

# Co-Occurring State Incentive Grant Services Pilot Project

Final Evaluation Report: Implementation & Outcomes

December 31, 2009



# **COSIG Services Pilot Project**

## **Final Evaluation Report: Implementation and Outcomes**

Prepared for  
Governor's Office for Children, Youth and Families,  
Division for Substance Abuse Policy  
Phoenix, Arizona  
Contract No.: CG-ISA-06-6272-00  
December 31, 2009

Prepared by  
Adrienne Pande, M.A.  
Michael Shafer, Ph.D.  
Phil Mulvey, M.A.  
Vicki Staples, M.Ed.  
Richard Rivera, M.A.

Center for Applied Behavioral Health Policy  
College of Public Programs, Arizona State University

## Acknowledgments

This report was prepared by The Center for Applied Behavioral Health Policy (CABHP), of Arizona State University, and was supported in part by the Arizona Governor's Office for Children, Youth and Families - Division for Substance Abuse Policy (GOCYF-DSAP), and funded through the Co-Occurring State Incentive Grant awarded by the U.S. Department of Health and Human Services (DHHS), Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Mental Health Services, Grant Number: 6 KD1 SM56586-01-3.

Michael S. Shafer, Adrienne Pande, Phil Mulvey, Vicki Staples, and Richard Rivera, were responsible for the content, analysis, and writing of the report.

The authors wish to thank the staff of the Governor's Office of Children Youth and Families/Division of Substance Abuse Policy and the Arizona Department of Corrections for their ongoing cooperation and assistance with this project. At the time that the Arizona COSIG project was funded, Mr. Rob Evans served as Principal Investigator, in the role of Director for Substance Abuse Policy. This position was subsequently assumed by Dr. Kim O'Connor, and eventually, Ms. Tammy Paz-Combs. Dr. Enid Osborne served as the Project Director through early 2008 and was subsequently replaced by Ms. La Tanya King.

The authors also wish to acknowledge the Arizona Department of Corrections (ADC) for their efforts. At the time this project was funded, Ms. Dora Schiro served as the Director of the Arizona Department of Corrections, a position subsequently assumed by Mr. Charles Ryan. At the time this project was funded, Mr. Steve Ickes served as Director of Programming for the Arizona Department of Corrections; a position subsequently held by Dr. Kim O'Connor. Overall project management was initially overseen by Dr. Carmen Gonzalez and subsequently, Ms. Karen Hellman.

Finally, we thank the participants who took part in the project and participated in interviews and assessments, the Department of Corrections' clinical and correctional staff, whose access, availability, and insights greatly contributed to the findings in this report.

Opinions expressed in this report are strictly those of the author and no endorsement by the GOCYF, ADC, or SAMHSA is to be inferred.

# CONTENTS

Introduction.....	5
Service Context in Arizona for Offenders with Co-Occurring Disorders.....	6
Goals and Objectives of the Arizona COSIG Pilot Project.....	9
Methodology.....	10
Program Setting and Location.....	10
Participant Inclusion & Exclusion Criteria.....	10
Program Design.....	11
Program Staffing.....	13
Evaluation Design.....	14
Data Collection Instruments and Measures.....	15
Data Sources.....	15
Data Storage and Analyses.....	17
Results.....	18
Participant Characteristics.....	19
Client Induction.....	20
Participant Randomization.....	20
Staffing Patterns.....	21
Program Process Indicators.....	22
Participant Clinical Outcome Indicators.....	24
Participant Community Outcome Indicators.....	29
Qualitative Findings: Participant Interviews.....	30
Discussion.....	33
Study Limitations.....	34
Future Research.....	35
References.....	36
Appendix A: Exit and Follow-Up Interview Questions.....	38
Appendix B: SOCRATES Rating Scale.....	41

## **Introduction/Statement of the Problem**

It is now well recognized that mental illness and substance use, abuse, and dependence converge at a surprisingly high rate. Estimates derived from the National Comorbidity Study suggest that among non-institutionalized populations in the age range of 15-54 years, the prevalence of co-occurring mental illness and substance abuse/dependence is 4.7%.<sup>i</sup> These same data project that 51% of all individuals who experience an addictive disorder at some point in their life (alcohol or illicit drugs) will also experience a mental disorder, with the relative rates of co-occurring mental illness essentially comparable for alcohol (53%) and illicit drug (59%) addiction. Among certain sub-groups of our population, particularly those who are homeless, institutionalized in psychiatric treatment settings or incarcerated in correctional settings, the rates of co-occurring disorders are significantly higher.<sup>ii, iii</sup>

The Bureau of Justice Statistics (BJS) (2008), of the United States Department of Justice, estimates that in 2008, over two million individuals resided in prison or jail, with an average annual growth rate of 2.4%. The year 2008 was a record-breaking year: for the first time in the nation's history at least one in 100 people in the United States were living in jail or prison (Pew Center on the States, 2008). These escalating incarceration rates alone create real challenges for the criminal justice system, but when considering community corrections as well, criminal justice involvement more than doubles. BJS (2007) estimates that over five million adults were on probation at the end of 2007, approximately one in every 45 Americans. Limited affordable housing, low education levels, and the stigma of being an offender create tremendous problems for individuals attempting to transition from criminal justice involvement back to the mainstream community and into long-term employment (Travis, Solomon & Waul, 2007).

When looking at specific offenses, a closer examination reveals that drugs are a primary factor in the current rates of criminal justice involvement. BJS officials (2007) report that 27% of individuals on probation in 2007 were charged with a drug offense. Mauer and King (2007) highlight that drug arrests are three times greater now than three decades ago, peaking at close to two million in 2005. Even greater than the number of drug-related charges is the prevalence of offenders with substance use problems, with or without drug charges. Mauer and King found that over 50% of individuals in state prisons used drugs within 30 days before their arrest. Other studies have found that over two-thirds of ex-offenders displayed signs of substance abuse/dependence prior to being incarcerated (James & Glaze, 2006).

Similarly, mental health needs are of concern. Multiple studies have pointed to the increased prevalence of mental health disorders for incarcerated individuals, when compared to those living in the community. One report estimated that 16% of inmates have diagnosable mental health disorders (Department of Justice, Bureau of Justice Statistics, 1999). Another report demonstrated that, in 2005, more than half of individuals residing in prisons and jails had at least one mental health problem (James & Glaze, 2006). Findings like these have led some experts to conclude that correctional facilities are functioning as modern-day psychiatric facilities. In a 2003 report, Human Rights Watch pointed out that jails and prisons now house significantly more individuals suffering from mental illness than state mental facilities. The decrease in mental health inpatient beds in the community, and other policy changes, are believed to have dramatically increased the arrest rates of individuals with mental illness (Hartwell, 2004).

Heightened awareness about substance use and mental disorders in the criminal justice population has made problems in the two areas more evident over the last two decades. Interest in co-occurring disorders, in which incarcerated individuals have both a substance use and a mental health disorder, is growing. Researchers estimate that the prevalence of co-occurring disorders exists in 3% to 11% of all incarcerated individuals (Peters & Hills, 1993). Although significant, some more recent estimates report much higher co-occurring rates; a 2006 BJS report gauged that 42% of inmates in state prisons, 29% in federal prisons and 49% in jails had both a mental health and substance abuse problem (James & Glaze, 2006).

Individuals with co-occurring disorders present unique challenges to the correctional system. Effectively treating these inmates requires constant collaboration between different disciplines that historically have had inconsistent or minimal partnerships (Peters & Petrilla, 2004). Individuals with co-occurring disorders often have high dropout rates in treatment settings as well. In criminal justice settings, the stigma involved with having a mental health disorder, substance disorder, and offender status creates problems for effective treatment. For instance, Hartwell (2004) argued that co-occurring individuals are not seen as good candidates for residential treatment facilities. In addition, securing transitional housing for individuals who take psychotropic medications is challenging, as many programs limit access because of concern about the potential for abuse of medication with this population. Furthermore, Hartwell pointed out that offenders with co-occurring disorders were more likely to be homeless, violate probation, or return to prison. Not only do co-occurring individuals recidivate at great rates, but also have been found to recidivate more quickly than those with only a substance use disorder (Messina, Burdon, Hagopian & Penderast, 2004).

Although co-occurring individuals present significant challenges to correctional settings, some treatment programs have shown success. Research has revealed that inmates who received extensive treatment while incarcerated, followed by substantial aftercare services in the community for extended periods, recidivated at lower rates and had more positive outcomes (Knight, Sampson, & Hiller, 1999; Butzin, Martin, & Inciardi, 2002). Other research has shown that individuals suffering from co-occurring disorders were helped by targeted correctional and aftercare treatment in community settings more so than less extensive treatment programs that provided only mental health services (Sacks, Sacks, McKendrick, Banks & Stommel, 2004). These specialized treatment programs, aimed at addressing specific co-occurring needs, provide evidence that co-occurring, focused treatment can help dually diagnosed inmates be successful as they transition back to the community.

