Any jail previous year	796	82.3%	967.1	97.3%	1767	89.9%	0.00

**N* values are numbers of subjects in each group for each interview; *N* values are occasionally smaller for some comparisons because some subjects have missing values on some measures.

***t*-statistic; *p*-values in bold are significant at 5% or below.

Table 2. Services used, substance use, mental health, criminal activity, and quality of life at baseline

Variable	D	% D [Range], (SD)	ND	% ND [Range], (SD)	All	% All [Range], (SD)	<i>p</i> -value**
<i>N</i> *							
Prebooking	971		995		1966		
Postbooking	438	45.1%	509	51.2%	947	48.2%	
Dependent variables	533	54.9%	486	48.8%	1019	51.8%	
Service utilization							
Substance abuse counseling (2 or more sessions)	254	26.2%	294	29.5%	549	27.9%	0.09
Mental health counseling	279	28.7%	267	26.8%	547	27.8%	0.35
Mental health medications	694	71.5%	668	67.1%	1362	69.3%	0.04
Mental health hospitalization	242	24.9%	195	19.6%	436	22.2%	0.00
ER visits	308	31.7%	274	27.5%	582	29.6%	0.04
Total number of counseling sessions	8.62	[0-90], (18.17)	9.58	[0-90], (19.56)	9.11	[1-90], (18.89)	0.26
Substance use							
Recent alcohol use	427	44.0%	518	52.1%	946	48.1%	0.00
Recent drug use	583	60.0%	691	69.4%	1274	64.8%	0.00
Mental health status							
CSI score	47.09	[15-75], (13.50)	43.37	[15-75], (12.59)	45.2	[15-75], (13.18)	0.00
MCS (SF-12) score	37.42	[7.64-67.49], (12.56)	32.36	[7.43-66.79], (12.18)	34.84	[7.43-67.49], (12.62)	0.00
Criminal activity							
Arrest past 30 days	99	10.5%	146	14.8%	246	12.7%	0.00
Number of arrests past 30 days	0.14	[0-6], (0.51)	0.21	[0-29], (1.05)	0.18	[0-29], (0.83)	0.06
Quality of life							
Violent victimization	376	38.7%	420	42.2%	796	40.5%	0.12
Non-violent victimization	301	31.0%	367	36.9%	668	34.0%	0.01
Currently homeless	224	23.4%	223	22.7%	448	23.1%	0.72
PCS (SF-12) score	47.51	[12.33-69.69], (11.37)	46.82	[14.96-68.93], (11.92)	47.16	[12.33-69.69], (11.65)	0.20
General life satisfaction	3.67	[1-7], (1.58)	3.35	[1-7], (1.51)	3.51	[1-7], (1.55)	0.00
Satisfaction with living arrangement	4.12	[1-7], (1.94)	4.10	[1-7], (1.87)	4.11	[1-7], (1.91)	0.85
Satisfaction with finances	3.40	[1-7], (1.92)	3.07	[1-7], (1.85)	3.23	[1-7], (1.89)	0.00
Satisfaction with health	4.19	[1-7], (1.85)	4.06	[1-7], (1.75)	4.12	[1-7], (1.80)	0.11

**N* values are numbers of subjects in each group for each interview; *N* values are occasionally smaller for some comparisons because some subjects have missing values on some measures.

***L*-statistic; *p*-values in bold are significant at 5% or below.

diverted, on average, scored higher on measures of mental health symptoms than the non-diverted, such as the CSI (47.1 versus 43.4, respectively) and the MCS from the SF-12 (37.4 versus 32.4, respectively), consistent with the differences seen for diagnosis.

Those not diverted were more substance involved than those diverted on most indicators of alcohol and drug use and abuse. Specifically, 52% of the non-diverted compared with 44% of the diverted reported recently drinking at least four/five drinks (female/male) in a single episode and 70% of the non-diverted reported illegal drug use compared with 60% of the diverted.² The non-diverted also had higher mean scores on the DAST, but not the MAST.

Diverted and non-diverted subjects were equally likely to have received mental health and substance abuse counseling during the 3 months prior to intake into the study (see Table 2). However, the diverted participants were significantly more likely than non-diverted to have been hospitalized (25 versus 20%) due to a mental health problem, gone to an ER (32 versus 28%) or received medications (72 versus 65%) in the 3 months prior to criminal justice contact.

