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# **Comprehensive Criminal Justice Interventions in Managed Mental Health Care**

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## Executive Summary

This reports summarizes the results and activities of the Arizona Comprehensive Criminal Justice Diversion Interventions project, one of the eight sites participating in the CMHS-CSAT multi-site study of jail diversion for individuals with co-occurring disorders. A total of 418 individuals were approached and asked to participate in this study; 248 individuals consented to participate and met study eligibility criteria. These individuals were clients of the publicly funded behavioral health system in the two largest metropolitan communities of Arizona: Phoenix and Tucson. A quasi-experimental design was used with individuals assigned to diversion or non-diversion status based upon the decision processes of the mental health-criminal justice systems operating within these communities. Of the 248 eligible and inducted participants, 154 (62.1%) were diverted, while the balance of 94 participants (37.9%) were not diverted and faced criminal prosecution and incarceration. The effectiveness of jail diversion programs in these communities were evaluated from a variety of data sources, including a structured cross-site interview protocol that was administered at three points in time: baseline within two weeks of their arrest and identification to the study team, 3 months, and 12-months following their arrest and induction; service utilization data obtained from the Regional Behavioral Health Authorities in these two communities; and arrest history data obtained from the Arizona Department of Public Safety.

Comparative analysis between the baseline and subsequent follow-up interviews revealed general main effects for time on many of the outcome variables, with few main effects or interaction effects detected on the basis of diversion status (diverted v. non-diverted). Statistically significant main effects for time that were observed at the three-month follow-up were generally sustained at the 12-month follow-up as well. The data portray general changes in the lives of the participants in directions one would hope: Indicators of mental health, substance use, and life quality all displayed improvements over time. Consistently, across all measures assessing mental health and substance abuse, study participants displayed improvements over time, irrespective of their diversion status. In general, participants' reported patterns of service utilization may be characterized as follows. First, participants generally displayed no significant changes in their rates of accessibility to, or frequency of use of the various mental health, substance abuse, and other services that were previously described at the 3- and 12-month follow-up interviews, relative to reported baseline rates. Second, few main effects for diversion status were detected with regard to service utilization, as diverted participants more frequently reported use of emergency rooms for mental health issues, at baseline and 12-month follow-ups. Furthermore, significantly more diverted participants reported use of emergency services other than the emergency room for mental health and for substance abuse problems at the three-month follow-ups, although insignificant differences were detected at either baseline or 12-months. Third, non-diverted participants reported receipt of medical health services more frequently than non-diverted participants at the 12-month follow-up. Fourth, case management, psychiatric medications, and seeing a psychiatrist continued to be the three more frequently identified mental health/substance abuse services, cited by more than 80% of the participants at the 3- and 12-month follow-ups. Data collected at the 3- and 12-month follow-up interviews suggest that while a number of indicators of criminality and violence were reduced over time, these reductions were statistically insignificant with no main effects for diversionary status or time identified at either the 3-month or 12-month follow-up.

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Based upon the results of this study, qualified, but empirically defensible conclusions can be drawn about the impact of post-booking jail diversion programs for persons with co-occurring disorders with regard to public safety, client functioning, and costs. The results of this study suggest that post-booking jail diversion offers a safe and reasonable alternative to prosecution and incarceration. Individuals who were diverted displayed no greater risk of further arrests and criminal behavior than those individuals who were not diverted. Results were inconclusive with regard to the relative effects of diversion upon subsequent criminal activity as both groups of study participants displayed similar reductions in subsequent arrests and bookings. Furthermore, all study participants displayed significant improvements over time in most measures of mental health, social support, and quality of life. As such, a reasonable conclusion to be drawn from these results is that diversion places individuals at no additional risk of future criminal behavior or involvement with the criminal justice system. Conversely, it is reasonable to conclude from these preliminary findings that diverting individuals with co-occurring disorders poses no substantial increase in safety risks to the community.

The results presented in this report, while intriguing, are not final. As noted earlier, the nonequivalence of groups is of particular concern and must be addressed in the final analyses. We are proposing to undertake additional analyses of the data for this project during the next 6-9 months. Emphasis will be on using propensity scoring methodology to correct for the differences between the diverted and non-diverted groups in order to permit us to draw stronger causal inference regarding the impact jail diversion has had on study participants.

The impact of this project upon policy and practice related to forensic mental health services and jail diversion program in particular, and upon mental health services in general, has been significant and has impacted all regions of the state, not simply the research communities of Tucson and Phoenix. These impacts have included: enhanced attention upon the treatment needs of persons with co-occurring disorders, a pilot diversion program for felons, the development of jail diversion programs in other communities throughout the state, the establishment of a mental health court within the Tucson community, and community wide efforts in Tucson and Phoenix to implement pre-booking diversion alternatives.

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## **I. Project Description**

### **1. Background and Context**

The Comprehensive Criminal Justice Diversion Interventions project was a CMHS/CSAT funded multi-site study, designed to evaluate the effectiveness of post-booking jail diversion processes for individuals with co-occurring serious mental illness and substance use disorders. The study was under the direction of the Arizona Department of Health Services, Division of Behavioral Health Services. Dr. Michael J. Franczak, Chief of Clinical Services for ADHS/BHS served as the Principal Investigator of the project. All research and data collection efforts associated with the project were conducted by the University of Arizona, Community Rehabilitation Division, under the direction of Dr. Michael S. Shafer, who served as co-Principal Investigator.

The project was developed as a result of a series of meetings of the Arizona Council of Offenders with Mental Impairments (ACOMI). This Council was established in 1992 through Chapter 234 by the Arizona Legislature and was charged with addressing nineteen mandates critical to the welfare of the offender with mental impairments and Arizona's citizenry. This 21-member Council recommends state policy for the identification, diversion, and treatment of individuals with mental impairments who are involved with, or at risk of becoming involved with, the criminal justice system. The ACOMI served as a Policy Advisory Council to the project. Regular updates and debriefings with the ACOMI occurred throughout the duration of the project; These updates kept ACOMI members informed of the progress of the project and in obtained their input and interpretation of preliminary project findings.

Publicly-funded behavioral health services are provided throughout the state of Arizona in a unique fashion. First and foremost, all behavioral health services are administered through the Arizona Department of Health Services, Division of Behavioral Health Services, to include services to children, individuals with general mental health, serious mental illness, and addictive disorders, along with substance abuse prevention services. In conjunction with the Arizona Health Care Cost Containment System (AHCCCS), ADHS/DBHS administers that state's Medicaid funded behavioral health programs through contracts with five Regional Behavioral Health Authorities (RBHAs) through managed care contracting systems. These RBHAs are geographically defined agencies responsible for the organization, administration, and financing of all behavioral health services within their defined geographic catchment areas. The RBHAs in turn establish behavioral health service networks through fee for service and risk-based contracts with local community-based outpatient and residential treatment providers.

This project was implemented within the two largest catchment areas of the state, Maricopa County, which includes the metropolitan community of Phoenix, and Pima County, which includes the metropolitan community of Tucson. Throughout the course of the study, the RBHA for Pima County has remained the same, Community Partnership of Southern Arizona. However, in 1998, the RBHA contract for Maricopa County was terminated with ComCare (the agency at the time the project was initiated) and was awarded to Value Options. This change in

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RBHA within Maricopa County did not significantly affect the availability of diversion alternatives, although the mix and scope of post-diversion services changed due to new and altered contracting systems. In addition to the change of RBHA within Maricopa County, a number of other unique differences should be noted with regard to these communities. First, at the outset of this project, the Phoenix community had an existing post-booking jail diversion program. This project allowed for an expansion of the existing program. In contrast, within the Tucson community, jail diversion programming was in its infancy; the current project provided critically needed resources to strengthen and to stabilize the program. A second key distinction between these communities has to do with the provision of case management services. Within the Phoenix community, case management and psychiatric care services are provided directly through the RBHA, with ancillary services, including outpatient counseling and residential services provided through purchase of services with local community based mental health providers. In Tucson, however, all case management and treatment services are provided through a network of four community provider networks, known as risk providers. While the administrative location of case management and treatment was not seen as a critical difference between the two program sites, it is of note because the jail diversion staff in these two communities were employees of the Regional Behavioral Health Authority. As such, within the Phoenix community, communication and coordination of services between the jail diversion staff and case managers was much more direct, whereas within the Tucson community, jail diversion staff had to coordinate with case managers who were employed by one of the area risk providers agencies. The final distinction of note between these two communities was the utilization of pretrial services within the criminal justice system of Pima County; pretrial services were not in place within the Maricopa County system. The presence of pretrial services within Pima County afforded greater resources in the identification of, and diversion of eligible individuals, as well as additional post-diversion monitoring of divertees within this area.

## **2. Hypotheses**

Based upon an extensive review of the literature, previous research and work in this area, and consultation with local and state policymakers and national experts, this study was designed to test a series of four inter-related hypotheses. First, based upon previous research we had hypothesized that individuals with co-occurring disorders are arrested and become involved with the criminal justice system primarily due to low level, non-violent, “nuisance” crimes that are reflective not of criminal intent as much as survival behavior (e.g., illegal trespass; loitering) and the secondary manifestations of dysfunctional and symptomatic behavior (e.g., disturbing the peace, disorderly conduct). Second, we hypothesized that there are key differences in the characteristics of individuals who are diverted and that local mental health and criminal justice systems implicitly operate with an informal or poorly articulated mechanism for screening and identifying appropriate candidates for diversion. Third, we had hypothesized that being diverted from jail would act as a stimulus for enhancing the nature and quantity of behavioral health services provided to individuals. Specifically, we had hypothesized that individuals who were diverted would display a significant increase in their utilization of behavioral health services, particularly during the first 90 days after being arrested and diverted, and that the types of services these individuals received would be distinctly different than the services provided to their non-diverted counterparts. Fourth, we had hypothesized that persons who were diverted

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from criminal prosecution would display no greater risk of criminal recidivism than their non-diverted counterparts.

### **3. Logic Model**

In line with the theory-driven evaluation approach, we constructed and explicated a theoretical model of the context in which the program operates, and specified the mechanism by which the program is supposed to effect its outcomes (Bickman, 1996). This logic model is informed by the current literature on the criminal justice system and the mentally ill, (e.g., Steadman & Dennis, 1994; Steadman, Morris & Dennis, 1995, Joseph & Potter, 1993, Center on Crime, 1996). This literature reflects the belief that a large proportion of the current group of mentally ill people in jails are there because of non-dangerous offenses that constitute survival behaviors, combined with poor coordination between the criminal justice and behavioral health systems. The result is that insufficiently treated people with mental illness are inappropriately admitted into the criminal justice system either because of the lack of appropriate mental health treatment resources in the community or because of institutional barriers to recognizing and diverting them into the behavioral health system. To the extent that this is true, the “active ingredients” in a jail diversion program will operate both on these institutional barriers, and on effective behavioral health treatment to prevent the behaviors that attract the concern of the criminal justice system. Both of these influences are reflected in the logic model. Appendix B depicts a program logic model developed in consultation with the GAINS Center, along with a generalized analytical logic model, which captures the vast majority of the hypothesized relationships between the various variables. We hypothesize three major stages of interaction: the decision whether and when to divert, the proximate outcomes associated with the decision to divert, and the distal outcomes associated with the decision to divert and the subjects’ potential separation from the community.

### **4. Multisite Design**

The Arizona Jail Diversion study represented one of nine (9) study sites participating in the CMHS-CSAT jointly funded multi-site Jail Diversion Knowledge Development & Application (KDA) program. Consistent with most SAMHSA multi-site studies, individual study sites shared a common research methodology in terms of inclusion and exclusion criteria and data collection systems, with each site evaluating a unique model of jail diversion alternatives. Of the nine participating sites, four tested various forms of “pre-booking” jail diversion alternatives, and the other five sites implemented “post-booking” jail diversion alternatives. The Arizona sites implemented a post-booking jail diversion program, as previously summarized and reported in the separate process evaluation report<sup>1</sup>.