### **The Service Context in Arizona for Offenders with Co-Occurring Disorders**

Arizona Department of Health Services. Nearly all community substance abuse and mental health treatment services provided within the state of Arizona are administered through the Arizona Department of Health Services, Division of Behavioral Health (ADHS/DBHS). This agency provides a unified and integrated administrative structure for the substance abuse treatment and prevention, general mental health, children's mental health and services to persons with serious mental illness, through administration of the state's Medicaid Title XIX programs for both mental illness and substance abuse, as well as the SAMHSA mental health and substance abuse block grants. In FY 2003, ADHS oversaw a budget in excess of \$700 million, accounting for services to over 101,000 individuals, divided among children (31,048),

individuals diagnosed as SMI (26,797), and non-SMI diagnosed individuals (43,840). ADHS contracts with five (5) Regional Behavioral Health Authorities (RBHAs) who operate as managed behavioral health agencies, contracting for all treatment and prevention services within their defined geographic region. Throughout the state, over 1,500 community-based treatment and prevention agencies are contract providers of the ADHS-RBHA service network. Slightly more than one-half (55%) of all individuals served through ADHS systems are located in Maricopa County, which contains the Phoenix metropolitan area.

ADHS/DBHS employs a uniform screening and assessment protocol that is mandated statewide for all individuals (children and adults) throughout its RBHA networks of community-based service providers. This core assessment includes a patient-completed behavioral health and medical history questionnaire, a core assessment completed as part of an initial interview, and a series of addenda assessments completed depending upon the information revealed during the core assessment. Behavioral health screening items in the behavioral health and medical history section include any history of receiving office-

based, hospital-based or residential facility-based services for behavioral health concerns, as well as identification of any current or past behavioral health issues amongst one’s family members. A series of substance abuse screening items lead into a substance abuse assessment that addresses both past and current

<p><b>Quadrant III</b> ADHS Population: 10%</p>	<p><b>Quadrant IV</b> ADHS Population : 29%</p>
<p><b>Quadrant I</b> ADHS Population : 3%</p>	<p><b>Quadrant II</b> ADHS Population : 7%</p>

use patterns (including type, dose, and frequency of use). Core information collected from this uniform assessment protocol is maintained in a common data set, the Client Information System (CIS), allowing for centralized analyses of client characteristics, service patterns, and outcomes. As such, *all community-based behavioral health providers under contract with the ADHS-RBHA system currently screen and assess for co-occurring disorders.* Based upon historical information collected from the ADHS-RBHA network of providers, 52% of all adults and children enrolled in the ADHS-RBHA system present with a co-occurring disorder. The largest segment falls within Quadrant IV (high substance abuse and high mental health needs), representing 29% of the general population of clients enrolled in the ADHS system. Individuals falling within Quadrant III (high substance abuse needs, less severe psychiatric needs), the target population for this Pilot Project, account for 10% of the general ADHS enrolled population, representing a service population in excess of 10,000 individuals statewide.

Development of co-occurring treatment services within the ADHS-RBHA network began in 1998, when ADHS received funding from SAMHSA to conduct a study of jail diversion strategies for persons with co-occurring disorders. Shortly thereafter, ADHS received funding from SAMHSA for a consensus planning process and implementation activities to develop a vision and focus on integrated treatment services. The net result of these initiatives upon the state’s community behavioral health system has been profound, systemic, and impactful at the level of the individual consumer.

Arizona Department of Corrections. Arizona Department of Corrections (ADC) operates 11 facilities throughout the state, housing a total of 31,738 inmates. All entering inmates are initially assessed at the Central Reception Center, utilizing ADC’s Classification System. While 91% of all inmates in ADC custody are male, ADC manages an all female facility housing 2,526

inmates, and operates a pre-release center exclusively for women, with a capacity of 160 beds. Fifty-six percent (56%) of all inmates are non-white, with individuals identified by ADC as Mexican-American and Mexican-National predominating at 36.2% of the total inmate population. Over two-thirds (68%) of the inmate population is younger than 40, with 80% possessing less than a high school diploma or GED. Approximately 27% of all inmates sentenced to ADC custody serve terms of 36 months or less, with slightly more than 1,200 inmates being released each month; 70% of all released inmates will be under community supervision.

ADC assesses all inmates every six months on a variety of risk and service need dimensions, including mental health and alcohol-drug scales. However, the screening instruments in use at the time of this application were of questionable validity; heretofore, the derived information had not been consistently utilized as a trigger for more robust behavioral health assessment, nor had this information been configured in a manner consistent with the quadrant model. Analyses conducted in the development of this application reveal that 93% and 13% of all inmates have a current or past need for substance abuse and mental health services, respectively.

<p><b>Quadrant III</b> General pop: 66.96% Female Pop: 74.62%</p>	<p><b>Quadrant IV</b> General Pop: 23.77% Female Pop: 11.84%</p>
<p><b>Quadrant I</b> General pop: 7.52% Female Pop: 12.16%</p>	<p><b>Quadrant II</b> General Pop: 1.74% Female Pop: 1.27%</p>

When combined, 66.96% of inmates, have co-occurring disorders of mental illness and substance abuse or dependence, corresponding to a Quadrant III classification. Additionally, our analyses reveal that the prevalence of this combination of co-occurring disorders was significantly higher for female inmates, capturing three-fourths of all female detainees.

Within ADC facilities, a number of separate substance abuse and mental health treatment programs were in place at the time of this application. Beginning in 2002, ADC initiated a specialized program designed to be a gender-responsive substance abuse treatment program. The Women in Recovery (WIR) program was a 12-month, four-phased day treatment program operated within APSC-Perryville. The Men in Recovery (MIR) was a similar program utilizing the Hazeldon *A New Direction* curricula. The MIR also focused on family reunification and included processes to break criminal thought patterns, address substance abuse issues and increase prisoners' awareness of their cognitive-behavioral thought processes. Community Corrections operates through a network of 85 parole officers deployed statewide in 20 community office locations. At any given time, over 3,500 individuals are under community supervision, and approximately 64% of these individuals will successfully complete the terms of their community supervision and be discharged from ADC.

ADC and ADHS initiated the Correctional Officer/Offender Liaison (COOL) program in 1998. For individuals with a primary problem of substance abuse, expedited assessment and enrollment into the RBHA was facilitated by a network of eight RBHA-employed COOL officers. Participation in the COOL program was restricted to those individuals already released from ADC custody, referred by a parole office and for whom continuing substance abuse, or significant risk of relapse, was the presenting problem. COOL staff served as the single point of contact to coordinate referrals and treatment between the parole officers (POs) and community treatment providers, providing ongoing communication with the POs regarding client treatment

participation and/or incidence of noncompliance. In FY 2003, 6,127 former offenders were referred to the COOL program, with 74% completing intakes into the RBHA system. Referrals to the COOL program have grown 18% in the past three years. The COOL program concluded in February 2009 due to ADC budget cuts.

### **Goals and Objectives of the Arizona COSIG Pilot Project**

As articulated in the funding application to SAMHSA, the goal of this Services Pilot was to be the design, implementation, and evaluation of a coordinated and co-occurring competent pre- and post-release services intervention for a cohort of inmates released from ADC custody. Pre- and post-release services were intended to reduce recidivism, improve mental health, reduce substance abuse, improve housing and employment stability, and advance accessibility of community health services for those served by the program. As originally designed, the program was supposed to deliver services to 195 offenders, each receiving up to 18 months of prison-based treatment, case manager assisted re-entry supports, and community-based housing, employment, and health services linkage assistance. Three program objectives were identified for the Services Pilot.

Objective 1: Develop and implement a structured inter-agency process for pre-release screening, assessment, and transitional release planning that involves the formation and building of inter-agency teams (ADC and RBHA personnel), the development of a written procedures manual, and development and refinement of an Individualized Transitional Release Plan template.<sup>iv</sup>

Objective 2: Develop and implement a standardized package of post-release services for persons with co-occurring disorders re-entering the community that includes the development of a written treatment manual and a procedures manual. Key components of the post-release services package may include intensive case management, subsidized housing, and co-occurring and gender-specific treatment services.

Objective 3: Conduct a comprehensive process and outcome evaluation to synthesize key lessons learned and strategies for successful replication in other facilities and communities.

Achievement of these objectives were conceptualized as supporting the overall goals of the COSIG initiative by providing a structured process for developing, implementing and evaluating a formalized approach to serving persons with co-occurring disorders. Services Pilot products would include: an Individualized Transitional Release Plan template and the accompanying programmatic materials, including a post-release services handbook for clients and a procedural manual for staff. The following report summarizes the process and outcome evaluation findings in fulfillment of Objective 3.