For most measures of past criminal behavior the non-diverted had values suggesting a more active criminal history. The non-diverted reported more prior arrests than those in the diverted group (1.94 versus 1.39 arrests) and were younger at first arrest (20 versus 21). Both of these measures have been found to predict future criminal behavior in studies of criminal recidivism with more priors and younger age at first arrest associated with a greater likelihood of future offending (see, e.g., Lattimore, Visher, & Linster, 1995). The non-diverted were also more likely to have been arrested in the past 30 days (15 versus 11%; 0.21 (range = 0–21, SD = 1.05) versus 0.14 (range = 0–6, SD = 0.51) arrests) and to have ever been arrested for a felony (48 versus 43%). On the other hand, diverted participants were more likely to report a prior arrest for a violent crime³ (27 versus 19%) and to have spent more days in jail during the 12 months prior to baseline (55 versus 38.4%).

Several measures of functioning and quality of life were also collected. The two groups were comparable on the physical subscale for the SF-12 (a score of 47.2) and were equally likely to report having been homeless over the past 30 days (23%). Although equally likely to report being the victim of a violent incident (41%), the diverted were less likely than the non-diverted to report being the victim of a property crime (31 versus 37%, respectively). The diverted were, however, more likely to describe having been satisfied with their life in general (3.7 versus 3.4) and with their finances (3.4 versus 3.1) in the previous 3 months.

These comparisons reveal significant differences between diverted and non-diverted participants on factors thought to be linked to outcomes. As described in our Methods section, the analytic models we estimated were able to account for these observed differences and control for unobserved differences (selection bias) and maturation effects. These results are presented next.

²Alcohol use and drug use were measured using 3 monthly calendars beginning with the month of the interview. As “current” month varied in length depending on when the subject was interviewed, it was not used in constructing the alcohol and drug use indicators. Instead, these variables are based on reported use during the two calendar months prior to the month in which the interview took place.

³Violent crimes include threats and simple assault, as well as more serious offenses.

Effects of Diversion at 3 and 12 Months Following Intake

Tables 3 and 4 summarize the findings of the multivariate analyses by site and across all sites combined. The values in Tables 3 and 4 are the estimates of the *intervention* effects generated by the OLS and logistic regression models that were estimated for the continuous and binary dependent variables, respectively. The coefficient estimates are shown for the OLS models and the estimated odds ratios are shown for the logistic regression models. Referring to Equation (1), Tables 3 and 4 include the values of γ_4 and γ_5 for the 3 and 12 Month intervention effect, respectively, for the OLS models or the appropriate odds-ratio transformation for the logistic regression models. These analyses test the study's hypotheses that diversion from arrest or detention, compared with arrest and regular criminal justice processing, increases service utilization, decreases substance use, mental health symptoms, and criminal activity, and increases client's perceived quality of life overall and for housing, finances, health, and safety domains. The estimated effects of diversion vary across sites and outcomes, indicating that some information is lost by pooling sites.

Service Utilization

The most consistent effects of diversion were found in measures of service utilization (see Table 3). Police diversion was found to be associated with increased odds of mental health medications and mental health hospitalization in all three pre-booking sites (Memphis, Pennsylvania, and Portland). Additionally, in Portland, diversion was significantly associated with increased emergency room use at 12 months after baseline (OR = 6.59). In Memphis, diversion was significantly associated with increased total number of counseling sessions at both 3 and 12 months after baseline (respectively OR = 4.05, OR = 4.50). Two of the five post-booking programs, both court-diversion models, also demonstrated an increase in service utilization. In Connecticut, an arraignment court model, diversion was associated with increased odds of receiving mental health hospitalization three months after baseline (OR = 3.40), and in Eugene, a drug court model, it was associated with increased odds of receiving mental health counseling (OR = 6.99). Countering these findings were decreased odds of receiving mental health medication in Eugene at 3 months (OR = 0.17) and New York City at 12 months (OR = 0.19), and decreased odds of mental health hospitalization at 3 months in New York City (OR = 0.28).