### **5. Unique Aspects**

There are at least two unique characteristics of the Arizona jail diversion multi-site study site worthy of note. First and foremost, the Arizona site, actually consisted of two sites, Tucson and Phoenix, Arizona. In each of these communities a separate, private regional behavioral health

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<sup>1</sup> Shafer, Arthur, Franczak & Saunders (2001). *Arizona Criminal Justice Diversion Process Study Report*. Tucson: University of Arizona, School of Public Administration & Policy.

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authority (RBHA) is contracted by the state to manage publicly funded comprehensive children and adult behavioral health services, including mental health and substance abuse treatment. In Phoenix, the RBHA is ValueOptions, a private for profit organization. In Tucson, Community Partnership of Southern Arizona, a private non-profit organization is the RBHA. As such, the Arizona site provided an opportunity to study the implementation of post-booking jail diversion programs in two communities with fairly well developed managed mental health care systems.

Second, these communities provided distinct organizational and to some extent, financing systems, for jail diversion programs. Although both communities employed centralized RBHA jail diversion staff (“boundary spanners”) to coordinate efforts with the criminal justice system, they differed in the organization of mental health services. In Tucson, an at-risk network of four comprehensive treatment networks with capitated rates is employed. In contrast, Phoenix utilized a POS model with the RBHA employed case managers serving as gatekeepers. These differences in service delivery network organization and financing provide an illuminative perspective from which to study organizational networks and funding models.

## **6. Subject and Intervention Selection Processes**

The target population was persons 18 years of age with serious mental illness and co-occurring substance use disorders who were booked into county jail for misdemeanor or low level felony charges. Based on the cross-site study eligibility criteria, persons with serious mental illness were those individuals who met the following DSM-IV (American Psychiatric Association, 1994) eligibility criteria based on chart reviews:

- Schizophrenia spectrum disorder (all DSM-IV codes 295 and 297) OR
- Mood disorder (all DSM-IV codes 296, with the exception that 296.2 through 296.26 are within the past 6 months; codes 296.30 through 296.36 and 269.90 are within the past two years)

In order to meet the cross-site eligibility requirements for a co-occurring substance disorder, potential subjects had to score five or higher on the Michigan Alcoholism Screening Test (MAST) (Zung, 1979) or five or higher on the Drug Abuse Screening Test (DAST) (Skinner, 1982; Gavin, Ross & Skinner, 1989). The MAST and DAST were administered as part of the baseline instrument only.

The diversion programs in Phoenix and Tucson can be characterized as post-booking diversion programs, in that diversion occurs after a person has been arrested and booked into the county jail. While there may be informal, intermittent pre-booking diversion activities that occur in Phoenix and Tucson between some law enforcement personnel and community mental health and substance abuse service providers, there are no formal, written pre-booking agreements in place at the time this study was initiated. In these communities, mental health diversion consists of three tiers: release on conditions, summary probation, and deferred prosecution. These diversion options are available in all court jurisdictions.

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### **Release on Conditions**

When a client is arrested, s/he may be released on conditions if s/he has a good track record of attending past court appearances and is participating in treatment. Diversion staff members from the RBHA may advocate to the court for a release on conditions, and may recommend certain conditions of release to the court. Persons released on conditions are generally required to comply with mental health treatment, have no further arrests, appear at scheduled court dates, and comply with any other conditions that the judge may deem as appropriate. The release on conditions tier does not affect the charges that are filed against the client. Being released on conditions allows the client to be released from jail while awaiting trial or prior to entering a plea. Being released on conditions permits the client to participate in treatment instead of spending time in jail prior to his or her next court appearance. Persons who violate their conditions of release may be re-incarcerated, and face additional charges related to that violation. Clients who are released on conditions may later be eligible for the summary probation or deferred prosecution tiers of diversion as their legal proceedings continue.

### **Summary Probation**

When a client is convicted of an offense, s/he may be offered the option of summary probation. Summary probation consists of a specified time of supervised or unsupervised probation, in lieu of a jail sentence, in which the client is required to attend treatment, comply with any other relevant conditions, and have no further arrests. The length of probation varies based upon the nature of the charge and the background of the client. Clients are monitored by adult probation when they are sentenced to supervised probation. Those on unsupervised probation are not subject to court monitoring. If the client fails to comply with the conditions of probation, s/he may have the probation modified, or may be ordered to serve out a jail sentence.

### **Deferred Prosecution**

The final tier of diversion is the deferred prosecution option. Deferred prosecution involves postponing legal proceedings for a period of time (four months in Phoenix and six months in Tucson) while the client participates in treatment. During this period of time, the client is to comply with treatment, have no further arrests, and fulfill any other requirements the court deems appropriate. If the client fails to follow the conditions laid out by the court, the prosecution of the client resumes, and the regular legal process continues to a trial or a plea by the client. However, in many cases, the term of diversion may be extended, or the conditions of diversion modified for clients who are not compliant with the conditions of the diversion program. If the client completes all the requirements of the deferred prosecution program, his or her charges are then dismissed. Clients in this tier of diversion are monitored by their case manager of the mental health provider agency for treatment compliance, and in the Tucson program, additional monitoring is provided by the Superior Court pre-trial services department.

Participation in any of the three tiers of diversion reduces time spent in jail. Clients who are not considered a flight risk are usually offered release on conditions, which shortens time in jail prior to trial. Persons in the summary probation and deferred prosecution programs do not serve jail sentences if they are compliant with conditions. In the Phoenix area, all consumers of mental health services who commit misdemeanor offenses are eligible to be considered for any tier of the mental health diversion program. The program in Tucson is similar, in that any person with a

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mental health diagnosis who commits a misdemeanor offense is eligible for consideration as well if they are enrolled or become enrolled in the RBHA.

Organization. In the Phoenix area, mental health services are provided by ValueOptions. Staff from the VO forensics unit work with the courts on behalf of clients who are eligible for diversion, or who have been offered a diversion option. VO staff members may advocate for eligible clients, arrange for appropriate treatment from the VO clinical teams, and advise the court on a client's appropriateness for diversion. Funding for the VO staff personnel is part of the VO operating budget. Some additional funds from the SAMHSA Jail Diversion Initiative have allowed VO to hire an additional court liaison. In Tucson, CPSA staff work with the courts in a similar manner. CPSA staff advise the courts as to appropriateness for diversion and advocate for eligible clients. In the Tucson area, treatment is provided by one of the four service providers that are contracted with CPSA to provide mental health and/or substance abuse treatment services. Each of these provider organizations has a jail liaison who works with the courts, the jail, and CPSA in coordinating services for arrested and booked clients. Jail liaisons often attend court hearings in order to advise the court and advocate for their clients.

Staffing. In Phoenix, the VO diversion team consists of a Clinical Community Specialist, two Clinical Court Liaisons, and a nurse who assists with the treatment groups. The treatment groups provide education and therapy on an integrated basis to assist participants in relapse prevention and mental health improvements. The Clinical Community Specialist and the Clinical Court Liaisons work closely with jail staff and court personnel to identify eligible participants and to facilitate treatment in the diversion process. In the Tucson area a Criminal Justice Specialist, Criminal Justice Liaison, and a Criminal Justice Aide are the CPSA staff members who work with the jail and the courts regarding the mental health diversion program. These employees work alongside the jail liaisons from the four provider agencies in identifying eligible clients and facilitating the treatment aspects of diversion. Both groups receive in-service training on forensic mental health issues. The Criminal Justice Specialist has responsibility for the CPSA clients who are arrested in Pima County and whose cases are heard by the Pima County Justice Court. The Criminal Justice Specialist also assists provider agencies in developing jail liaison and diversion programs in the other counties that CPSA serves as the RBHA. The Criminal Justice Liaison works with clients who are arrested within the city limits of Tucson and whose cases are heard in the Tucson City Court. The Criminal Justice Liaison also works to coordinate with the jail liaisons from the various provider agencies that serve the Tucson area. The Criminal Justice Aide assists in the clerical and organizational aspects of the diversion program.

Interagency Linkages. Because VO is the primary provider for mental health services in Maricopa County, all treatment issues for persons in diversion programs are coordinated by or provided by VO personnel. VO has contractual agreements with providers of substance abuse treatment services, and some consumers in the diversion program receive substance abuse treatment from these agencies. CPSA is contractually linked with four provider agencies that furnish both mental health and substance abuse treatment services. CPSA also has a contractual agreement with an agency that primarily provides substance abuse services; some participants in diversion receive treatment from this agency. The CPSA Criminal Justice Specialist and

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Criminal Justice Liaison also work closely with Pre-Trial Services, Adult Probation, and other departments of the courts.

Identification, Screening, and Assessment of Participants. Electronic data link systems<sup>2</sup> allow VO and CPSA to match their list of enrolled clients with daily rosters of persons who are booked into the jails in Maricopa County and Pima County, respectively. At the time of arraignment or initial appearance, diversion staff will consult with court personnel regarding a client's appropriateness for diversion. If a client is deemed appropriate for release on conditions, this tier of diversion usually takes place at arraignment. If a client is eligible for the deferred prosecution program, this process begins at the arraignment or the initial appearance. Participation in the deferred prosecution program requires the consent of the prosecutor's office. VO staff screen clients for probable success in diversion by checking computerized treatment records. The client's willingness to attend treatment and ability to attend treatment groups (for the deferred prosecution program) are reviewed. CPSA staff consult by telephone and by fax with either the case manager or the jail liaison from the client's provider agency in order to make a recommendation to the court regarding appropriateness for diversion. In order to be eligible for the diversion program, clients in the Tucson area must be over the age of 18, and case managed as part of their treatment by one of the four contracted service providers, the Veterans' Administration Hospital, or a private agency. In each case, the case management or treatment agency must agree to report the client's progress in treatment as part of the diversion program.

Clinical Assessments. Clinical assessments are not performed as part of diversion procedures. In some instances a re-assessment of a client may be requested by diversion staff if it is thought that it might benefit the client's treatment. In Tucson, all participants in the jail diversion study are assessed for alcohol and substance issues by their service provider using the Addition Severity Index (ASI). Information from this assessment is then incorporated into the client's integrated treatment plan.

Treatment During Diversion. In the Phoenix area, mental health treatment is coordinated by the client's VO clinical team, which consists of the client, case manager, psychiatrist, clinic nurse, and other staff as needed. The client's regular mental health treatment may be modified for his or her participation in diversion. Clients who are in the deferred prosecution program are required to attend two weekly groups. These groups are facilitated by the Clinical Care Coordinator and a clinic nurse. In addition to attending these groups, clients who are in the deferred prosecution program are required to meet with their case managers once per week during the four-month period. In the Tucson area, clients in diversion receive treatment from one of the four provider agencies that are contracted with CPSA. Each client receives services based on his or her treatment goals. Treatment goals for each client are outlined in an individual service plan (ISP). Specific risk factors such as re-offending, substance use, and lack of illness management are addressed in this plan. Appropriate services are implemented as a result of the ISP process. All clients receive individual service plans regardless of their involvement with the criminal justice system or participation in one of the diversion tiers.

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<sup>2</sup> GAINS Center. (1999). Using Management Information Systems to Locate People with Serious Mental Illnesses and Co-Occurring Substance Use Disorders in the Criminal Justice System for Diversion. Policy Research, Inc., Delmar, NY.