## Methodology

### Program Setting and Location

The Arizona Co-Occurring State Incentive Grant (AZ-COSIG) Services Pilot Project was implemented at the Arizona State Prison Complex (ASPC) Tucson. ASPC-Tucson houses approximately 3,700 inmates, over 1,900 of whom perform paid work, such as landscaping, building maintenance, or administrative duties. In addition to paid employment opportunities, inmates are offered a variety of education and/or treatment programs including: parenting courses, General Education Development (GED) preparation, college courses, substance abuse treatment, and other services. Pilot Program participants were initially housed on a medium custody yard with approximately 400 inmates, and then were later transferred to a medium custody yard housing approximately 700 inmates.

### Participant Inclusion and Exclusion Criteria

Program design called for study participants to meet the following criteria:

- Qualify for housing on a medium custody yard
- A mental health care score of 3 or higher<sup>1</sup>
- A drug/alcohol treatment needs score of 3 or higher<sup>2</sup>
- Have one to one and a half years remaining on their sentence
- Be free of detainers that could exclude them from certain services once released into the community (i.e. a sexual or violent offense)
- Anticipated release into Pima or Maricopa County

Program design additionally advised that inmates meeting the following criteria be ineligible for services:

- Non-US citizen status
- History of serious violence
- Sex offense conviction/s
- Psychotic diagnoses/disorders

Inmates who met the above criteria were randomly assigned to the treatment or comparison group.

Program participants were to have a planned release to either Maricopa or Pima County of the State of Arizona. Maricopa County has a population of greater than 3,900,000 residents, with greater than half of the total population of the state of Arizona residing in the county. Primary

---

<sup>1</sup> Defined by ADC as a “moderate need,” such as requiring therapy and/or psychiatric medication.

<sup>2</sup> Defined by ADC as 3 years of substance abuse prior to current incarceration resulting in irresponsible and/or criminal behavior. Inmate reports a substance abuse problem. Current charge was not committed with the intent to obtain money for a substance. Inmate may or may not have been under the influence of substances when current offense was committed. This requirement was later lowered to a score of 2 or higher to permit additional inmates to enter the program.

industries of Maricopa County include: retail, manufacturing, and services, with an unemployment rate of 3.2% and a median wage of \$14.56. Maricopa County’s population is predominately Caucasian (77.4%), with 24.8% of the population reporting to be of “Hispanic heritage” (U.S. Census Bureau allows Hispanic heritage to be categorized as any race) (Arizona Department of Commerce, n.d.). Pima County is less populated than Maricopa County, with approximately 1,000,000 residents. Major industries include: manufacturing, environmental technology, optics, aerospace, plastics, software and teleservices. Unemployment rates and employment compensation are 3.7% and \$14.18, respectively, similar to Maricopa County rates. Like Maricopa County, Pima County is predominately Caucasian (75.1%), with 29.3% of the population declaring Hispanic heritage (Arizona Department of Commerce, n.d.).

## Program Design

The following were core elements of the original program design:

1. **Co-Occurring Clinical Team:** Participants of the Services Pilot Project were to be served by a comprehensive clinical team, designed to meet their co-occurring mental health and substance abuse needs. The team was to include: licensed substance abuse counselors (LISACs), mental health professionals, re-entry case managers, Correctional Officer III(s), Parole Officers, and representatives from the Regional Behavioral Health Authorities (RBHA) of the participating counties. This all-inclusive team was to provide mental health and substance abuse assessment and treatment services, release planning, necessary referrals, and overall coordination of all services participants received while taking part in the Services Pilot Project.

<b>Core Program Components</b>	
1.	Integrated Clinical Team
2.	Co-Occurring Informed Assessments
3.	Individualized Transitional Release Planning
4.	Pre-Release Co-Occurring Informed Treatment
5.	Case Management
6.	Subsidized Post-Release Community Housing
7.	Community Services Re-Entry Support
8.	Alumni Support Services

2. **Co-Occurring Informed Assessment:** Participants were to take part in a combination of substance abuse and mental health assessments. The Addiction Severity Index (ASI), the Brief Psychiatric Rating Scale (BPRS), and the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) were to be conducted within 30 days of a participant’s entrance to the program, 30 days prior to release from prison, and 180 days post-release. Intake and pre-release assessments were conducted by ADC staff; follow-up assessments were conducted by CABHP staff.
3. **Individualized Transitional Release Planning:** Program participants were to complete an Individualized Transitional Release Plan (ITRP), intended to be completed within 30 days of a participant’s entrance into the program, which would be informed by the corresponding co-occurring assessments and a pre-release questionnaire, to be completed by the participant. The strengths-based release plan was to center around participants’ individual re-entry needs including: securing medications, obtaining food and clothing, education and employment opportunities, sites to access healthcare, and

other related matters. The ITRP was to include objectives, deadlines, and dates of completion for the various participant needs outlined by the participating team. Persons who could potentially be involved in the creation and implementation of participants' ITRPs included:

- The participant
- Significant others to the participant
- The LISAC assigned to the participant
- The mental health professional assigned to the participant
- The case manager assigned to the participant
- The participant's Parole Officer
- Others, as agreed upon by the participant and case manager

- 4. Co-Occurring Case Management:** Program design called for case management services for participants for a minimum of 12 months prior to their release from prison, and 6 months post-release. Case manager caseloads were designed to not exceed a 1:40 ratio of case managers to participants, to allow for a minimum of one weekly face-to-face meeting between each participant and his case manager. Case management services were intended to provide continuity of care, as participants transitioned from incarceration to re-entry into the community.
- 5. Subsidized Housing:** Program participants were to be provided with subsidized housing upon their re-entry into the community. Housing, to be funded by the Arizona Department of Corrections, was not to exceed \$1000.00 monthly, needed to be therapeutic in nature, and be approved by a participant's Parole Officer. Case managers were to facilitate the attainment of transitional housing.
- 6. Pre-Release Co-Occurring Treatment Services and Curriculum:** Participants were to be exposed to a co-occurring informed treatment curriculum for a minimum of 12 months immediately prior to release from prison. The 192 module curriculum, developed by Roger Peters, Ph.D. and colleagues' *Working with Offenders Who Have Co-Occurring Mental and Addictive Disorders*, was to be delivered in a manualized format with participants attending corresponding educational and process groups, completing homework worksheets, and attending periodic individual counseling sessions.
- 7. Re-Entry Services:** ADC case managers were to assist participants with referrals to, and enrollment in, various re-entry services, which included, but was not limited to: medical services, transportation, clothing, housing, employment, mental health services, substance abuse treatment services, and other services as identified in the participant's ITRP. Prior to release, participants would be provided with the opportunity to complete necessary entitlement paperwork, such as the Arizona Healthcare Cost Containment System (AHCCCS) application.
- 8. Alumni/Relapse Prevention Support Group:** Alumni support groups were proposed to be held on a monthly basis for released participants at a location in the community. The meetings, co-facilitated by an ADC staff member and a program graduate, were intended to provide a support network for recently released participants to assist them in coping

with maintaining sobriety, achieving mental health stabilization, and transitioning back into the community.

## Program Staffing

The Co-Occurring Integrated Clinical Team was to be comprised of the following ADC staffed positions:

- 1. Program Coordinator:** Program Coordinator responsibilities included: overseeing the movement of eligible participants into the program, monitoring the progress of participants within prison and those in the community, coordinating activities of program staff, obtaining institutional space for program activities and events, overseeing on-site data collection, upholding reporting standards, ensuring program fidelity, supplying feedback to program staff, and other duties as needed.