The last column of Table 3 shows that when data for all sites were combined diversion was associated with increases in service utilization for five and two of six measures at 3 months and 12 months, respectively. Diversion was associated with increases in use of all three types of mental health service utilization at 3 months, and in mental health hospitalization at 12 months. Across sites, diversion was also associated with increased emergency room use at both follow-up interviews (3 month OR = 1.43; 12 month OR = 1.72). Finally, diversion was associated with an increased number of total (substance use and mental health) counseling sessions (coeff. = 3.04).

However, while the differences in access to and quantity of treatment received between the two groups was significant, overall neither the study group nor

Table 4. Intervention effects by site: criminal activity and quality of life

N ^a	Pre-booking sites						Post-booking sites						All sites combined						
	TN 1238		Portland 509		PA 309		AZ 646		CT 451		Eugene 395		HI 256		NY 400		4069		
	3	12	3	12	3	12	3	12	3	12	3	12	3	12	3	12	3	12	
Criminal activity																			
Any arrest past 30 days ^b	0.98 (0.96)	1.37 (0.51)	2.95 (0.12)	4.77^c (0.05)	11.6 (0.09)	2.55 (0.60)	0.3 (0.09)	0.29 (0.12)	3.37 (0.09)	0.79 (0.79)	2.84 (0.11)	1.08 (0.93)	0.59 (0.63)	3.2 (0.39)	1.08 (0.94)	0.60 (0.62)	1.19 (0.40)	1.25 (0.40)	
Number of arrests past 30 days	-0.01 (0.83)	0.08 (0.19)	0.08 (0.56)	0.12 (0.38)	0 (0.45)	0 (0.97)	-0.09 (0.22)	-0.1 (0.19)	0.17 (0.07)	0.05 (0.61)	0.095 (0.39)	-0.04 (0.78)	-0.09 (0.39)	0.15 (0.45)	-0.01 (0.86)	-0.02 (0.81)	0.02 (0.52)	0.04 (0.27)	
Quality of life																			
Violent victimization (past 3 months) ^b	1.00 (1.00)	1.14 (0.69)	4.01^c (0.02)	1.83 (0.39)	1.51 (0.49)	0.84 (0.81)	1.03 (0.93)	1.60 (0.36)	0.89 (0.85)	1.17 (0.81)	2.47 (0.15)	0.73 (0.66)	1.38 (0.65)	2.72 (0.27)	0.37 (0.07)	1.13 (0.86)	1.20 (0.26)	1.27 (0.20)	
Non-violent victimization (past 3 months) ^b	0.71 (0.30)	0.54 (0.13)	5.26^c (0.01)	10.05^c (0.03)	1.05 (0.93)	0.67 (0.59)	1.54 (0.35)	1.28 (0.61)	0.83 (0.75)	0.83 (0.78)	5.19^c (0.05)	5.60 (0.19)	2.70 (1.00)	N/A ^d	0.27^c (0.04)	0.36 (0.21)	1.19 (0.31)	1.08 (0.72)	
Currently homeless ^b	N/A (0.57)	0.77 (0.82)	N/A (0.07)	2.05 (0.24)	N/A (0.97)	1.05 (0.97)	N/A (0.89)	0.93 (0.89)	N/A (0.19)	0.44 (0.19)	N/A (0.39)	0.56 (0.39)	N/A (0.58)	1.93 (0.58)	N/A (0.76)	1.23 (0.76)	N/A (0.79)	1.05 (0.79)	
PCS (SF-12)	-0.77 (0.47)	-0.29 (0.82)	-3.10 (0.07)	-2.37 (0.16)	-1.77 (0.35)	-1.13 (0.59)	0.97 (0.46)	0.74 (0.65)	0.48 (0.77)	-0.05 (0.98)	1.75 (0.35)	0.73 (0.75)	-4.84^c (0.04)	0.12 (0.97)	3.54 (0.57)	-1.03 (0.35)	-0.53 (0.43)	-0.52 (0.43)	
General life satisfaction	0.14 (0.40)	-0.08 (-0.51)	-0.31 (0.14)	-0.56^c (0.03)	-0.25 (0.33)	-0.59^c (0.05)	-0.14 (0.46)	-0.06 (0.75)	0.19 (0.41)	0.60^c (0.02)	0.00 (0.99)	0.01 (0.98)	-0.16 (0.66)	0.05 (0.89)	-0.24 (0.36)	-0.11 (0.76)	-0.19 (0.81)	-0.10 (0.25)	
Satisfaction with living arrangement	0.50^c (0.03)	0.47 (0.06)	0.32 (0.40)	0.25 (0.50)	0.25 (0.98)	-0.01 (0.91)	0.25 (0.38)	0.35 (0.31)	0.39 (0.31)	0.79 (0.08)	0.05 (0.91)	1.03^c (0.04)	0.93 (0.07)	0.62 (0.24)	-0.48 (0.21)	-1.60^c (0.00)	0.30^c (0.01)	0.35^c (0.01)	
Satisfaction with finances	-0.2 (0.31)	-0.19 (0.42)	0.01 (0.97)	-0.23 (0.47)	-0.33 (0.35)	-0.48 (0.31)	0.12 (0.66)	0.14 (0.61)	0.1 (0.77)	0.33 (0.32)	-0.03 (0.92)	-0.07 (0.88)	-0.03 (0.94)	0.5 (0.21)	0.37 (0.21)	0.46 (0.27)	-0.04 (0.71)	-0.01 (0.90)	
Satisfaction with health	0.21 (0.23)	0.23 (0.24)	-0.29 (0.24)	-0.12 (0.62)	0.15 (0.67)	0.08 (0.81)	-0.22 (0.35)	-0.24 (0.35)	0.03 (0.92)	-0.31 (0.33)	0.21 (0.48)	0.21 (0.51)	0.61 (0.09)	0.35 (0.47)	-0.2 (0.96)	-0.5 (0.96)	0.09 (0.35)	0.02 (0.81)	