## 7. Collaborations

The Arizona study site is distinguished by the high degree of interagency collaboration that has occurred in this state regarding behavioral health-criminal justice systems interface issues. As previously noted, the proposal for the present study that was submitted by ADHS/BHS was authorized by the Arizona Council for Mentally Impaired Offenders (ACOMI). The Council served in an Advisory capacity to the project, with co-PI's Franczak and Shafer providing periodic updates to the Council. The proposal itself was developed and implemented by the University of Arizona, School of Public Administration & Policy. This project would not have been possible without the coordinated efforts of a variety of state and local agencies, including: ADHS/DBHS, the RBHAs in Maricopa and Pima Counties (ValueOptions and Community Partnership of Southern Arizona, respectively), the Maricopa County Sheriff's Office, the Pima County Sheriff Department, the Arizona Department of Public Safety, the University of Arizona School of Public Administration and Policy, and the various community treatment providers within the Pima and Maricopa county catchment areas.

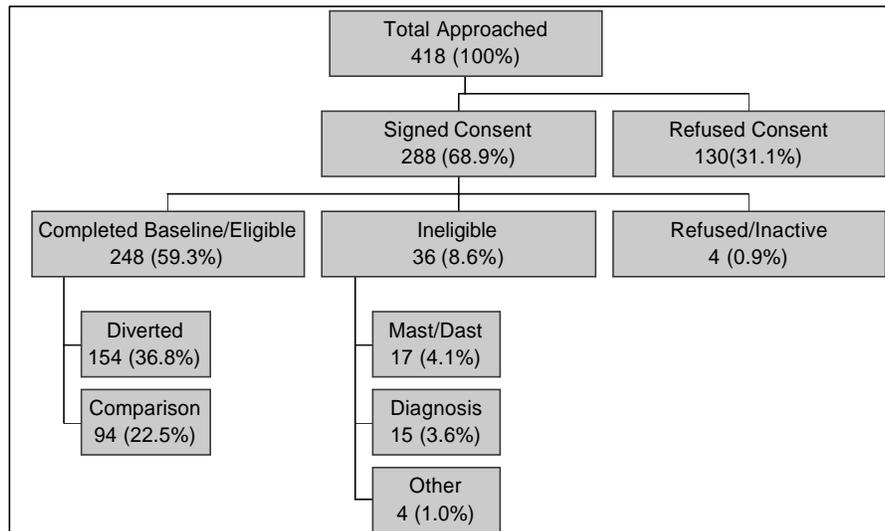
## II. Results

### 1. Enrollment

The Arizona project screened and inducted its first subject in early September, 1998 and closed inductions in May 2000. During this period of time a total of 418 individuals who appeared to meet the SMI and diversion program eligibility requirements were approached and asked to participate in the Criminal Justice Diversion Program study. Of that number, 288 (68.9%) agreed to participate in the study and signed the necessary Subject Consent and Release of Information forms. There were no significant differences between those consenting and those refusing to participate in the study based on gender, age, ethnicity, diagnosis, or arrest charge.

Of those consenting to participate in the study, 248 (59.3%) completed the baseline instrument and were found eligible to continue in the study based on MAST and DAST scores. A total of 36 individuals (8.6%) were found to be ineligible for the study, on the basis of their

MAST/DAST scores (n=17), mental health diagnosis (n=15) or criminal charges/other reasons (n=4). An additional four (4) individuals (.9%) refused to complete the baseline interview and/or participate in the study, after providing informed consent. There were no significant differences between those eligible and those not eligible for the study in gender, age, ethnicity, diagnosis, or arrest charge.



Of the 248 eligible study participants who completed baseline assessments, 154 (62.1%) received diversion while 94 (37.9%) received no diversion. Of those persons diverted, 86 were released on conditions, 48 received deferred prosecution, and five received summary probation. No differences were noted between those individuals consenting to participate, found to be eligible, or completing baseline assessments based upon either location (Tucson v. Phoenix) or study condition (diverted v. non-diverted).

The accompanying table summarizes the rate of conducting three-month and twelve-month follow-up interviews with those eligible study participants who had completed the baseline interview. As these data reflect, of the 248 eligible study participants who completed a baseline interview, three-month follow-up interviews were conducted with a total of 226 participants, with 12-month interviews conducted with a total of 202 participants, generating follow-up rates of 92.2% and 83.5%, respectively. These data also reveal that out of the 248 individuals with whom baseline interviews were completed, both 3 and 12-month interviews were completed with a total of 190 eligible study participants, reflecting a cumulative eligible participant follow-up rate of 78.5%. Of the total of 248 participants, we were able to locate 89.1% of them at both the 3- and 12-month follow-up points

	<b>3 month</b>	<b>12 month</b>	<b>3 &amp; 12 month</b>
Completed baseline interviews	248	248	248
Completed follow-up interviews	226	202	190
Located – Refused	1	2	1
Located – Permanent/temporary disability	1	1	1
Located – Out of state, incarcerated	8	24	24
Unable to located	10	14	27
Death of participant	2	5	5
Gross follow-up location rate	96.0%	94.3%	
Gross follow-up completion rate	91.1%	81.4%	
Eligible participant follow-up completion rate	92.2%	83.5%	
Cumulative gross follow-up location rate			89.1%
Cumulative gross follow-up completion rate			76.6%
Cumulative eligible participant follow-up completion rate <sup>6</sup>			78.5%

## 2. Baseline Descriptive Statistics

### General Demographics

In general, study participants were male (63%), Caucasian (57.7%), living with others (45.2%), and unemployed (85.5%) at the time of the arrest. With regard to cultural diversity, slightly more than one fifth of the participants identified themselves as Hispanic (20.2%), with 16.1% identifying themselves as African-American, and 12.9% identifying themselves as Native American<sup>3</sup>. On average, study participants reported 11.8 years of formal education, with 64.5% reporting either a high school diploma, or a GED. Twenty percent of the participants reported being married, with 31.9% reported living with a partner or spouse at the time of the baseline interview. Nearly two-thirds (63.9%) reported episodes of homelessness in the past 12 months. While three-quarters of the participants reported having had a regular job in the past and 68.1%

<sup>3</sup> These numbers add up to greater than 100% because some respondents identified themselves as belonging to more than one racial or ethnic group.

reported having had a full-time job, only 25% reported working in the past 30 days. Significant differences were detected at baseline on the relative rates of diversion between the study participants in Tucson and Phoenix. In Tucson, 72.6% of all program participants were diverted compared to 51.6% in Phoenix ( $p=.001$ ). Finally, significantly more baseline interviews were conducted in jail with non-diverted study participants (41.9%) as compared to diverted participants (14.9%) ( $p<.001$ ).

### Physical and Mental Health Assessment

Physical health and mental health assessment was conducted through the SF 12 (Ware, Kosinski, & Keller, 1994) and the Colorado Symptom Inventory (CSI) (Lee, Shern, Coen, Bartsch, Wilson, submitted for publication). At the time of baseline interviews, no significant differences were noted in either the physical or mental health of the study participants, on the basis of diversion status. The accompanying tables provides a summary of the SF 12 and CSI scores for study participants.

	Diverted		Non-Diverted	
	Mean	SD	Mean	SD
CSI Total	43.35	12.08	43.9	12.21
CSI-Psychoticism Subscale	29.11	8.97	29.58	9.59
CSI Anxiety-Depression Subscale	10.95	3.16	10.85	3.01
SF 12 Physical Health Scale	47.21	10.74	44.46	11.74
SF-12 Mental Health Scale	35.79	12.17	37.51	12.47

As these data reveal, participants in general displayed good to fair physical health, within one standard deviation of the mean for the SF12 physical health scale, and slightly more than one standard deviation below the mean for the SF12 mental health scale.

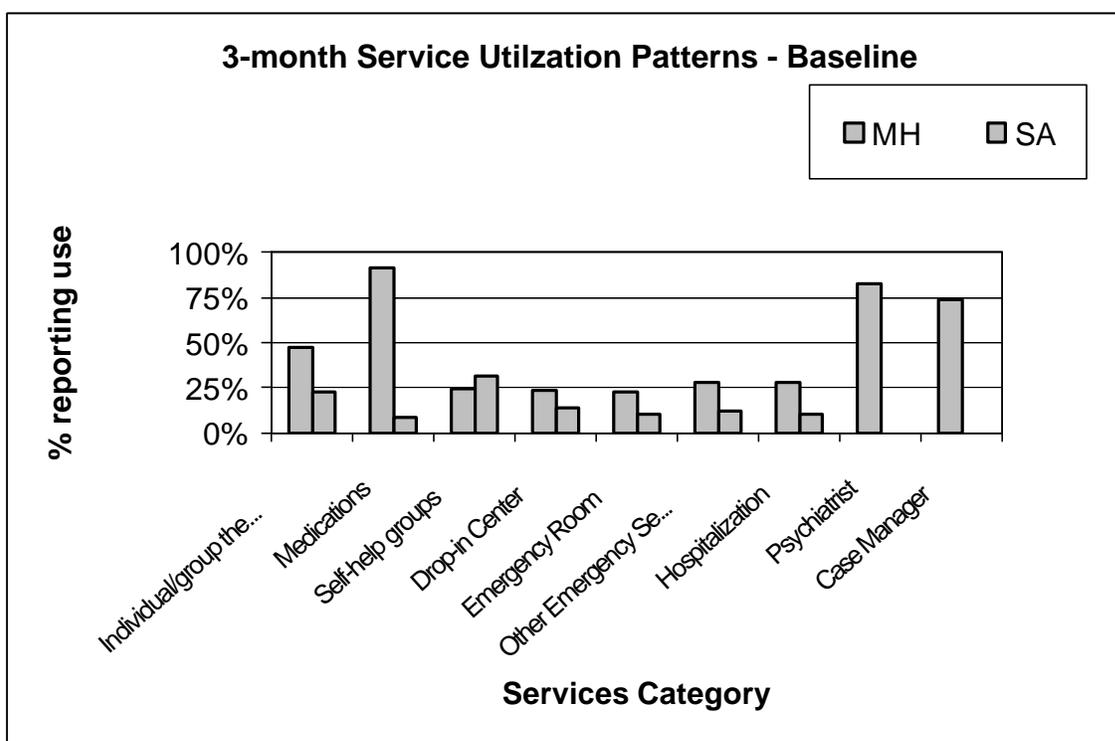
### Mental Health Symptoms and Substance Use Patterns

Regarding mental health and substance abuse profiles, 53% of the study participants were identified as having an Axis I diagnosis that was consistent with a mood disorder; 47% were diagnosed with a schizophrenia or related disorder. More than two-thirds (71%) had ever attempted suicide, with 19% reporting at least one attempt in the preceding 12 months. Participants reported an average age of onset of mental health problems as 17, with a much earlier age of alcohol and drug use at 12.9 and 15.7 years, respectively. Fifty-eight percent of the study participants reported using alcohol in the previous calendar month, with those who drank reporting an average use of 10.2 days during the month preceding the baseline interview. In comparison, 59% of the study participants reported use of illegal drugs in the month preceding the baseline interview, with an average of 13.4 days of self-reported drug use during the month preceding the baseline assessment. At baseline, 39.5% of the project participants reported use of both alcohol and drugs in the previous month, with significantly more of the diverted participants reporting poly-substance use (45.5% v. 29.8%,  $p=.01$ ). With regard to drug choice, marijuana and cocaine were the most commonly cited substances, at 35.9%, and 32.3% of the study participants, respectively. Stimulants, opiates, and sedatives were cited by 6.5%, 5.6%, and

3.6% of the participants respectively. Finally, 1.2% of the study participants reported use of inhalants in the calendar month preceding to the baseline interview.