ADC Program Staff
1. Program Coordinator (1 FTE)
2. Mental Health/Psychological Clinicians (1.5 FTE)
3. Substance Abuse Clinicians (2 FTE)
4. Case Managers (2 FTE)
5. Administrative Assistant
6. Correctional Officers
7. Parole Officers



- 2. Mental Health/Psychological Clinicians:** Mental health staff was to include 1.5 full-time mental health staff members. Mental health staff duties included: conducting mental health assessments, providing individual therapy, delivering the program curriculum, conducting and/or participating in participant staffings, overseeing structured recreational or therapeutic activities, maintaining participant clinical files, conducting group therapy sessions, and other items as needed.
- 3. Case Managers:** Two full-time case managers were expected to: assist participants in obtaining referrals to behavioral health and other organizations, aid participants in obtaining vital documents (i.e. birth certificates, driver's licenses), ensure participant access to medications, facilitate monthly staffings with the participant and involved parties, develop and update ITRPs, collaborate with the clinical team and participant's parole officer, assist participants in securing basic needs (i.e. food, clothing, transportation), ensure referral to the appropriate RBHA, determine participants' AHCCCS eligibility, and updating post-release data pertaining to participant progress.
- 4. Substance Abuse Clinicians:** The in-prison component of the treatment program was to contain two full-time Licensed Substance Abuse Counselors (LISACs). LISAC duties included: conducting substance abuse assessments, monitoring case plans, conducting group and individual therapy, facilitating the delivery of the program curriculum, maintaining participant clinical files, facilitating orientation for participants upon entrance to the program, overseeing therapeutic and recreational activities, conducting and/or participating in participant staffings, and other duties as needed.
- 5. Correctional Officers:** Correctional Officer III(s) (CO IIIs) were responsible for: creating participant release packets, overseeing movement of participants on the yard, communicating with Work Incentive Pay Plan (WIPP) Officers to ensure timely work

assignments of participants choosing to work, articulating policies, regulations and expectations to participants, ensuring WIPP Officers provided needed WIPP data to Program Coordinator as needed, and other duties as assigned. CO IIIs were not expected to participate in program activities, but could instead serve as an alternative resource for participants.

6. **Parole Officers:** Participants were to report to a designated Services Pilot Project Parole Officer in their county. Parole Officer duties included, but were not limited to: contributing to participant ITRPs, corresponding with case managers as needed, attending exit staffing 30 days prior to release, completing necessary release paperwork, conducting assessments with released participants within one day of release, and providing participants counsel regarding strategies that would likely lead to re-entry success. The amount of face-to-face contact with participants was to be determined by a participants' supervision level, as outlined in the Parole Officer Technical Manual.
7. **Administrative Assistant:** One .5 FTE Administrative Assistant would be provided to perform the following duties: processing of program applications, documentation of meetings, monitoring of participant movement between program building and inmate housing units, maintaining rosters for curriculum facilitators, preparing classrooms for curriculum delivery, obtaining nonclinical participant data, compiling of program reports, and other duties as necessary.

## Evaluation Design

The COSIG Services Pilot Project evaluation included both process evaluation and outcome evaluation methodologies. Throughout the project, a Research Assistant employed by CABHP was assigned to the project on a full-time basis (excluding the final year of the project, in which this position was reduced due to budget cuts). This individual was responsible for attending clinical staff meetings and exit staffings, observing group sessions, conducting program exit interviews, follow-up interviews and follow-up assessments, and extracting relevant information from clinical charts and program records.

Process evaluation activities sought to monitor and understand the manner and quality with which the program was implemented, to identify and understand deviations from the original plan of implementation, and to provide insight into the sustainability of the program services.

The outcome evaluation utilized a randomized assignment design to evaluate the overall effects of the Pilot Services program upon the criminal recidivism of male offenders who screened positively for co-occurring disorders. For these analyses, institutional clinical, demographic, and criminogenic information represent the minimal data set utilized for these comparisons. A one-group, repeated measures design was used to assess changes in the clinical profile of those offenders assigned to the COSIG Pilot Services treatment arm, with repeated measures of three standardized assessments: BPRS, ASI, and SOCRATES, occurring at the time of the offenders' entry to the prison-based treatment program (approximately 12 months before discharge), exit from prison, and 6-months following their re-entry to the community.

## Data Collection Instruments and Measures

The data collection plan developed for this Pilot Study consisted of a minimal data set captured for the experimental and the comparison participants which relied upon administrative data only. Additional information was gathered from the experimental program participants at three time points: intake into the program, community discharge, and six-months post-community discharge. The following table summarizes the various information sources that are described in the following section.

Data Element	Treatment Group	Comparison Group	Responsible Agency	Data Source
Institutional Intake Data	✓	✓	Arizona Department of Corrections	Adult Information Management System (AIMS)
Program Clinical Intake Assessments	✓		Arizona Department of Corrections	Clinical staff
Program Clinical Exit Assessments	✓		Arizona Department of Corrections	Clinical staff
Program Process Exit Interviews	✓		CABHP	Research support staff
Program Clinical Follow-Up Assessments	✓		CABHP	Research support staff
Program Process Follow-Up Interviews	✓		CABHP	Research support staff
Process Data	✓		CABHP	Multiple sources (i.e. meeting minutes, review of clinical files, etc.)
Progress Notes	✓		Arizona Department of Corrections	Case managers
Case Notes	✓		Arizona Department of Corrections	Parole officers
Parole Violations	✓		Arizona Department of Corrections	Parole officers, case managers, AIMS
RAP Sheets	✓	✓	Department of Public Safety	Arizona Computerized Criminal History System

## Data Sources

**Institutional Intake Data:** Demographic data and other general information were obtained from the intake assessment participants took part in upon their entrance to ADC custody, a comprehensive assessment completed by all inmates entering ADC custody, that addresses education, criminal history, security risk, mental health and substance abuse treatment needs, and other areas. This information was drawn from the ADC internal database, the Adult Management Information System (AIMS), for the CABHP evaluators by an ADC statistician.

**Program Clinical Assessments:** Three assessment tools were administered to the treatment group at intake (within 30 days of entrance to the program), exit (within 30 days prior

to exit from the program), and follow-up (following six months of aftercare services in the community).

- 1. The Brief Psychiatric Rating Scale (BPRS) (Version 4.0):** The BPRS is a 24-item mental health assessment tool. Scores are compiled from a combination of participants' self-reports, and clinicians' and/or researchers' observations. Items assessed include: anxiety, depression, blunted affect, somatic concerns, and other psychological symptoms.
- 2. The Addiction Severity Index (ASI) (5<sup>th</sup> Edition):** The ASI was used to assess risk factors related to participants' substance abuse. The ASI is used to evaluate seven key areas including: medical status, employment/support status, alcohol use/history, drug use/history, legal status, family/social status, and psychiatric status. The number of questions asked varies depending on the class of the assessment (i.e. intake versus follow-up). Participants rate the level of distress they feel in the areas noted above and the extent to which they believe treatment, or additional treatment, is needed. Interviewers rate their confidence in the accuracy of participants' assessment of those key areas, and adjust participants' severity ratings accordingly.
- 3. The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) (Version 8):** The SOCRATES was used to determine participants' willingness to change their current substance abuse behaviors, as well as their recognition of their substance abuse as a detrimental element of their lives. The assessment tool includes 19 items in which participants rate their agreement or disagreement with the statements on a 5-point Likert scale. The SOCRATES includes statements such as, "Sometimes I wonder if I am an addict," and, "I'm not just thinking about changing my drug use, I'm already doing something about it." Participants are rated on their acknowledgement of their substance abuse problem (Recognition), questioning they may do of their substance abuse or willingness to begin questioning their substance abuse (Ambivalence), as well as measures they may currently be undertaking in order to change their substance abuse (Taking Steps).

Assessment data were not collected for the comparison group. Baseline clinical profiles of participants in the comparison group were obtained from participants' institutional mental health treatment needs score and substance abuse treatment needs score, determined upon participants' entrance to ADC custody. This provided a general sense of the co-occurring needs of participants in the comparison group relative to those in the treatment group.

**Program Process Interviews:** Two interviews were conducted with participants in the treatment group, one at exit from the program (within 30 days prior to prison release) and again at follow-up (after participants completed 6 months of aftercare in the community). Participants received minor financial incentives for their participation in these interviews, including a \$15 gift card for exit interviews, and a \$30 gift card for follow-up interviews (for a total of \$45 per participant). These open-ended interviews included 22 questions at exit from the program and 23 questions at follow-up, with several probes on both the exit and follow-up interview. The interview questions were revised once during the course of the grant. See interview questions in Appendix A.

**Case Manager and/or Parole Officer Progress Notes:** Case manager progress notes and case notes from program parole officers were reviewed to determine nonclinical outcomes that occurred during participants' aftercare period, such as employment status, treatment services utilization, RBHA enrollment, AHCCCS enrollment, urine analysis results, and other measures. These data were supplemented or confirmed via follow-up interviews with participants for those participants who took part in a follow-up interview.

**Criminal Recidivism:** Criminal recidivism was assessed by two measures: parole violations and Records of Arrests and Prosecutions (RAP) sheets. Parole violation data were provided by the Arizona Department of Corrections, either via a participant's case manager or parole officer for the treatment group, or via the Adult Information Management System (AIMS), in the case of the comparison group, as provided by an ADC statistician. RAP sheets were provided by the Arizona Department of Public Safety (DPS). New charges were defined as any charges (excluding some misdemeanor traffic charges) that a participant received following their release from prison, regardless of disposition.