^aNumber of person-periods in model with most observations.
^bN varies according to item response on dependent variable. Details are available from the authors on request.
^cBinary dependent variable. Odds ratios reported.
^dSignificant at 5% level or below.
^eEffect for 12 month follow-up could not be statistically identified and was not estimated.

comparison subjects received much treatment, particularly by the 12 month post-diversion acceptance point (with the exception of a slight increase in receipt of mental health counseling for both groups). The lack of treatment is particularly evident for substance abuse treatment. For example, at the 3 month interview, 26% of both groups reported receiving substance abuse counseling and at the 12 month interview 0.7% of those diverted versus no non-diverted participant received two or more substance abuse counseling sessions. At 3 months, 38% of the diverted subjects and 30% of the non-diverted reported mental health counseling versus 41% and 38% at 12 months, respectively. The majority of participants in both groups reported taking mental health medications as prescribed (84 and 75% for the diverted and non-diverted, respectively) at 3 months, but this declined for both groups at 12 months (63 versus 54% for the diverted and non-diverted, respectively). The diverted were about twice as likely as the non-diverted to report mental health hospitalizations (3 months, 29 versus 14%, respectively; 12 months, 17 versus 10%, respectively) and almost half again as likely to report ER visits at 3 months (22 versus 14%), although there was less disparity at 12 months, as ER visits declined for both groups (12% diverted versus 8% non-diverted). The diverted subjects at 3 months reported receiving on average a total of 11.1 (range = 0–90, SD = 19.72) counseling sessions (substance abuse and mental health) during the previous 3 months in contrast to 10.6 (range = 0–90, SD = 20.26) sessions reported by the non-diverted. At 12 months, the average number of total sessions received during the preceding 3 month period also declined (8.9 (range = 0–90; SD = 19.05) versus 8.5 (range = 0–90; SD = 18.26)).

Drug and Alcohol Use

There was significant variation across sites in the effect of diversion on substance use (see Table 3). Diversion was associated with decreases in alcohol use in Arizona at 12 months (OR = 0.47) and Eugene at 3 months (OR = 0.3). However, diversion was also associated with increased alcohol use in Connecticut at 12 months (OR = 3.71). Similar mixed results were seen across sites for illegal drug use. In Eugene diversion was associated with a reduction in drug use at 12 months (OR = 0.2), consistent with a drug court model, but in Portland diversion was associated with an increase in the odds of drug use at both follow-up periods (3 month OR = 6.47; 12 month OR = 3.35). In all other sites, diversion was not associated with any change in alcohol or illegal drug use. The large effect of diversion on the odds of illegal drug use in Portland probably drives the finding that diversion was associated with the increase in odds of illegal drug use across all sites 3 months after baseline (OR = 1.34), though not at 12 months.