### Mental Health, Substance Abuse, and Other Services Utilization

Participants were queried at the time of the baseline interview regarding their utilization of a host of substance abuse, mental health, and other related services during the 90 days prior to their baseline interview. In general, the pattern of responses that emerge are reflective of what would be expected, given the site specific eligibility criteria that stipulated enrollment in the regional behavioral health system at the time of arrest. Specifically, 91.9% of the study participants reported use of prescribed medications for a mental illness, 82.7% reported seeing a case manager, and 74.2% reported seeing a psychiatrist in the 90 days prior to the baseline interview. Obviously, the individuals participating in this study site were individuals already engaged in the public behavioral health system.



Furthermore, participants displayed differential rates of service utilization for mental health versus substance abuse services, with more participants reporting use of mental health services, compared to substance abuse service. The accompanying figure displays the differential rates of service utilization for substance abuse and mental health services during the 90 days preceding the baseline interview. As these data reflect, study participants accessed services for the mental health problems at a significantly higher rate than for their substance abuse problems. Furthermore, medication utilization predominated the mental health services reported, with individual/group therapy use reported by slightly less than one-half of the study participants. With regard to substance abuse service patterns, self-help groups was the most frequently reported service by 31.5% of the participants, followed by individual and group therapy, at slightly less than one-quarter (22%).

Other commonly reported services included medical/physical health services (39.5%), housing (29.8%), benefits and entitlements counseling (26.6%), seeing a probation/parole officer (17.7%), and legal aid (17.3%). Only one significant difference was noted between study participants' utilization patterns, as diverted participants more frequently reported using an emergency room for the mental health (27.3%) as compared to their non-diverted counterparts (14.9%) ( $p \leq .012$ ). This pattern of elevated ER services for mental health remained present at both the 3-month and 12-month follow-ups.

### Criminality and Violent Behavior

Criminality was assessed along a variety of dimensions, including index offense, history of arrests and incarceration, and exposure to violence. These data were drawn from three primary sources, including self-reported information as part of the cross-site interview protocol, review of the arresting or booking sheet, and review of data from the Arizona Computerized Criminal History System, maintained by the Arizona Department of Public Safety. This system provides a comprehensive history of arrest dates and charges that were reported by local jurisdictions within the state of Arizona.

With regard to index offense (that is the charge or charges of the arrest incident that brought the participant to the attention of the study), four charge classifications predominated the distribution of index offenses. These four charge classifications included Procedural Violations (31.5%), Public Disorder Offenses (24.6%), Minor Violations (24.2%), and Non-sex assault Offenses (25.4%).

<b>Index Offenses</b>	<b>Diverted</b>	<b>Non-Diverted</b>	
	n = 154	n = 94	
<b>Non-sex Assault Offenses</b>	33.1%	12.8%	p<.001
<b>Procedural Violations</b>	27.9%	37.2%	
<b>Public Disorder Offenses</b>	26.6%	21.3%	
<b>Minor Violations</b>	23.4%	25.5%	
<b>Other Crimes Against Persons</b>	11.7%	3.2%	p=.02
<b>Drug Crimes - Possession</b>	6.5%	8.5%	
<b>Property Crime - Direct Theft</b>	4.5%	0.0%	
<b>DUI/DWI</b>	1.9%	7.4%	
<b>Property Crime - Fraud</b>	1.9%	7.4%	
<b>Other Offenses</b>	1.9%	2.1%	
<b>Drug Crimes - Sale/Manufacture</b>	0.6%	1.1%	

All other charge classifications, including drug crimes and property crimes, were noted for less than 10% of the participants. As noted in the accompanying table, diverted participants were found to more frequently report non-sex assault offenses among their arrest charges, along with other person crimes. In addition, the charges included procedural violations more frequently in Tucson (41.9%) than in Phoenix (21.0%); this difference was statistically significant ( $p < .001$ ).

The following table provides a summary of the self-reported lifetime arrest history, past 12 months arrest history, and most serious crime arrest profiles for the study participants, separated on the basis of diversion status. These findings suggest that diverted participants were significantly more likely to have a history of violent crime offenses and significantly less likely

to have a history of procedural violation offenses, as compared to their non-diverted participants. Diverted participants were also more likely to report arrests in the past 12 months for violent crimes and less likely to report procedural violations. When queried to identify the most serious crime for which they had ever been arrested for, participants displayed similar response patterns, with Non-sex assault Offenses (35.9%), Other Lesser Crimes (20.6%), Drug Crimes (17.7%), and Property Crimes (17.7%), reflecting the more commonly cited charge categories.

	Ever Arrested for		Arrested Prior 12 months		Most Serious Crime Ever Arrested	
	Div.	N-Div.	Div.	N-Div.	Div.	N-Div.
<b>Violent Crimes</b>	66.2%	48.9%	39%	23.4%	42.2%	25.5%
<b>Drug Crimes</b>	37.7%	52.1%	14.9%	17%	13%	25.5%
<b>Other Crimes Against People</b>	17.5%	17%	10.4%	8.5%	4.5%	3.2%
<b>Property Crimes</b>	33.1%	39.4%	9.7%	8.5%	16.9%	19.1%
<b>Procedural Violations</b>	55.2%	75.5%	36.4%	56.4%	2.6%	3.2%
<b>Lesser Crimes</b>	81.8%	87.2%	57.1%	57.4%	20.1%	21.3%
<b>Other Offenses</b>	2.6%	5.3%	1.9%	2.1%	.6%	2.1%

Participants reported that on average, they were first arrested at the age of 20.75 years, as compared with 17, 12.9, and 15.72 years for reported onset of mental health problems, alcohol use, and drug use, respectively. Over one-third (35.9%) of these participants reported having been incarcerated in a juvenile detention facility. Seventy-seven percent reported being arrested four or more times in their life; within the past 12 months, individuals reported being arrested on an average of 2.24 (SD=2.25) occasions. Diverted participants were found to have a statistically significantly higher frequency of arrests in the 30 days immediately prior to the index arrest, with a mean of 1.16 arrests, compared to 1.06 arrests for non-diverted participants ( $p = .037$ ). Furthermore, non-diverted participants were found to report a higher rate of prior convictions (79.8% v. 71.4%). Slightly more than 90% of the participants had spent at least 24 hours or more in a jail or prison. Significantly more diverted participants reported having spent one day or less in some form of criminal justice incarceration during their most recent incarceration ( $p = .025$ ).

Using the McArthur Violence Scale (Steadman, Mulvey, Monahan, Robbins, Appelbaum, Grisso, Roth, & Silver, 1998), participants were surveyed as to their exposure to acts of violence during the 90 days prior to the baseline interview, as well as their perpetration of violent acts against others. Responses to these items reveal that 54.4% reported being the recipient of some form of violence, with being hit (27%), pushed, grabbed, or shoved (19%), and threatened with a knife or gun (13.3%) cited as the more common forms of violence. In comparison, 44% of the participants reported committing violence against others in the 90 days prior to the baseline, with hitting (19%) and pushing, grabbing, and shoving (14.9%) predominating. Only 1.6% reported use of a knife or weapon in the perpetration of violence prior to the baseline interview. Finally, 40.3% of all participants reported being the victim of crime in the 12 months preceding baseline, with no significant differences noted between diversion status or program location.

## Social Support and Quality of Life

Participant's level of social support and life quality were assessed by using selected subscales and/or items from the Duke Social Support Instrument (DSSI) (Landerman, R., George, L.K., Campbell, R.T., & Blazer, D.G., 1989) and the Lehman Quality of Life Interview (QOLI)(Lehman, 1988), respectively. No significant differences were detected in these measures on the basis of diversion status or program location. Study participants provided a mean score 7.73 (SD=2.1) on the QOLI satisfaction with social support subscale and a 14.13 (SD=3.85) on the perceived social support subscale. On questions related to subjective aspects of quality of life, such as satisfaction with living situation, satisfaction with daily activities, satisfaction with finances, and satisfaction with health, study participants' median responses reflected that they felt mostly dissatisfied or mixed about these aspects of their lives. With regard to the objective subscales of family contact, social contact, and financial adequacy, study participants provided average scores on both support subscales and lower scores on the financial adequacy subscale. A majority of participants reported having \$50 or less to spend on themselves in the 30 days prior to the index arrest, and only 25% reported having a job in the immediate 30 prior days.

### 3. Outcome Analysis: Preliminary Analysis

Repeated measures analysis of variance (ANOVA) and Chi-square analyses were used to detect preliminary differences in key outcomes, as evidenced in the interview assessments conducted with study participants at Baseline, 3-months, and 12-months post baseline interviews. Tests for main effects and interaction effects were conducted for, diversion status, and time of interview. Comparative analysis between the baseline and subsequent follow-up interviews revealed general main effects for time on many of the outcome variables, with few main effects or interaction effects detected on the basis of diversion status (diverted v. non-diverted).

Furthermore, statistically significant main effects for time that were observed at the three-month follow-up were generally sustained at the 12-month follow-up as well. The accompanying table summarizes the only main effects observed at the 12-month interview on the basis of diversion status.

	<b>Diverted N = 124</b>	<b>Non- Diverted N = 78</b>	<b>P<sub>≤</sub></b>
Colorado Symptom Index Anxiety-Depression Subscale	9.11 (SD=3.60)	10.24 (SD=3.20)	.025
Use of ER for Mental Health or Substance Abuse since baseline interview	28 (22.6%)	6 (7.7%)	.006
Use of ER for Mental Health or Substance Abuse 6-9 months before interview	15 (12.1%)	2 (2.6%)	.017
# times physical health service past 90 days (among those who received those services)	3.21 (SD=3.54)	5.62 (SD=7.01)	.046
Arrested for lesser crimes past 3 mos	10 (8.1%)	16 (20.5%)	.011

As these data reveal, non-diverted study participants reported less frequent use of emergency room services for substance abuse or mental health issues in the 90 days prior to the 12-month interview, along with more frequent use of psychiatrists visits and other physical health services, as compared to their diverted counterparts. No other statistically significant differences were detected between the diverted and non-diverted study participants at the 12-month interview point.

In contrast, a number of consistent and statistically significant changes were observed in participants' response patterns over time. In general, these changes were first observed at the three-month follow-up and subsequently sustained at the 12-month follow-up. These data portray general changes in the lives of the participants in directions one would hope: Indicators of mental health, substance use, and life quality all displayed improvements over time. Only the SF-12 measure of physical health, and QOLI measures of amount of family contact and amount of social contact declined over time. The accompanying tables provides a summary of all subscales of the cross-site interview protocol for which main effects of time were observed at the 3-month ( $p=.03$ ) and at the 12-month interview ( $p<.03$ ).

### Physical Health, Mental Health And Substance Abuse Patterns

Consistently, across all measures assessing mental health and substance abuse, study participants displayed improvements over time, irrespective of their diversion status. The accompanying table summarizes the key changes in physical health and mental health status, as assessed by the SF-12 and the CSI.

In general, study participants displayed reductions in their mental health symptoms, as assessed by the CSI as well as their overall use and duration of use of illicit drugs

	3 month	12 month
CSI Total	✓	✓
CSI Psychoticism	✓	✓
CSI Anxiety/Depression	✓	✓
Mean # days used alcohol (among those who used)	✓	✓
Mean # days used drugs (among those who used)	✓	✓
SF-12 Physical Health	✓	✓
SF-12 Mental Health	✓	✓
DSSI Satisfaction	✓	✓
DSSI Perceived Support	✓	✓
QOLI General Life Satisfaction	✓	✓
Satisfaction with Daily Activities	✓	✓
Satisfaction with Family Contact question	✓	✓
Satisfaction with Social Relations question	✓	✓
Satisfaction with Finances question		✓
Satisfaction with Safety question	✓	✓
Satisfaction with Health question	✓	✓
QOLI Family Contact	✓	✓
QOLI Social Contact	✓	✓
QOLI Financial Adequacy		✓

	Baseline		12-month		p <sub>≤</sub>
	Mean	SD	Mean	SD	
CSI Total	43.72	11.61	37.13	12.54	.001
CSI-Psychoticism Subscale	29.21	8.98	24.70	9.31	.001
CSI Anxiety-Depression Subscale	11.07	3.04	9.53	3.49	.001
SF 12 Physical Health Scale	46.32	11.46	45.16	11.57	.009
SF-12 Mental Health Scale	36.32	12.50	41.09	12.38	.001

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and alcohol, as assessed by follow-back calendars (Maisto, Sobbell, Cooper, & Sobbell, 1982). With regard to CSI scores, study participants displayed statistically significant reductions in their overall CSI scores, along with the two CSI subscale scores of Psychoticism and Anxiety-Depression. Similarly, reductions in alcohol and drug use were also observed with the number of participants reporting alcohol use in the previous calendar month down 17.9% to 40.6% at the 12-month interview, as compared to 58.5% at the baseline assessment. Similarly, the number of participants reporting drug use in the previous calendar month decreased 24.2% from 58.9% at the baseline interview to 34.7% at the 12-month interview.