**Participant and Staff Focus Groups:** Focus groups were conducted with both staff members and program participants regarding the program curriculum. The staff focus group was conducted in November of 2007 at ASPC-Tucson with existing COSIG treatment staff. Two participant focus groups were held, one in Pima County in November 2007, and one in Maricopa County in December 2007. The findings from these focus groups were outlined in the report: *Working with Offenders with Co-Occurring Mental and Addictive Disorders: A Treatment Curriculum for Corrections-Based Programming*, provided to ADC and the GOCYF-DSAP in January 2008.

**Participant Clinical Files:** Participant clinical files were maintained by ADC treatment staff and were stored at ASPC-Tucson. Clinical files contained assessment scores, curriculum completion rates, demographic data, and treatment data. Intake and exit assessment scores, as well as curriculum completion rates, were extracted from clinical files by CABHP for the analyses outlined later in the report.

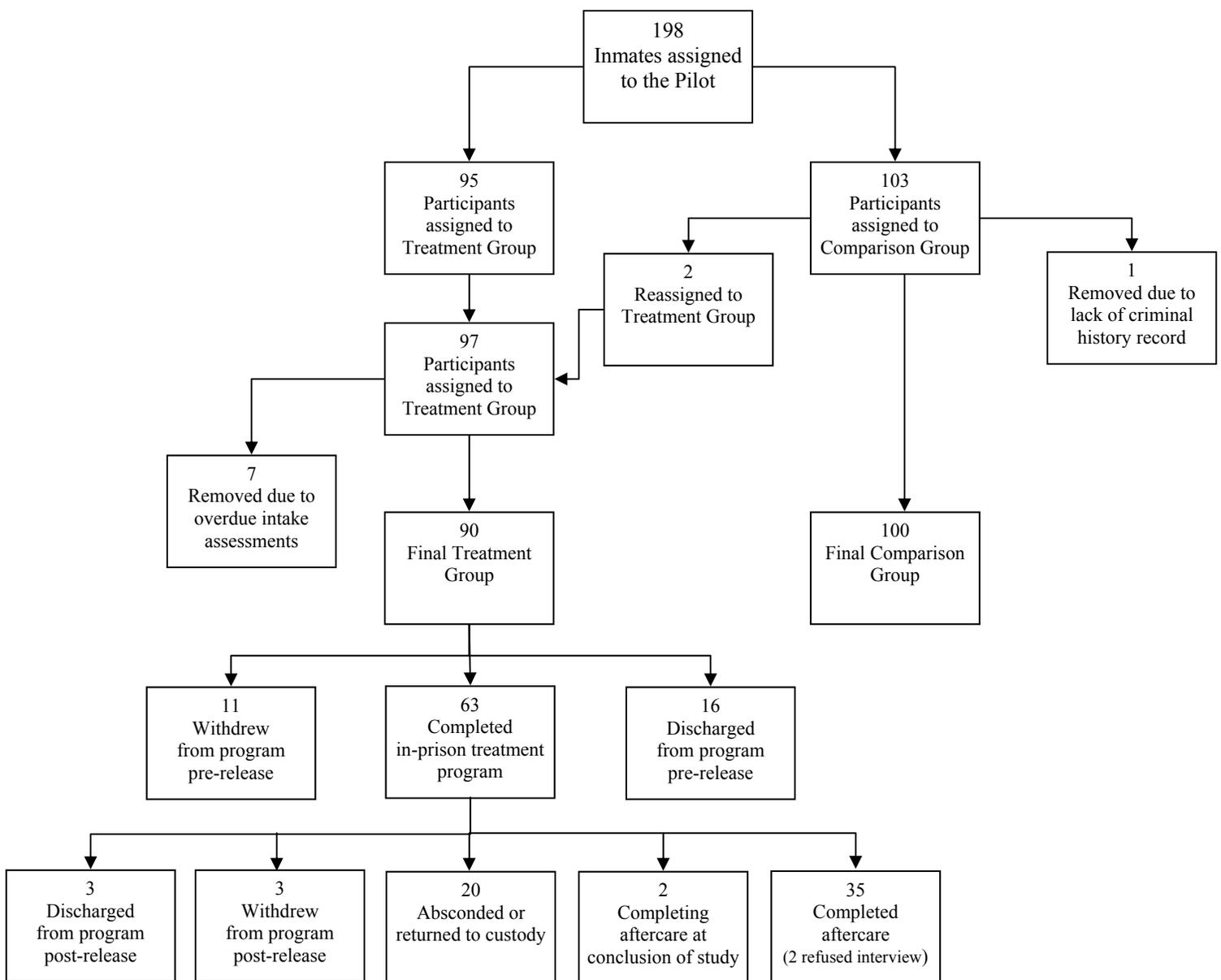
### **Data Storage and Analyses**

Participants were assigned study identification numbers, and whenever possible were referred to by such in electronic documents, rather than names or other identifiers, to maintain confidentiality. All documents that, for practical purposes, contained participant names, were stored in a locked file cabinet at CABHP. Participant data were entered into a secure SQL server database and/or a secure internal CABHP shared drive. Participant scores from the three assessment instruments were entered in the SQL server database and extracted into SPSS Statistics 17.0 for further analysis. Process data from exit and follow-up interviews were entered into an NVIVO qualitative research database for the extraction of common themes.

## Results

### Participant Characteristics

One hundred and ninety eight participants were originally assigned to the Arizona COSIG Pilot Project. Approximately half were assigned to the treatment group and half to the comparison group via randomized assignment.<sup>3</sup> There was some shifting of participants amongst the treatment and comparison groups, as well as the removal of several participants from the study entirely. Eight participants were removed from the study due to a lack of sufficient criminal history records or a lack of valid intake assessments (i.e. not completed within 30 days of participants' program start dates). Two participants were additionally shifted from the comparison group to the treatment group in an attempt to fill the treatment program to capacity. The accompanying figure summarizes the flow of participants in the program.



<sup>3</sup> Randomization was initially employed. Volunteers were permitted beginning August 2007. See *Participant Randomization*.

All participants were adult male inmates. The average age of participants across both groups was 35.87 years. Both the treatment and comparison groups were predominately Caucasian, followed by Mexican-American participants, who made up a quarter of the comparison group and approximately 19% of the treatment group [although the treatment group had equal rates of African-American and Mexican-American participants (18.9%)]. The sample was comprised of a small proportion of Native-American participants, making up 5% or less of each group, although proportional to the general Arizona population and the ADC inmate population (ADC, 2009; U.S. Census Bureau, 2008). African-Americans were over-represented in both groups in comparison to the general Arizona population and the ADC inmate population (ADC, 2009; U.S. Census Bureau, 2008). The majority of participants in the treatment and comparison groups (82.2% and 90% respectively) did not complete high school, although some participants received a General Education Development (GED) certificate while incarcerated, which are not captured in these data. Over 13% of the treatment group completed some college; fewer participants in the comparison group received a full or partial college education.

An equivalency analysis of the two groups revealed there were no mean age differences between the treatment ( $M=35.88$ ,  $SD=8.91$ ) and comparison group ( $M=35.86$ ,  $SD=9.19$ ),  $t = .02$ ,  $p > .05$ . Criminal history also appeared similar across groups. There were no statistical differences between treatment and comparison groups in either the number of prior adult felonies ( $z = .53$ ,  $p > .05$ ) or the number of prior adult misdemeanors ( $z = .09$ ,  $p > .05$ ). Across the two groups, participants averaged 3.21 prior felonies and 7.29 prior misdemeanors. Similarly, there was not a significant difference in the proportion of Caucasians between the treatment (57.8%) and comparison group (50%),  $z = 1.07$ ,  $p > .05$ . Approximately 18% (17.8%) of those in the treatment group and 10% of the comparison group earned at a high school degree or higher. However, there was not a statistical proportional difference in earning at least a high school degree between the two groups,  $z = 1.56$ ,  $p > .05$ .