Mental Health Symptoms

With the exception of two sites, statistically significant effects were not observed for jail diversion on mental health status (Table 3). In Portland at 3 months, diversion was associated with an improvement in the CSI (coeff. = 4.16, $p = 0.02$), and a reduction in the MCS (coeff. = -4.52). In Hawaii at 12 months, diversion was associated with participants being more symptomatic on the CSI (coeff. = -5.80,

$p = 0.04$). The reduction in the MCS in Portland probably drives the significant reduction in MCS across all sites combined at 12 months (coeff. = -1.45 , $p = 0.03$).

Criminal Justice

Logistic regression models demonstrated that at 3 and 12 month follow-up interviews the diverted subjects had significantly more days at risk (not institutionalized) during the previous 90 days than those who were not diverted. Specifically, the diverted had an average of 76 days at risk during the 90 days prior to the 3 month interview compared with 54 days for the non-diverted ($t = -12.75$, $p < 0.001$). These numbers are somewhat less than what was reported at baseline (80 and 75 days for the diverted and non-diverted, Table 1), but represent only an average of five days reduction of time in the community for the diverted subjects compared to 21 days for those who were not diverted. Comparable results were found at the 12 month interview—68 days for the diverted compared with 52 days for the non-diverted ($t = -8.3$, $p < 0.001$). Similarly for jail days, at 3 months, diverted participants were less likely to spend time in jail during the previous 3 months (10 days versus 28 days, $t = 14.63$, $p < 0.001$), a reduction for both groups from that which was reported for the 3 months prior to baseline (55 days versus 38 days for diverted and non-diverted, respectively).

As described in Table 4, jail diversion was not associated with any statistically significant change in criminal justice recidivism overall, or for individual sites, with one exception. In the Portland pre-booking program, the odds of any arrest at 12 months after baseline were increased (OR = 4.77).

Quality of Life

As described in Table 4, Arizona was the only site in which a statistically significant association was not observed between diversion and any of the eight measures of quality of life. For the other sites, we found some effect of diversion on quality of life, most commonly for measures of victimization, general life satisfaction, and satisfaction with living arrangements. However, the overall impact of diversion on quality of life is difficult to discern because of considerable variation across sites. In Portland, diversion was associated with increases in violent victimization 3 months after baseline (OR = 4.01) and in non-violent victimization at both follow-up points (3 month follow-up OR = 5.26; 12 month follow-up OR = 10.05). Eugene also demonstrated an associated increase in non-violent victimization at 3 months (OR = 5.19). New York City, on the other hand, had an associated reduction in non-violent victimization at three months (OR = 0.27).

The impact of diversion on self-reported satisfaction also varied across sites. In Connecticut, diversion was associated with a significant improvement in general life satisfaction 12 months after baseline, whereas in Portland and Pennsylvania diversion had a negative impact for the same time point. Diversion was also associated with improvements in the measure of satisfaction with living arrangements in two sites—Memphis at 3 months and Eugene at 12 months—but a reduction in this measure in New York City.

DISCUSSION

The quasi-experimental designs implemented in the eight sites resulted in the identification of study groups that differed significantly on a variety of factors. Comparatively, those diverted were more likely to be female, to have experienced more psychotic symptoms and serious mental illness, to have been hospitalized, and to have had a history of a violent previous offense. Those in the non-diverted group were more likely to have extensive alcohol and drug use and treatment histories, major mood disorders, more past arrests, and more employment experience.

Controlling for these differences, our results partially supported the hypotheses. In general, the results suggest that diversion resulted in increased use of services, at least over the initial 3 month follow-up period, and some improvements in quality of life indicators, particularly living arrangements. Although there were few significant individual site improvements in the criminal recidivism, mental health, or substance use measures (and negative findings in a couple of sites), the results overall suggest that persons with mental illness and co-occurring substance abuse disorders can be diverted from the criminal justice system (either at police contact or subsequently) with no increased risk for arrest (or in a number of sites by drug use) during the year following the initial diversion, compared to those not diverted. Combined with results that show that diversion reduced jail days and increased time spent in the community consistent with other studies (e.g. Hoff et al., 1999; Steadman et al., 1999a), our findings suggest that diversion may be one option for increasing access to services, increasing time in the community, and reducing jail days, without a concomitant increase in arrests, substance use, or psychiatric symptoms.