### **Mental Health, Substance Abuse, and Other Services Utilization**

In general, participants' reported patterns of service utilization may be characterized as follows. First, participants generally displayed no significant changes in their rates of accessibility to, or frequency of use of the various mental health, substance abuse, and other services that were previously described at the 3- and 12-month follow-up interviews, relative to reported baseline rates. Second, few main effects for diversion status were detected with regard to service utilization, as diverted participants more frequently reported use of emergency rooms for mental health issues, at baseline and 12-month follow-ups. Furthermore, significantly more diverted participants reported use of emergency services other than the emergency room for mental health and for substance abuse problems at the three-month follow-ups, although insignificant differences were detected at either baseline or 12-months. Third, non-diverted participants reported receipt of medical health services more frequently than non-diverted participants at the 12-month follow-up. Fourth, case management, psychiatric medications, and seeing a psychiatrist continued to be the three more frequently identified mental health/substance abuse services, cited by more than 80% of the participants at the 3- and 12-month follow-ups.

### **Criminality and Violent Behavior**

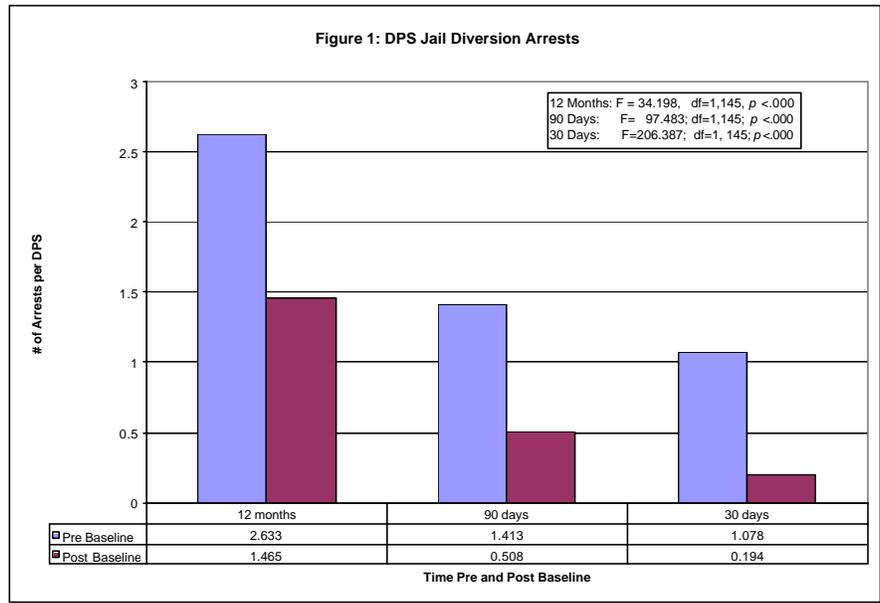
Data collected at the 3- and 12-month follow-up interviews suggest that while a number of indicators of criminality and violence were reduced over time, these reductions were statistically insignificant with no main effects for diversionary status or time identified at either the 3-month or 12-month follow-up. For example, nearly 10% (9.9%) of the study participants reported having been arrested in the 30 days immediately prior to the 12-month follow-up interview, compared to a 3-month rate of 15.5%. At the 12-month follow-up, 47% of all participants reported having been arrested at least once since their baseline interview, with non-sex assault offenses, lesser crimes, and procedural violations continuing to predominate as the more frequently cited arrest charges. In general, rates of reported violence both perpetrated and received by the project participants decreased over time, although no statistically significant effects were observed for time or diversion status. At 12-months, 27.2% reported having been the victim of violence during the preceding 90 days (as compared to a baseline rate of 54.4%), while 18.8% reported perpetrating a violent act (as compared to baseline rate of 44%).

Arrest data was obtained from the Arizona Computerized Criminal History System maintained by the Arizona Department of Public Safety on 149 study participants through August 2000. In a preliminary analysis of this data using MANOVA with three dependent variables (12 months pre and post baseline, 90 days pre and post baseline, and 30 days pre and post baseline) and two independent variables (city and diversion condition) there were significant differences noted.

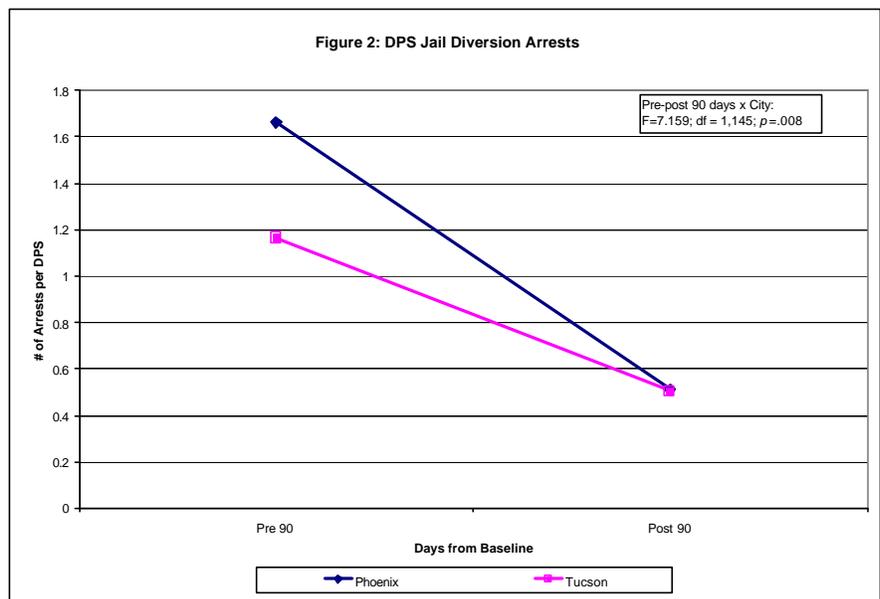
Overall, the number of arrests decline pre baseline compared to post baseline. This is shown in the accompanying graph.

Further, there were significant interaction effects detected. The average number of arrests 90-days pre-baseline were significantly higher in Phoenix (1.66) compared with Tucson (1.16), while

the average number of arrests 90-days post-baseline were almost identical (0.51 for Phoenix; 0.50 for Tucson;  $F=7.159$ ;  $df=1,145$ ;  $p=.008$ ). These results are depicted in following graph.



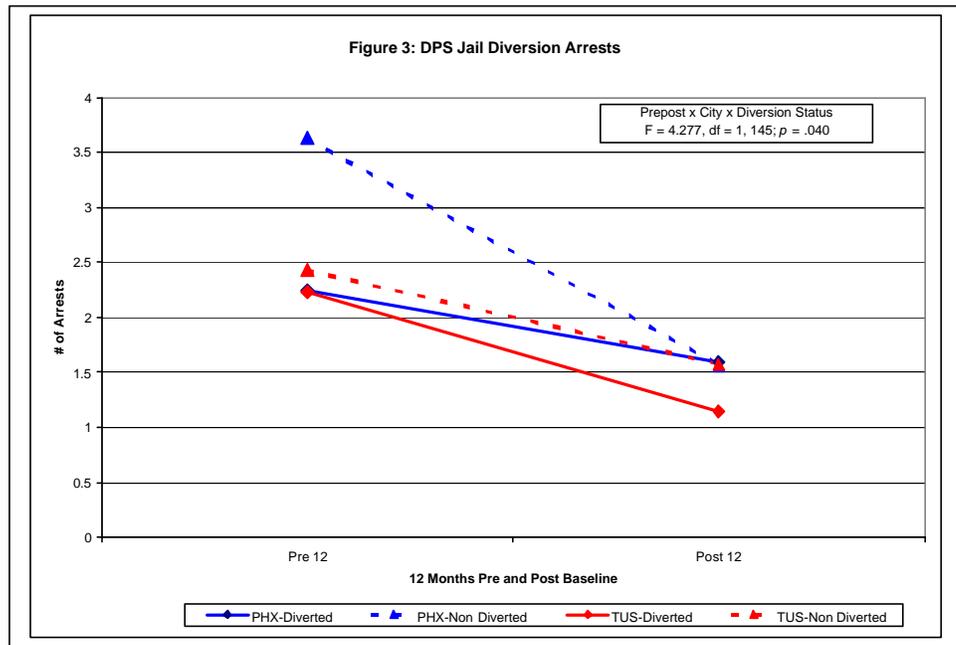
Finally, as shown in the figure on the following page, there was a significant time by city by diversion condition interaction ( $F=4.277$ ,  $df=1,145$ ;  $p=.040$ ). The number of arrests 12-months pre-baseline was highest for Phoenix non-diverted subjects, while the number of arrests 12-months post-baseline was lowest for Tucson diverted subjects.



#### 4. Site Specific Studies

Three site-specific studies were conducted at the Arizona research site. These included a qualitative analysis of the decision making factors and processes influencing diversion decisions, a longitudinal assessment of the effects of diversion upon participants' readiness to change (as assessed by the URICA, a standardized instrument for assessing readiness to

change), and finally, an exploratory analysis of the types and intensity of treatment and related services provided to participants prior to and following their diversion using administrative services utilization data provided by the RBHAs. At this time, results of only the first study, a qualitative analysis of diversion decision factors is completed. Finally analysis of the second and third site-specific studies are expected to be completed within the next 2-3 months.



#### The Utilization of Concept Mapping to Identify Key Dimensions in the Decision of Providing Jail Diversion to Persons with Serious Mental Illness.

Concept mapping is a structured conceptualization process that can be used by groups to develop a framework for planning and evaluation (Trochim, 1989a; 1989b). Concept mapping as a process possesses both qualitative and quantitative aspects. The process typically involves a number of steps, requiring participants to brainstorm a large set of statements relevant to their particular area of interest, sort the resulting statements into similar piles, rate each statement on a given scale, and interpret visually depicted maps that result from the data analyses. The data analyses include a two-dimensional multidimensional scaling (MDS) of the unstructured sort data, a hierarchical cluster analysis of the MDS coordinates, and the computation of average ratings for each statement and cluster of statements. The maps show the individual statements in two-dimensional (x,y) space with more similar statements located nearer each other. Statements are then grouped into clusters. Participants are led through a structured interpretation session designed to help them understand the maps and label them in a substantively meaningful way.

The purpose of this site-specific study was to utilize the structure of concept mapping to assist in the identification of specific criteria used in the decision to divert a person with serious mental illness from jail. Concept mapping was selected due to its open-ended orientation, allowing for a

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wide variety of participation, its ability to incorporate divergent perspectives, and its highly participatory approach.