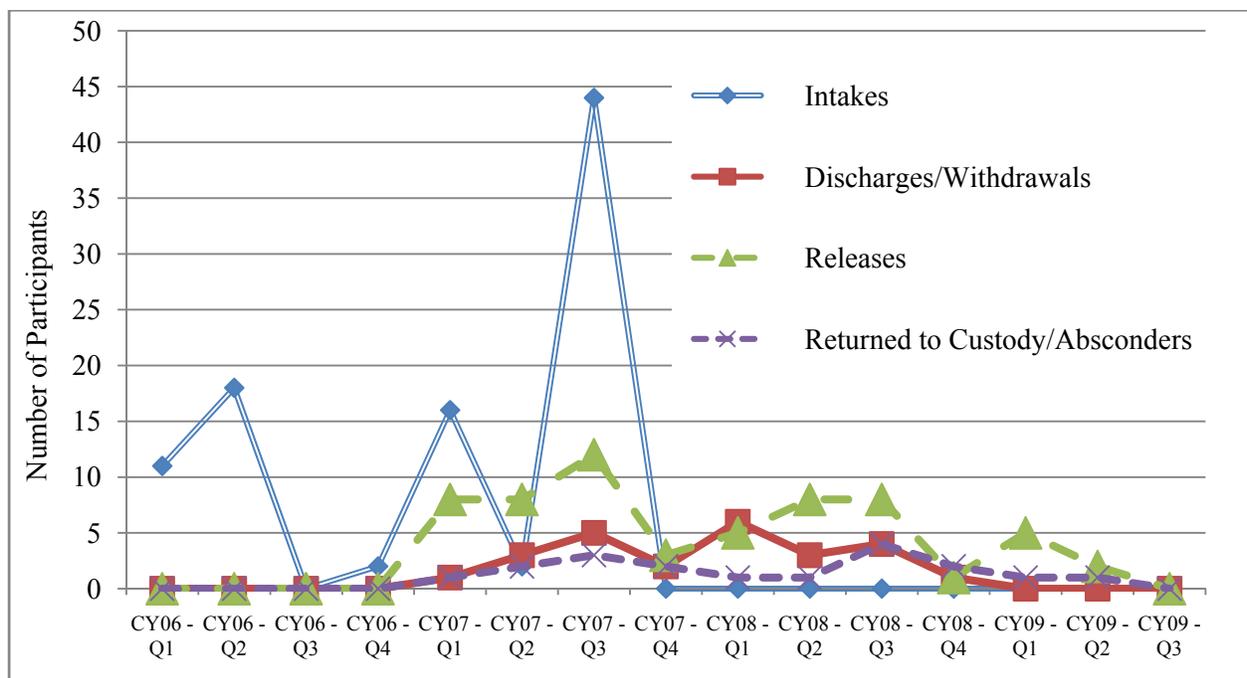
### *Participant Characteristics*

Characteristic	Treatment Group ( $n=90$ )			Comparison Group ( $n=100$ )		
	$n$	%	Mean ( $SD$ )	$n$	%	Mean ( $SD$ )
Age (in years)	90		35.88 (8.91)	99		35.86 (9.19)
Prior Adult Felonies	89		3.33 (3.06)	99		3.11 (2.47)
Prior Adult Misdemeanors	89		7.21 (10.6)	99		7.36 (11.59)
Race						
Caucasian	52	57.8%		50	50%	
African-American	17	18.9%		20	20%	
Native-American	3	3.3%		5	5%	
Mexican-American	17	18.9%		24	24%	
Mexican-National	1	1.1%		0	0%	
Other	0	0%		1	1%	
Education						
12 years or less	74	82.2%		90	90%	
HS diploma	4	4.4%		5	5%	
1 year of college	6	6.7%		3	3%	
2 years of college	3	3.3%		0	0%	
3 years of college	3	3.3%		2	2%	

**Client Induction**

The first Services Pilot Project participant entered the program in February of 2006. The last participant was admitted to the program in October 2007. In January 2007, the first participant was released from prison. The last participant was released in May 2009, eight months after the conclusion of the in-prison program. The average length of in-prison programming for program completers was 386 days.

Participants completed their aftercare through August 2009; two participants were still within their aftercare period in September 2009, at the conclusion of data collection, thus making them ineligible for follow-up interviews. The accompanying figures summarizes the number of participant intakes, discharges and withdrawals, releases, and returns to custody, for each quarter the program was in operation.



**Participant Randomization**

As exemplified in the preceding figure, the number of intakes remained sporadic and far below the program capacity throughout the first year of program operations. Difficulties regularly occurred in the process of transferring inmates from their currently assigned prison complex to the program complex due to a variety of reasons primarily related to security restrictions and apparent lack of coordination between classification and programs systems within ADC. These factors included: housing restrictions due to gang affiliations, improper inmate behavior that restricted movement from one complex to another, as well as a revision of ADC security classifications during this time period.

In an effort to maximize program participant capacity, non-randomly assigned participants already assigned to the Tucson prison complex were allowed to enter the program beginning in

CY 2007, Quarter 3. As a result, during this quarter, 44 inmates entered the program, 41 of whom were not selected via random assignment. Many of the inmates who volunteered for the program had previously been receiving treatment within another ADC-facilitated treatment program (MIR), and were permitted to enter the COSIG program upon the de-funding and closure of that program. Other volunteers became aware of the program through word of mouth and were permitted to enroll upon their request, dependent on their acceptance by program staff. Some of the newly inducted participants were found to violate program exclusion criteria. Four participants with serious violent offenses entered the program, including charges such as kidnapping, second-degree murder, and manslaughter. Additionally, three participants admitted did not meet institutional mental health treatment needs criteria and thus may not have had co-occurring treatment needs, but rather primarily substance abuse needs.

### **Staffing Patterns**

The first staff members of the co-occurring clinical team began working for the program in January 2006, one month prior to the arrival of the first participants. Sufficient staffing coverage was a challenge for the duration of the program. There was a nine month period between 2006 and 2007 in which a substance abuse counselor position was vacant. There was additionally a five month period in 2007 in which the Maricopa County case manager position was vacant. The loss of multiple key staff members commenced in January 2008; several staff members resigned or were transferred to other complexes including: the program coordinator, a re-entry case manager, the administrative assistant, and a licensed substance abuse counselor. The case manager position was refilled; the other positions remained vacant for the duration of the program.

The accompanying table summarizes the staffing patterns that occurred during the 33 months of program operations, from January 2006 to September 2008, when the in-prison treatment program concluded. The program was fully staffed for 8 months, or 24% of the time that the program was in full operational mode.<sup>4</sup> Chronic understaffing of the substance abuse counselor positions, accompanied by long term vacancy of the Phoenix-based case manager position throughout CY 2007 severely restricted participant access to the services performed by these positions.

Table #	% of CY Position was Filled		
	CY 2006	CY 2007	CY 2008 <sup>a</sup>
<i>Staffing Patterns: CY 2006 - CY 2008</i>			
Position			
Program Coordinator	100%	100%	22.2%
Administrative Assistant	58.3%	100%	0%
Substance Abuse Counselor A	66.7%	50.0%	22.2%
Substance Abuse Counselor B	83.3%	91.7%	100%
Case Manager A	100%	100%	88.9%
Case Manager B	100%	58.3%	100%
Psychologist	83.3%	100%	100%
Halftime Psychologist	100%	58.3%	0%

<sup>a</sup>. 9 month year. In-prison program concluded Sept. 2008.

<sup>4</sup> Note: The 2007 ADC Operations Manual for the Pilot called for 1.5 FTE mental health staff coverage. Using the original 1.5 FTE requirement, the program was fully staffed for 4 months.

**Program Process Indicators**

Some of the outcomes outlined in this section will be discussed in terms of two cohorts within the treatment group, those enrolled in the program prior to August 2007 and those enrolled after August 2007. As there was a clear distinction in both numbers of inmates inducted into the program and a diminishment in fidelity to the model, participants were separated into these two cohorts. When examining outcomes related to those inmates inducted prior to August 2007, and those after August of 2007, there are noticeable differences. The second cohort accounts for some diminishment in program fidelity. Extracting outcomes of the late enrollers prevents the skewing of the successes of the first cohort. The following changes in program structure or policy that occurred during or after August 2007, led to a deviation from the original program design and/or a reduction in the treatment dosage participants received:

- Allowance for volunteer participants not meeting eligibility criteria
- Loss of key staff members
- Relocation to a yard less conducive to treatment programs
- Allowance for self-study of some modules
- Reduction in case manager contact
- Reduction in alumni meetings
- Termination of case manager transport of participants in community

**Co-Occurring Curriculum.** Prior to release to the community, participants were to complete the program curriculum. Records of module completion rates were maintained by ADC clinical staff and extracted from participants’ clinical files by CABHP staff. Curriculum completion rates for in-prison treatment completers varied widely, ranging from 89 modules to the entire 192-module curriculum. Completers of the in-prison treatment program completed an average of 179 modules, or 93% of the curriculum. It is unclear what proportion of participants who completed the entire curriculum

did so solely in the in-person format, as some self-study was permitted toward the end of the program, to

	<b>Total In-Prison Program Completers n = 63</b>	<b>Pre-August 2007 Enrollees n = 41</b>	<b>Post-August 2007 Enrollees n = 22</b>
Mean Modules Completed (SD)	179.33 (23.76)	176.95 (25.51)	183.77 (19.89)

ensure participants completed as much of the curriculum as possible. This likely accounts for the increase in the mean number of modules completed by the post-August 2007 enrollers.

**Exit Staffings.** Program participants were supposed to have a formal exit staffing within two weeks prior to their release from prison. The purpose of this exit staffing was to review the participant’s transitional release plans, ensuring a smooth handoff between institutional program staff and community-based program staff.