Ex post examination of the *realization* of the study design suggests that the evaluation was “under-powered” statistically to identify significant positive effects of diversion on outcomes beyond short-term service use. Heterogeneity across our study groups, variation in the program models, and relatively small differences in treatment of the diverted and non-diverted groups limited our ability to fully examine the effectiveness question.

First, the overall lack of comparability between groups (in part due to the inherent difficulty of finding a comparison site for pre-booking models) was controlled, but probably reduced the ability to detect effects. As reported elsewhere (Lattimore et al., 2003), the study groups’ characteristics also varied considerably across the sites. With the exception of the two pre-booking Crisis Intervention Team programs, the programs differed substantially across a variety of characteristics. With sufficient sample size, the evaluation could have examined the extent to which the different types of model may differentially moderate outcomes. However, the per-site sample sizes were generally too small to yield adequate statistical power for site-specific findings. A further limitation was the self-report nature of the data.

Finally, and perhaps most importantly, although the diverted subjects received significantly more services, particularly emergency, hospitalization, and counseling, than the non-diverted subjects, there were relatively small differences in treatment received by the diverted and non-diverted groups. In contrast to a strongest experimental comparison—in which 100% of the treatment group and none of the comparison group receives the intervention—the differences in the proportions of the diverted and not-diverted subjects reporting receipt of services at 3 and 12 months ranged from 1 to 15%. The greatest difference between the two groups

was that those diverted were somewhat more likely to receive psychiatric medication. Thus, this study would suggest that one necessary step in testing the effectiveness of diversion programs is to increase the extent to which the diversion programs increase linkages to and delivery of services to participants. In fact, quasi-experimental and experimental studies of court diversion, where treatment dose was ensured, indicate, when combining findings, that there may be positive effects for mental health, functioning, and recidivism (Cosden *et al.*, 2003; Lamb *et al.*, 1996).

The significance of this study lies not only in its findings, but also in its role in the development of diversion programs for the mentally ill and in diversion program evaluation research, which is limited to several experimental studies. What it shows is that, overall, there is no indication that diverted individuals who have non-violent and low-level violent offenses pose any greater social and public safety risk than those who are not diverted. Consequently, this study indicates that treatment and social services can be provided to like populations in lieu of incarceration without increased risk to public safety when compared with non-diverted clients, most of whom are released back into the community. In fact, in another study of these data, those diverted with violent offenses were comparatively of no increased risk for recidivism over those diverted with non-violent charges (Naples & Steadman, 2004). The cost savings or cost neutrality of a diversion approach is also thus implied and, although not yet rigorously studied, is supported through preliminary findings from these and others' data (Cowell *et al.*, 2004; Hoff *et al.*, 1999; Lamberti, 1999).

The issue of diversion as an access mechanism for treatment services is however equivocal and may be model dependent. Programs that required services through criminal justice action and oversight (e.g. police bringing a client to an emergency room or treatment center or a court requiring and directly discharging a client into treatment services through a court-based liaison) created direct access. A definitive, often immediate, and criminal justice directed linkage to treatment is primary for both pre-booking and court models and, thus, may be similarly coercive. In contrast, jail diversion programs that had no direct police or criminal justice involvement in the diversion or subsequent oversight did not create access. Thus, diversion does not automatically create access to services, and can remain in effect a diversion "from" the criminal justice system rather than diversion "to" the treatment system model (Broner *et al.*, 2002). Also, the lack of findings among major mental health and substance abuse outcomes may not have solely been a function of less treatment, but that appropriate treatment was not necessarily always received (e.g., relatively few clients received mental health treatment but even fewer clients received any substance abuse treatment though all study participants had a substance use disorder). Future analyses of these data will focus on model differences, the moderating effects of individual client characteristics and the effect of treatment on distal outcomes.

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