A total of 30 individuals participated in the “statement generation” phase of the study, and 25 individuals participated in the “sorting and rating” phase of the study. All participants were members of the Maricopa County Criminal Justice Behavioral Health Council. Members of the Council included mental health professionals, jail diversion staff, prosecutors, defense attorneys, mental health advocates, probation staff, and representatives from the local court systems. Of those individuals who participated in the sorting and rating phase, 57% were female and the median number of years involved with jail diversion activities was 5 years (range: 1-28 years; mean: 6.8 years).

The purpose of the first concept mapping session was to generate the items that would be subsequently used for the concept mapping and pattern matching exercises. At this meeting, individuals were provided a piece of paper and asked to generate statements that describe specific factors or criteria that could influence the decision to divert a person with serious mental illness from jail. The group facilitator then used a round-robin technique allowing each individual in the group to nominate their statements. No effort was made to edit the statements that were being generated. This process continued for approximately 45 minutes until no new ideas or statements were identified. When completed the group had developed a set of 81 statements.

At the second concept mapping session, individuals were asked to sort the statements into similar piles using the procedures outlined by Trochim (1989a; 1989b). After the card sorting procedures were completed, participants were asked to complete two rating sheets. The first sheet asked participants to rate each statement on its actual importance as a diversion criterion. This rating is later referred to as “Actual Importance.” The second sheet asked participants to rate each statement on its ideal importance as a diversion criterion. This rating is referred to as “Ideal Importance.” For both sets of ratings, participants used a five-point Likert scale that ranged from 1 (Relatively Unimportant) to 5 (Extremely Important).

Using multidimensional scaling and hierarchical cluster analysis, we grouped individual statements from a point map into clusters of statements which presumably reflect similar concepts. Key project staff were asked to review cluster solutions ranging from 20 to 4 clusters. Using an iterative and consensus process, staff were asked to review the statements comprising each set of clusters to determine whether the statements of one cluster were conceptually unique and distinct from the merging cluster. Participants were later presented with the results of the cluster analysis and, using a group nominating process, were asked to suggest names for each cluster. As shown in Figure 1, a nine cluster solution was ultimately selected which best represents the clustering of statements. Statement numbers that are closer to one another on the map are more likely to have been sorted together more often, while statement numbers farther apart from one another were less likely to have been sorted together.

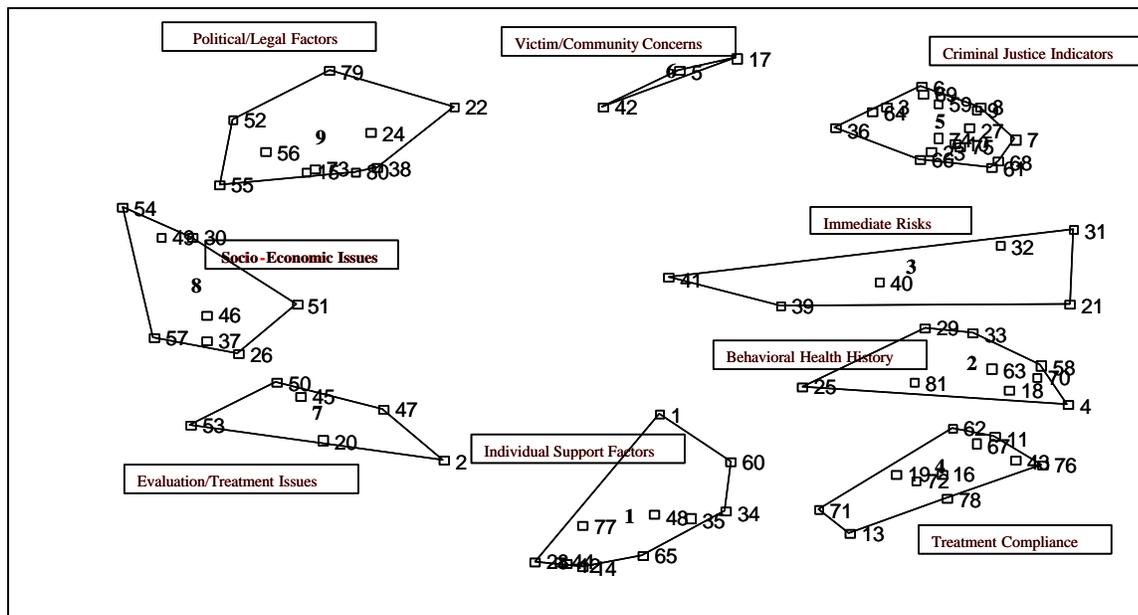
Figure 2 provides the summary results of the multi-dimensional scaling from the concept mapping with the “Actual Importance” rating values overlaid on the concept. Concepts with more levels reflect a higher overall rating of importance from participants as a currently used

diversion criteria. As this figure suggests, participants rated “Criminal Justice Indicators” as the most important domain for jail diversion criteria. Items that are representative of this domain include: patterns of past arrests, past history of sex offense, extensive criminal history although psychiatric stability, and past history of violence. Other important domains include “Political/Legal Factors” and “Immediate Risks.” The two clusters with the lowest overall ratings of “Actual Importance” were “Individual Support Factors” and “Socio-economic Issues.” Jail Diversion criteria statements for each cluster are shown page 23.

Participants rating of the “Ideal Importance” or how criteria ought to be used for deciding jail diversion, is shown in Figure 3. While “Criminal Justice Indicators” still remains an important domain, three other domains increase in importance under ideal circumstances: Behavioral Health History, Treatment Compliance, and Evaluation/Treatment Issues. A domain that decreased in importance is Political/Legal Issues.

Finally, a number of pattern matching analyses (Trochim, 1989c) were performed to determine the extent to which the “Actual” and “Ideal” rating measures matched or were disconnected. A pattern match consists of two elements. First, there is a visual representation of the match using a ladder graph. Second, each pattern match has a correlation coefficient associated with it. As shown in Figure 4, there’s a fairly good match between the “Actual” and the “Ideal” ratings on jail diversion domain criteria.

Figure 1 Cluster Map



<p><b><u>Cluster 1: Individual Support Factors</u></b></p> <p>05. Problem related to lack of mental health treatment  12. Family support/other support  14. Current housing situation  28. Sources of income  34. Case managed  35. Treatment  44. Family  48. Education level  60. Homeless  65. Has stable residence  77. Age</p>	<p><b><u>Cluster 2: Behavioral Health History</u></b></p> <p>04. History of compliance with treatment  18. Severity of mental illness  25. History of successful completion of diversion programs  29. Manifestation of the disability as it related to the incident  33. Competency  58. Acuity of illness/visibility of illness  63. History of hospitalizations  70. Acuity of illness  81. Perceived ability to change</p>
<p><b><u>Cluster 3: Immediate Risks</u></b></p> <p>21. History of transient behaviors/at risk of leaving area  31. Risk of DTS/STO  32. History of substance abuse  39. Currently under civil commitment  40. Appearance of the person  41. Pursue civil commitment</p>	<p><b><u>Cluster 4: Treatment Compliance</u></b></p> <p>11. Currently designated person with serious mental illness  13. Successful in alternative treatment  16. Currently taking medications  19. Cooperation level of the individual  43. Confounding illnesses  62. Medication compliance history  67. Understanding of actions/insight  71. Currently linked to mental health service provider  72. Successful periods of treatment/medication compliance  76. Restoration to competency  78. Prognosis of treatment</p>
<p><b><u>Cluster 5: Criminal Justice Indicators</u></b></p> <p>03. Type of offense/nature of crime  06. Level of violence  07. No history of arson  08. Past history of violence  09. Past history of sex offense  10. Pattern of past arrests  23. Previous failures to appear  27. Extensive criminal history although psychiatric stability  36. Non-victim case  59. Danger to society  61. Frequency of arrests/jail admissions  64. First criminal offense/first time offender  66. Non-violent  68. Risk of danger to self/others  69. Weapon used/present in offense  74. Chronic offender  75. History of arrests for survival crimes</p>	<p><b><u>Cluster 6: Victim/Community Concerns</u></b></p> <p>05. Opinion of victim  17. Community safety  42. Opinion of the police</p>

<p><b>Cluster 7: Evaluation/Treatment Issues</b></p> <p>02. Validation from behavioral health professional  20. Evaluation of the illness-best approach  45. Service level in community  47. Opinion of psychiatric consult  50. Inpatient bed availability  53. Skill level/degree of evaluator</p>	<p><b>Cluster 8: Socioeconomic Issues</b></p> <p>26. Level of community involvement  30. Cost effectiveness of the alternative  37. Type of alternatives available  46. Availability of jail to provide medications  49. Economy/tax situation  51. Cultural educational awareness level of SMI  54. Personal bias/fear of SMI  57. Limited time to make appropriate assessment</p>
<p><b>Cluster 9: Political/Legal Factors</b></p> <p>15. Presence of court legal process that accepts diversion  22. Policy of the prosecutor's office  24. Available capacity of the criminal justice system  38. Qualification of legal representatives  52. Current political climate  55. Costs of incarceration/inpatient  56. Jail overcrowding  73. Advocacy for diversion  79. Media attention  80. Diversion knowledge of court personnel</p>	