Participants to this exit staffing were to include the participant, his

	<b>Total In-Prison Program Completers n = 63</b>	<b>Pre-August 2007 Enrollees n = 41</b>	<b>Post-August 2007 Enrollees n = 22</b>
Received Exit Staffing	84.13%	90.24%	36.36%

significant other(s)/family members, his parole officer, representative(s) of the receiving RBHA and/or treatment provider, the residential provider, and the program case manager.

**Alumni Meetings.** A total of 13 alumni meetings were held in Pima County, beginning in March 2007, approximately two months after the release of the first participant to the community. Six alumni meetings were held in Maricopa County throughout the course of the project, beginning in May 2007. Meetings were held at consumer-run community organizations and were facilitated by a COSIG case manager. Alumni meetings consistently occurred bi-monthly in Pima County during 2007 and 2008. Alumni meetings occurred less frequently in Maricopa County, which may partially be accounted for by a 5 month gap in case management coverage of the county. One alumni meeting occurred in 2009, for both counties, during the final grant year.

**Community Aftercare Services.** Program participants were supposed to receive a variety of community-based aftercare services with many of these services beginning while the participant was still imprisoned. Among these services were to include engagement and

enrollment in publicly funded health care (AHCCCS benefits), publicly funded behavioral health services (RBHA services), subsidized housing for up to six months, and employment assistance. As the data in this table depicts, more than two-thirds of the program participants were enrolled

	Total In-Prison Program Completers <i>n</i> = 61 <sup>a</sup>	Pre-August 2007 Enrollees <i>n</i> = 41	Post-August 2007 Enrollees <i>n</i> = 20
RBHA Enrollment	75.41%	78.05%	70%
AHCCCS Enrollment	57.38%	56.10%	60%
Support Groups	54.10%	63.41%	35%
Alumni Meetings	50.82%	65.85%	20%

<sup>a</sup>. Two participants currently completing their aftercare not included.

with the publicly funded behavioral health system upon their return to the community, with slightly more than one-half also engaging in mutual aid support group meetings (AA, SMART Recovery, etc.) and/or program alumni meetings upon their return to the community. Closer inspection of these patterns, prompted by the large influx of inmates in CY 2007, Q3, coupled with staffing shortages in 2008, revealed that the rates at which these participants were enrolled in publicly funded healthcare services did not appear to be affected by these staffing shortages. Participation however, in community-based mutual aid and/or program alumni meetings were significantly lower for those program participants that entered the program during and after CY 2007, Q3, even when accounting for months in which alumni meetings were not held.

**Case Manager Contact.** Upon release into the community, participants were to maintain regular and frequent contact with their program case managers. This contact began while the participants were still confined and was designed to facilitate the development of a therapeutic relationship with

the case manager that would follow them into the community, with the case manager providing a supportive influence

	Total In-Prison Program Completers <i>n</i> = 61 <sup>a</sup>	Pre-August 2007 Enrollees <i>n</i> = 41	Post-August 2007 Enrollees <i>n</i> = 20
Mean Face-to-Face Meetings ( <i>SD</i> )	9.31 (9.24)	12.44 (9.62)	2.90 (3.21)
Mean Telephone Contacts ( <i>SD</i> )	23.93 (23.14)	32.37 (23.30)	6.65 (8.97)
Mean Total Contact Time (in hours) ( <i>SD</i> )	32.62 (31.07)	41.4 (31.63)	17.4 (31.99)

<sup>a</sup>. Two participants currently completing their aftercare not included.

for the participant to engage in recovery-oriented care, including participation in recovery-oriented communities and support groups, and engaging in publicly funded health and behavioral

health care services. The table above summarizes the differences in case manager contact between the early and late enrollees. Later enrollees took part in fewer face-to-face meetings, had less phone contact, and had fewer total contact hours with their case manager.

### Participant Clinical Outcome Indicators

Participant clinical status was measured with the Addiction Severity Index (ASI), the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES), and the Brief Psychiatric Rating Scale (BPRS). The accompanying table summarizes the number of eligible participants in the treatment group who received intake, exit, and/or follow-up assessments. Between 5.6% and 12.7% of intake and exit assessments, depending on the assessment, were not completed by program staff. The most common barriers to completing these assessments expressed by program staff were staff shortages and the volume of curriculum and process groups needing completion.

*Intake, Exit and Follow-Up Assessment Completion Rates*

	<u>BPRS</u>		<u>ASI</u>		<u>SOCRATES</u>	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>Intake Assessments (n=90)</b>						
Completed	85	94.4%	83	92.2%	85	94.4%
Incomplete	5	5.6%	7	7.8%	5	5.6%
<b>Exit Assessments (n=63)</b>						
Completed	55	87.3%	56	88.9%	58	92.1%
Incomplete	8	12.7%	7	11.1%	5	7.9%
<b>Follow-Up Assessments (n=35)</b>						
Completed	33	94.3%	33	94.3%	32	91.4%
Incomplete	2	5.7%	2	5.7%	3	8.6%

The following analyses compare clinical ratings from the three assessment tools at three time periods: intake to the program, exit from the in-prison program or release from prison, and a six month follow-up. Mean scores at each time period are provided. Changes in clinical statuses from intake to follow-up, intake to exit, and exit to follow-up are also presented, but include only matched scores, that is, only include scores for participants with scores at the two timeframes being compared. As such, intake to follow-up comparisons include a small sample size, as only 33 participants completed their aftercare and took part in a follow-up interview, and fewer of those had both the necessary intake and exit scores for which to make a comparison. Given the small sample size and the inclusion of some participants who were not assigned to the project via random assignment, caution should be used in making inferences to the general ADC population.

**Brief Psychiatric Rating Scale**

Subscales on the BPRS are rated on a scale from 1 to 7, with 1 indicating that a symptom is “not present,” and 7 indicating a symptom is “extremely severe” (developers of the instrument define scores of 2 or below as “normal,” and scores of 6 or 7 as “pathological”). The accompanying table displays the mean BPRS scores at the time of intake, exit, and follow-up. A decrease in mean scores over time indicates an improvement in psychological functioning.

*Brief Psychiatric Rating Scale Mean Scores*

Subscale	Intake ( $n=84^a$ )			Exit ( $n=55$ )			Follow-Up ( $n=33$ )		
	Mean	Median	<i>SD</i>	Mean	Median	<i>SD</i>	Mean	Median	<i>SD</i>
Somatic Concern	2.52	1.96	1.67	3.00	3.08	1.69	2.12	1.71	1.45
Anxiety	3.58	3.51	1.76	3.58	3.39	1.76	2.64	2.41	1.52
Depression	3.51	3.45	1.80	2.78	2.53	1.71	2.30	1.81	1.55
Suicidality	1.61	1.41	1.00	1.51	1.27	1.07	1.36	1.24	0.78
Guilt	3.18	3.23	1.54	2.91	2.80	1.49	1.97	1.77	1.07
Hostility	2.17	1.87	1.34	2.35	2.14	1.38	1.85	1.46	1.46
Elevated Mood	1.98	1.62	1.40	1.68	1.38	1.27	1.30	1.19	0.77
Grandiosity	1.41	1.22	1.08	1.19	1.41	0.56	1.06	1.06	0.24
Suspiciousness	2.30	1.94	1.43	2.15	1.82	1.38	1.39	1.26	0.89
Hallucinations	2.22	1.73	1.58	1.66	1.36	1.24	1.55	1.31	1.12
Unusual Thought Content	1.46	1.25	1.08	1.40	1.23	0.91	1.06	1.06	0.35
Bizarre Behavior	1.40	1.29	0.80	1.09	1.10	0.30	1.18	1.16	0.46
Self-Neglect	1.15	1.09	0.55	1.06	1.06	0.24	1.19	1.16	0.47
Disorientation	1.09	1.06	0.36	1.02	1.02	0.14	1.03	1.03	0.18
Conceptual Disorganization	1.07	1.05	0.30	1.02	1.02	0.14	1.09	1.06	0.38
Blunted Affect	1.36	1.30	0.67	1.20	1.14	0.60	1.45	1.33	0.83
Emotional Withdrawal	1.25	1.18	0.64	1.30	1.22	0.66	1.30	1.26	0.59
Motor Retardation	1.09	1.08	0.33	1.11	1.09	0.37	1.00	1.00	0.00
Tension	1.73	1.46	1.17	1.87	1.56	1.24	1.56	1.43	0.88
Uncooperativeness	1.12	1.07	0.52	1.19	1.10	0.65	1.18	1.16	0.46
Excitement	1.32	1.18	0.83	1.47	1.24	1.14	1.12	1.09	0.42
Distractibility	1.54	1.33	0.99	1.42	1.32	0.75	1.36	1.28	0.70
Motor Hyperactivity	1.53	1.30	0.07	1.43	1.29	0.93	1.19	1.13	0.54
Mannerisms/Posturing	1.04	1.03	0.26	1.02	1.01	0.14	1.13	1.10	0.42

<sup>a</sup> 85 participants were administered a BPRS at intake. One participant refused to complete the assessment, responding to only a portion of the questions.