Table 3 Ideal Rating Cluster Map

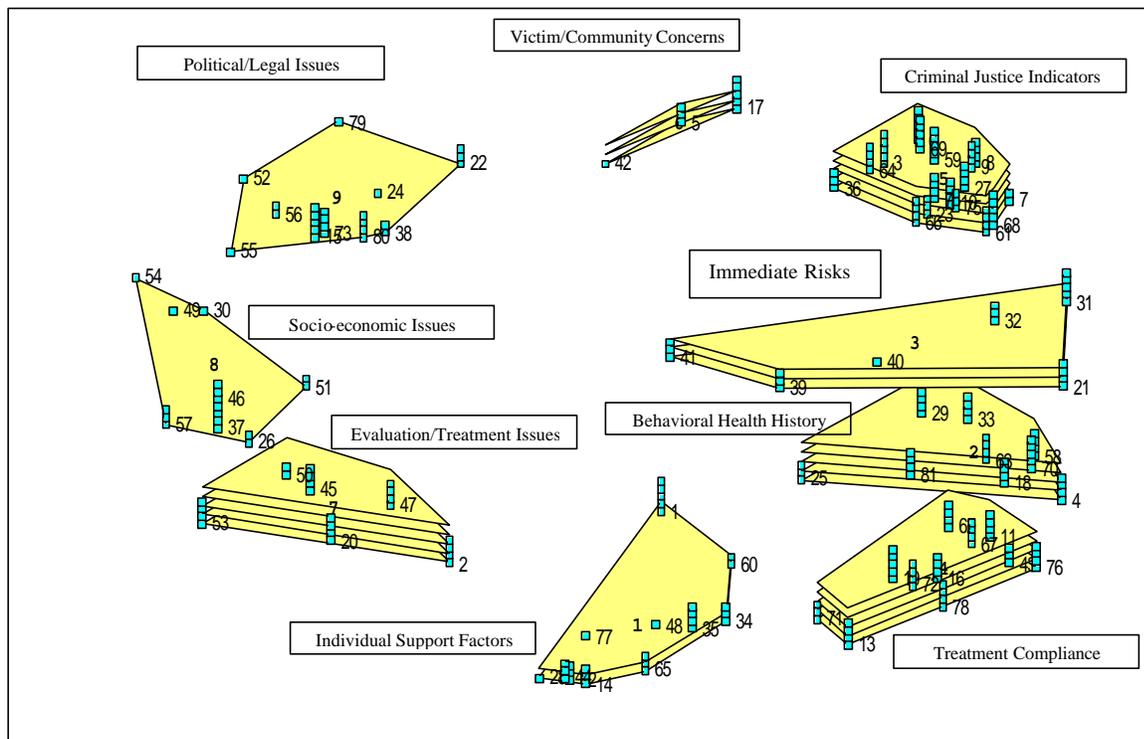


Table 2 Actual Importance Cluster Map

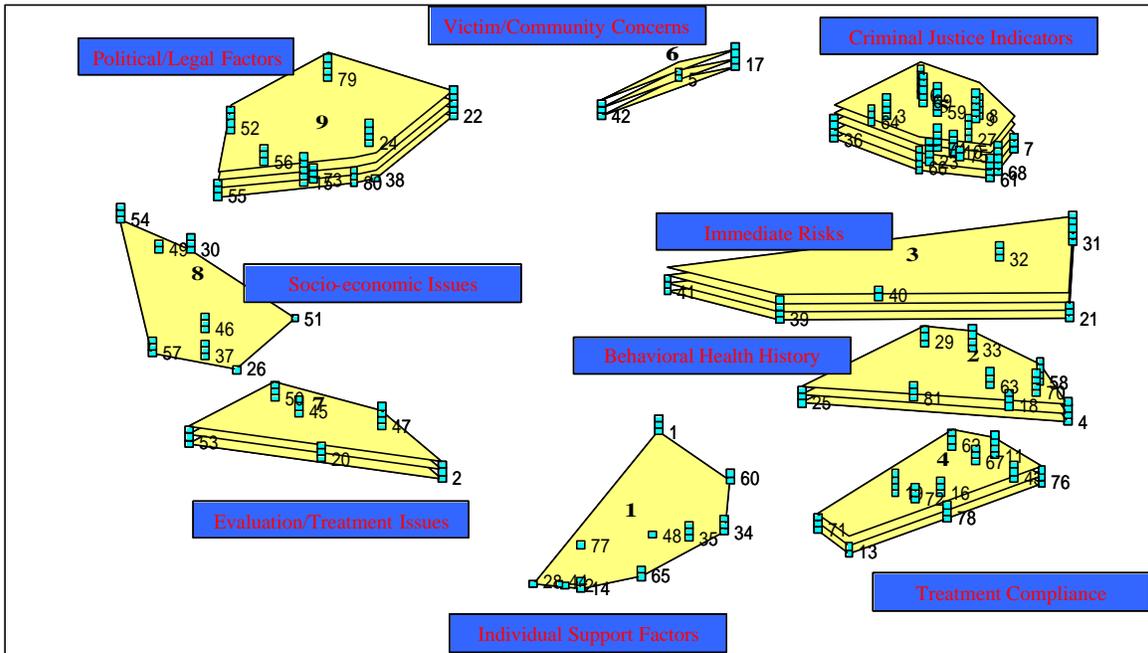
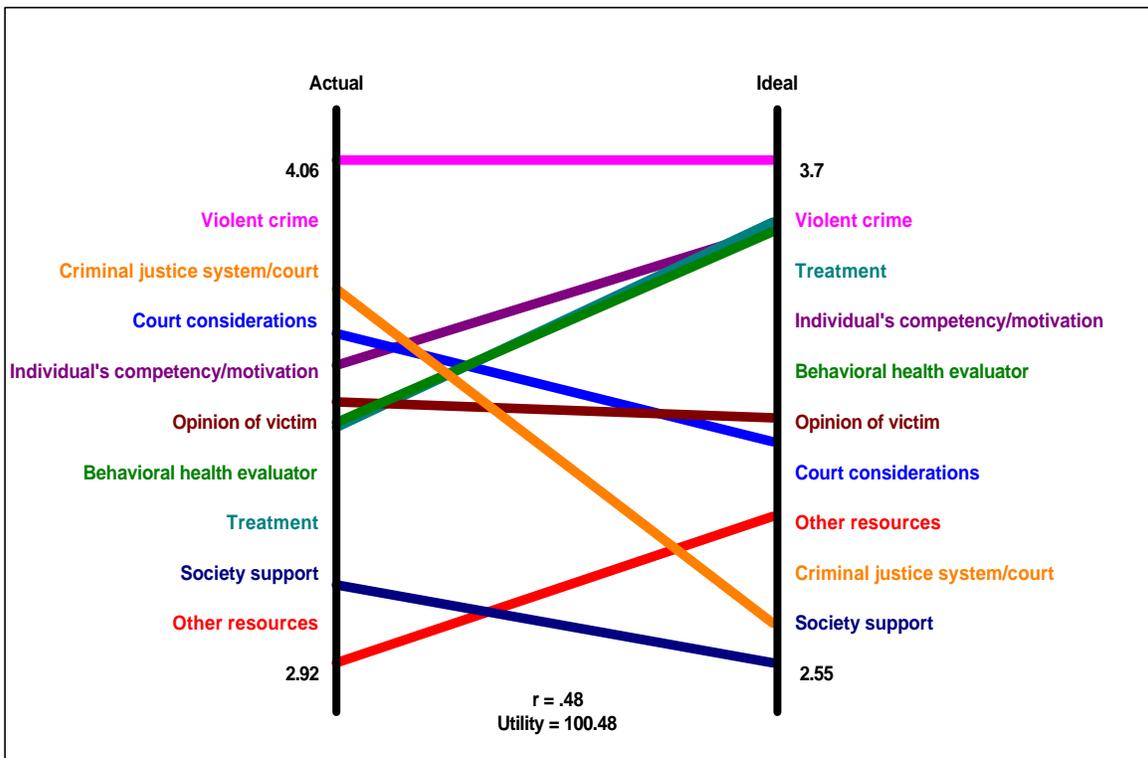


Figure 4: Jail Diversion Pattern Matching



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## **5. Cost Study**

The Arizona research team has fully participated in the RTI cost study. Our cost study is focused upon the Tucson program site exclusively; no cost study data collection was undertaken at the Phoenix program site. To date, we have cooperated fully with the RTI cost study team and have facilitated numerous additional cost-study specific data collection efforts from local mental health agencies, as well as criminal justice (courts, jail, law enforcement) and medical services (emergency room and inpatient cost data). We await the preliminary report from RTI and will assist fully in the development and writing of a cross-site cost report, synthesizing the findings across the various cost study sites.

### **III. Preliminary Conclusions and Impact**

#### **1. Overall Conclusions and Learning**

This report summarizes the preliminary results of a longitudinal study of 248 individuals with co-occurring disorders of substance use and serious mental illness who had been arrested for misdemeanor offenses by local law enforcement officials in two urban communities of Arizona. These results provide critical information on a number of key fronts regarding programmatic information including key process and outcome variables of post-booking jail diversion programs.

First and foremost, new knowledge is gained regarding the characteristics of individuals with co-occurring disorders encountering the criminal justice system. These characteristics and their relationship to successful diversion outcomes with regard to reduced criminality, improved behavioral health status, and independence provide implications for the design and delivery of effective diversion treatment programs. We had hypothesized that the types of offenses that study participants would be charged with would be non-dangerous offenses; in fact, 26.6% of the study participants' index offense was classified as a non-sex assault offenses. However, closer inspection of the operational definition of this cross-site study classification and a review of the actual booking sheets suggest an underlying pattern of interpersonal conflict and dysfunction. Jail diversion programs may do well to offer formal social skills training programs (c.f., Clinical Research Center for Schizophrenia & Psychiatric Rehabilitation, 1990; Lieberman, DeRisi, & Mueser, 1989) or other approaches to enhance the social competence and functioning of program participants.

Second, new knowledge has been gained regarding the relative outcomes of post-booking jail diversion programs. Based upon the results of this study, qualified, but empirically defensible conclusions can be drawn about the impact of post-booking jail diversion programs for persons with co-occurring disorders with regard to public safety, client functioning, and costs. The results of this study suggest that post-booking jail diversion offers a safe and reasonable alternative to prosecution and incarceration. Individuals who were diverted displayed no greater risk of further arrests and criminal behavior than those individuals who were not diverted. Results were inconclusive with regard to the relative effects of diversion upon subsequent criminal activity as both groups of study participants

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displayed similar reductions in subsequent arrests and bookings. Furthermore, all study participants displayed significant improvements over time in most measures of mental health, social support, and quality of life. As such, a reasonable conclusion to be drawn from these results is that diversion places individuals at no additional risk of future criminal behavior or involvement with the criminal justice system. Conversely, it is reasonable to conclude from these preliminary findings that diverting individuals with co-occurring disorders poses no substantial increase in safety risks to the community.

Third, new knowledge is gained with regard to the relative strength of post-booking jail diversion programs with implications for program design and monitoring. The lack of any main treatment effects with regard to diversion status is a challenging and disappointing finding. We had hypothesized that individuals who were diverted would experience increased behavioral health services utilization, especially at the three-month follow-up, and that as a result of these enhanced services, would display significant improvements in terms of mental health and substance use indicators, criminality, and other indicators of psychosocial stability (e.g., housing, employment, etc.). In fact, these results yielded few significant differences between the study samples in terms of self-reported access to care and “dosage” of services. Furthermore, no increase over time in access to care or services utilization was observed for either group, relative to baseline, suggesting weak or poorly defined treatment protocols or service guidelines for diversion services. Although both communities had prescribed treatment guidelines for serving those individuals who were diverted, these guidelines did not appear to impact the frequency or composition of services provided to study participants. Subsequent analysis are planned to study more closely services utilization data collected by the RBHAs in each of the study sites. These data have only recently been provided to the UA study team; final analysis will be completed within the next 90-120 days. However, based upon the data analyzed to date, it is reasonable to conclude that diversion from criminal justice prosecution and possible incarceration did not affect the composition, dosage, or access to treatment and rehabilitation services among the study participants. This finding provides implications to the ongoing debate of whether diversion represents a diversion from criminal justice prosecution or a diversion to treatment. For these study participants, diversion was characterized as the former, that is, diversion from criminal justice prosecution. This finding should be tempered by the fact that diverted participants displayed no significant increased risk of subsequent criminal behavior than their non-diverted counterparts. Future research is needed to identify and explicate critical treatment ingredients and their implementation within community based behavioral health settings.

## **2. Problems, Difficulties, & Controversies**

No major problems, difficulties, or controversies were encountered during this project that significantly affected the program services or research methodology from that which was proposed in our original application. At the time that this study was implemented, the two RBHAs in the study sites were in varying stages of transition. In Tucson, the Community Partnership of Southern Arizona, was a relatively new organization, having

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only received the contract as the RBHA from ADHS/DBHS twelve months previously. In contrast, the designated RBHA for Phoenix changed in the middle of this induction period, as the ADHS/DBHS terminated their contract with ComCare, Inc., and awarded it to ValueOptions, Inc. While most of the key diversion staff remained the same and the program of services remained relatively unchanged, key organizational structures and processes were altered which created unique challenges, particularly with regard to induction and subject tracking procedures. We had originally proposed that approximately 65% of our study population would be drawn from the Phoenix area; in fact, only 50% were drawn, due in part to these organizational changes.

Not to be classified as a problem or controversy, but worthy of discussion are the relative differences in the organization of treatment systems within the two study sites. As previously noted, the Tucson community is characterized by a series of four, decentralized comprehensive behavioral health care networks that are at risk and capitated funded by the RBHA. In this system of care, case management and care coordination is provided at the network level, along with all treatment and rehabilitation services. In contrast, the RBHA in Phoenix provides centralized case management services with services purchased by area providers on a POS system. These different organizational structures provide important implications for the placement and function of what Steadman has described as “boundary spanners”. Within the Phoenix community, these boundary spanners are able to communicate directly with and collaborate directly with case managers within the ValueOptions chain of command. As evidence of this enhanced integration is the agency wide email system that provides for automatic notification to case managers of clients who have been arrested and identified through the joint jail/RBHA data system. In contrast, within the Tucson community, where jail diversion staff are employed by the RBHA and case managers are employees of one of the three at risk provider networks, both formal and informal inter-agency alliances and key points of contact have had to be established to ensure efficient coordination and collaboration between the RBHA boundary spanners and the case managers and treatment teams.

### **3. Project Impact on Policy and Practice**

The impact of this project upon policy and practice related to forensic mental health services and jail diversion program in particular, and upon mental health services in general, has been significant and has impacted all regions of the state, not simply the research communities of Tucson and Phoenix. These impacts have included: enhanced attention upon the treatment needs of persons with co-occurring disorders, a pilot diversion program for felons, the development of jail diversion programs in other communities throughout the state, the establishment of a mental health court within the Tucson community, and community wide efforts in Tucson and Phoenix to implement prebooking diversion alternatives. Each of these impacts is described below.

Enhanced attention on the treatment needs of persons with co-occurring disorders. Subsequent to the implementation of this project, the state of Arizona launched a series of initiatives focused upon improving the system of care for persons with co-occurring disorders. Of particular note was the successful application by ADHS to CMHS for

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Consensus Building and Implementation projects addressing the design and implementation of a comprehensive system of care for persons with co-occurring disorders. Consistent with the working relationship established by this project, the Arizona Integrated Treatment Initiative has been typified by a great deal of collaboration between ADHS, the UA, and community-based RBHAs and treatment providers. This initiative has resulted in significant changes to funding requirements, program definitions, licensure standards, and other public policies, all designed to enhance the accessibility and effectiveness of integrated treatment options for persons with co-occurring disorders. The present project facilitated this enhanced attention to co-occurring disorders by systematically collecting and disseminating some of the only available and valid information about persons with co-occurring disorders who were accessing behavioral health services through the ADHS-RBHA system of care.

Pilot felony diversion program. In the Phoenix community, and under the leadership with Eric Raider of the Value Options RBHA, a diversion program for felony offenders was implemented in January, 2001. Utilizing the success of the misdemeanor program, a collaborative effort through the Maricopa County Criminal Justice – Behavioral Health Council resulted in this pilot program. Collaborators of this project are Value Options, Maricopa County Departments of: Adult Probation, County Attorney, Public Defender, and Pre-Trial Services. Through this program, nonviolent, class 4,5, and 6 felony offenders that are enrolled with Value Options as seriously mentally ill have the opportunity for diversion. Offenders that have committed violent offenses can participate with victim consent. Prior felony offenders or previous participants of a court diversion program are currently excluded from participation. Legislative changes would need to occur in order to amend this exclusion criteria. Program length is up to one year, which includes a 6-month aftercare component. Services are delivered by Value Options and Adult Probation. This initiative has only recently been initiated and at this time, no evaluative data are available.

Development of jail diversion programs in other communities throughout the state. Subsequent to the implementation of this study, jail diversion programs have been strengthened within the study site communities, and new jail diversions programs have been implemented in other communities as well. Jail diversion program staff employed by the RBHAs in Tucson and Phoenix have been active participants in the Arizona Council on Offenders with Mental Impairments (ACOMI) and have provided technical assistance and consultations to numerous communities across the state. These efforts have resulted in an enhanced awareness of the need for, and actual implementation of jail diversion programs in other communities throughout the state (e.g., Prescott, Flagstaff). It is worth noting that both of the RBHAs participating in this study received grant funds from this study for program enhancements. In both communities, these funds were used to support the salary of additional jail diversion program staff, with the RBHAs assuming full financial responsibility for these personnel as Federal funding was withdrawn.

Establishment of a mental health court in Tucson. In December 1999, the Tucson City Court consolidated all mental health matters under the care of a single judge. This has simplified the court calendar and allowed the participants to organize the exchange of

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information more effectively, expediting the release of mental health defendants from custody. In 2000, 405 defendants were admitted into the mental health court program. The charges included 269 files containing charges of domestic violence, 136 counts of shoplifting and 49 other charges, which include criminal trespassing, disorderly conduct, assault and other misdemeanor violations. The average period of incarceration dropped from 22 to nine days, resulting in an estimated reduction of jail fees paid by the City of Tucson of \$250,000. These accomplishments were the result of the coordinated efforts of attorneys in the City Prosecutor's Office and City Public Defender's Office. Other justice agencies have also participated in the program's success. The staff of the Pima County Jail has assisted in early identification of defendants with mental illness, co-occurring disorders, and other mental disabilities (e.g., mental retardation) and facilitation of their scheduled releases to case managers and family members. Interested in the potential savings in jail costs, the Tucson Police Department agreed in May 2000 to underwrite a portion of the cost of case management. Significantly, the program has operated without other additional funding from city government.

Prebooking diversion program planning. In both of the program locations of Tucson and Phoenix, pronounced, formalized efforts have been undertaken for the planning and ultimate implementation of a pre-booking jail diversion program that is based on the CIT-model implemented in Memphis, TN. As a result of this study and its collaborative interactions between the Arizona and Memphis teams, policy makers, program implementers, and researchers from Arizona were able to observe and study the Memphis model in detail. Arizona team members participated in training provide in conjunction with a national steering committee meeting, and reviewed the cross-site data profile of the Memphis program. In Phoenix, a small group of Phoenix Police Officers completed a 40-hour training program loosely based on the CIT curriculum. Plans are currently underway to expand the training program, making it available on a more frequent basis and to law enforcement officers from the surrounding county and suburban communities (e.g., Mesa, Scottsdale, Chandler, Gilbert, Tempe). In Tucson, an interagency task force, comprised of parents and consumers, law enforcement agencies, the RBHA, treatment providers, and criminal justice agencies, has been convened and is studying the implementation of a CIT program in Tucson. The UA recently submitted a community action grant to the CMHS on behalf of the task force, to study and develop community-wide consensus on the structure and funding of a drop off system for local law enforcement agencies. In preparation for that grant application, the UA research team collaborated with the Tucson Police Department and the Pima County Sheriff's Department to conduct a survey of law enforcement officers' experiences in dealing with mentally ill individuals, using a modified questionnaire based upon previous work by Borum and colleagues (Borum, Deane, Steadman, & Morrisey, 1998). The results of that survey are currently being analyzed with a written report scheduled for completion within the next 90-120 days. If funded, the community action grant will significantly strengthen the planning process for the community, resulting in the implementation of a system of care that is responsive to the needs and resources of the Tucson community and reflects the managed care system within which behavioral health services are delivered in this state.

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#### **4. Published and Unpublished Articles**

To date, we have generated a total of three written reports, which are contained in Appendix C. These include a brief report prepared in collaboration with GAINS regarding the jail/mental health data link, the process study, and a book chapter describing the unique features of the Arizona jail diversion programs within the managed mental health care contracting system of our state. Journal quality manuscripts are currently under development regarding the concept mapping study conducted to identify decision factors affecting diversion decisions, an analysis of the factors affecting post booking jail diversion outcomes, an analysis of the inter-agency networks and systems serving mentally ill offenders in Phoenix, and an assessment of law enforcement personnel perspectives about handling mentally ill defendants.

#### **5. Case Examples**

Not available.

### **IV. Future Directions**

#### **1. Status of Project and Clients**

In both program communities, jail diversion programs have been strengthened, expanded, and in some instances, institutionalized in a manner that was not present at the initiation of this study. This is perhaps most pronounced within the Tucson community, where the jail diversion program was still somewhat diffused and lacked real program form at the time that our original study proposal was submitted. Since that time, the jail diversion program in this community has expanded and in many respects has been fully integrated into the system of care. The Management Information System links between the jails and the mental health systems that were developed as a result of funding from this study are still in place. They are providing the behavioral health system with an effective and cost efficient tool of surveillance, facilitating rapid identification and diversion of appropriate individuals. Staff that were hired by the RBHAs with funds provided by this grant are now, regular employees of the RBHA and fully supported by RBHA general funds and have been since the second year of the grant. In fact, in both communities, the RBHAs have increased their FTE dedicated to jail diversion issues during this study period. All clients who participated in this study were existing members, or were eligible to become members (clients) of the Regional Behavioral Health Authority in their community. These individuals continued to access services made available by the RBHA in their community throughout the duration of the study and afterward. To the extent that these individuals continued to meet eligibility requirements for RBHA services in general, and Title XIX-funded services in particular, they continue today as RBHA clients.

#### **2. Future Analysis and Publication Plans**

The results presented in this report, while intriguing, are not final. As noted earlier, the nonequivalence of groups is of particular concern and must be addressed in the final analyses. We are proposing to undertake additional analyses of the data for this project during the next 6-9 months. Emphasis will be on using propensity scoring methodology

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to correct for the differences between the diverted and non-diverted groups in order to permit us to draw stronger causal inference regarding the impact jail diversion has had on study participants.

Propensity scoring is a statistical technique developed in the medical field to adjust for nonequivalent groups in a nonrandomized study design (Rosenbaum & Rubin 1983; Rosenbaum & Rubin, 1984; Rubin, 1977). It works by creating a number that summarizes the propensity for study participants to select one treatment condition over another, in this case, to have been diverted or not. The propensity score is constructed using a variety of observed variables in a logistic regression (or alternatively, a discriminate analysis) to predict treatment condition. The resulting equation is used to compute the propensity score (i.e., probability of being diverted) for each individual in the study. These scores can be rank ordered and divided into subgroups based on this ranking. Typically, scores are divided into quintiles and checked for the resulting balance between the two groups on the observed covariates. Propensity scoring, in essence, creates groups with equal probability of being diverted or not; outcomes can then be compared within these groups with nearly all group selection bias (i.e., how people were selected into treatment) removed. Thus, differences in outcomes between the two groups can be attributed to the likely effects of the treatment and not to the differences that existed between the two groups at baseline.

We anticipate having propensity scoring completed by January 2002. To check for balance on the covariates, the distribution of each variable is examined in the subgroups created by the quintiles.

### **3. Planned continued participation in collaborative writing**

The Arizona Project Team is fully committed to continuing to participate in collaborative report writing efforts emanating from this project. We have faithfully attended and participate in all project related Advisory Board meetings and call, committees, and related activities. Appendix D contains a letter of commitment, signed by the project co-Principal Investigators expressing their commitment to continue to participate in the collaborative writing groups and related activities.

### **4. Proposed future directions for work in the diversion field**

As a result of this study, the State of Arizona in general, and the UA research team, in particular, has identified three key areas in which ongoing efforts of program development and evaluation will continue in the months and years ahead. First, there is growing attention being paid in the communities of Tucson and Phoenix regarding the implementation of a CIT model of pre booking diversion. These program development efforts will entail not only the training of law enforcement officers in CIT, but also the reorganization of law enforcement agency procedures regarding deployment and dispatch control, as well as behavioral health crisis drop off centers that are “cop friendly”. It is expected that in these communities and others throughout the state, the RBHAs, treatment providers, criminal justice systems, and the UA, will continue to work collaboratively the planning and implementation of CIT-based pre-booking diversion

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programs in these communities. Second, increasing dialogue is occurring between ADHS and state agency counterparts of Corrections and Juvenile Corrections to enhance surveillance, detection, pre-release planning and coordination of services for joint clients. A final area of future work will entail attention to the issues of treatment planning for juvenile offenders with co-occurring disorders. The need for community based treatment alternatives for juveniles with behavioral health issues has gained prominence within the Arizona public behavioral health policy community as a result of a recently settled class action law suit (Jason K v. State of Arizona). Additionally, a task force led by a Juvenile Court magistrate has been meeting in the Tucson community, responding in part to the difficulties created in accessing public behavioral health services with youth who have become incarcerated in the juvenile justice system. A severe shortage of residential treatment beds for youth in the community has been identified as one of the major variables affecting the incarceration rate in this community. As such, local and state policy makers have begun discussing the issue publicly and have included hearings on the issue within the state legislature. While no formal action has been taken at the time of this report submissions, there is evident broad and significant support being paid to addressing the treatment needs of juvenile offenders.

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