Changes in assessment scores from intake to exit, exit to follow-up, and intake to follow-up were compared using paired-samples *t*-tests. Type one error rate, across each subscale, was corrected using Holm’s sequential Bonferroni approach. Cohen’s *d* was computed to examine the effect size.

Statistically significant improvements were demonstrated from intake to exit for three subscales. For guilt, the effect size was between small and medium; whereas, for depression and hallucinations, there was a medium size effect. Three subscales also appeared to improve from

exit to follow-up, with a large effect for both somatic concerns and guilt, and a medium effect for elevated mood. At follow-up, when compared to intake, seven subscales significantly improved. Out of these seven, there was a medium size effect for three subscales (somatic concerns, elevated mood & hallucinations) and time large effect for four subscales (anxiety, depression & guilt). These findings are summarized in the table below.

*Effect Size (Cohen's d) and Probability Values for T-Tests Examining Time Mean Differences in Psychiatric Functioning*

Subscale	Pair Wise Comparison								
	Intake to Exit			Exit to Follow-Up			Intake to Follow-Up		
	<i>n</i>	<i>p</i>	<i>d</i>	<i>n</i>	<i>p</i>	<i>d</i>	<i>n</i>	<i>p</i>	<i>d</i>
Somatic Concern	53	.194	-.20	29	.000 <sup>a1</sup>	.75	32	.008 <sup>a2</sup>	.51
Anxiety	53	.621	.08	29	.038	.58	32	.004 <sup>a1</sup>	.74
Depression	53	.000 <sup>a1</sup>	.59	29	.157	.27	32	.000 <sup>a2</sup>	1.09
Suicidality	50	.123	.25	28	.363	.24	32	.055	.43
Guilt	53	.036 <sup>a3</sup>	.34	29	.005 <sup>a2</sup>	.81	32	.000 <sup>a1</sup>	1.08
Hostility	52	.532	-.12	29	.092	.34	32	.325	.26
Elevated Mood	50	.426	.16	28	.011 <sup>a1</sup>	.46	32	.020 <sup>a2</sup>	.49
Grandiosity	49	.302	.16	27	.083	.32	32	.107	.37
Suspiciousness	52	.263	.17	29	.044	.52	32	.001 <sup>a1</sup>	.81
Hallucinations	51	.008 <sup>a2</sup>	.45	28	.641	.12	32	.007 <sup>a1</sup>	.57
Unusual Thought Content	49	.312	.18	28	.232	.32	31	.053	.43
Bizarre Behavior	50	.040	.39	27	.425	-.21	32	.206	.29
Self-Neglect	48	.229	.23	26	1.00	.00	30	1.00	.00
Disorientation	47	.261	.22	26	.327	-.33	30	.423	.19
Conceptual Disorganization	44	.420	.17	27	.185	-.43	26	.161	-.28
Blunted Affect	47	.038	.36	29	.026	-.48	26	.523	-.15
Emotional Withdrawal	46	.533	-.13	29	.537	.10	26	.170	-.43
Motor Retardation	46	.785	-.06	28	.161	.35	25	.327	.24
Tension	48	.830	-.03	28	.094	.35	26	.611	.10
Uncooperativeness	45	.404	-.19	28	.573	-.13	26	.646	-.13
Excitement	44	.722	-.07	28	.032	.49	26	.025	.47
Distractibility	46	.592	.09	28	.646	-.10	26	.527	.17
Motor Hyperactivity	47	.420	.16	27	.265	.19	26	.306	.23
Mannerisms and Posturing	45	.420	.16	27	.103	-.54	25	.103	-.65

Cohen's *d* effect size: small (.20); medium (.50); large (.80);

<sup>a1</sup>*p* < .017, <sup>a2</sup>*p* < .025, <sup>a3</sup>*p* < .05; For each subscale, type one error for pair-wise comparisons was corrected with Holm's sequential Bonferroni approach

### **Addiction Severity Index**

Domain scores for the ASI ranges from 0 (least severe) to 9 (most severe). A decrease in scores over time indicates an improvement in functioning in substance abuse and those areas that often affect substance abuse. The accompanying table provides descriptive summary statistics for each wave of data collection.

*Addiction Severity Index Mean Scores*

Domain	Intake (n=83)			Exit (n=56)			Follow-Up (n=33)		
	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD
Medical	3.39	2.71	3.02	3.07	1.92	3.18	2.45	1.23	2.92
Employment	5.69	5.78	2.75	4.25	4.11	2.77	2.33	1.60	2.48
Alcohol	5.61	6.33	3.13	5.30	5.44	2.86	1.88	1.55	1.69
Drugs	7.19	8.06	2.42	6.50	7.39	2.67	2.70	1.67	2.74
Legal	5.23	5.45	3.01	4.13	4.50	2.77	1.82	1.59	1.38
Family/Social	6.10	6.80	2.78	4.63	4.53	2.48	2.76	2.82	2.08
Psychological	6.76	7.39	2.28	5.50	6.60	3.32	4.18	3.91	2.78

Paired-samples *t*-tests were used to determine significant changes in ASI scores at the three assessment periods. Holm's sequential Bonferroni approach was used to correct type one error rates for pair-wise comparisons within each domain. Cohen's *d* was calculated as an index for effect size.

Statistically significant improvements, with medium size effect, from program intake to program exit were evidenced in 5 out of the 7 ASI domains: employment, drug use, legal status, family/social status, and psychological status. Improvements were detected in the intake to follow-up analyses for 6 domains. The effect size for psychological domain was between small and medium, however, there was a large effect for five domains. For the same 6 domains, there were significant and large improvements from program exit to follow-up. Medical status did not show statistically significant improvements at any timeframe. Alcohol use did not show an improvement from intake to exit. These findings are summarized in the accompanying table.

*Effect Size (Cohen's d) and Probability Values for T-Tests Examining the Time Changes in Substance Abuse and Related Areas as Measured by the Addiction Severity Index*

Domain	Pair Wise Comparison					
	Intake to Exit		Exit to Follow-Up		Intake to Follow-Up	
	<i>p</i>	<i>d</i>	<i>p</i>	<i>d</i>	<i>p</i>	<i>d</i>
	(n=54)		(n=30)		(n=31)	
Medical	.305	.13	.026	.53	.02	.32
Employment	.000 <sup>a1</sup>	.55	.002 <sup>a3</sup>	.82	.000 <sup>a2</sup>	1.27
Alcohol	.571	.11	.000 <sup>a1</sup>	1.46	.000 <sup>a2</sup>	1.34
Drugs	.011 <sup>a3</sup>	.44	.000 <sup>a1</sup>	1.37	.000 <sup>a2</sup>	1.80
Legal	.023 <sup>a3</sup>	.43	.008 <sup>a2</sup>	.70	.000 <sup>a1</sup>	1.29
Family/Social	.006 <sup>a3</sup>	.49	.000 <sup>a1</sup>	.87	.000 <sup>a2</sup>	1.29
Psychological	.003 <sup>a2</sup>	.49	.035 <sup>a3</sup>	.41	.000 <sup>a1</sup>	1.07

Cohen's *d* effect size: small ( $\leq .20$ ); medium ( $\leq .50$ ); large ( $\leq .80$ );

<sup>a1</sup>*p* < .017, <sup>a2</sup>*p* < .025, <sup>a3</sup>*p* < .05; For each subscale, type one error for pair-wise comparisons was corrected with Holm's sequential Bonferroni approach

**Stages of Change Readiness and Treatment Eagerness Scale**

The SOCRATES contains three rating scales: Recognition (range of 7-35 points), Ambivalence (range of 4-20 points), and Taking Steps (range from 8-40 points). Higher scores on the

SOCRATES are indicative of a desire to change or the likelihood that change will occur; as such, scores should increase over time. The accompanying table summarizes the descriptive statistics for assessed program participants over time.

*Stages of Change Readiness and Treatment Eagerness Scale Mean Scores*

Subscale	Intake (n=85)			Exit (n=58)			Follow-Up (n=32)		
	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD
Recognition	29.11	31.50	7.51	26.69	29.67	9.89	25.78	29.00	9.27
Ambivalence	14.38	14.76	4.08	12.86	13.83	4.89	9.75	9.60	5.42
Taking Steps	32.85	34.40	7.58	34.48	36.13	6.53	34.56	38.42	8.79

Paired-sample *t*-tests were used to determine significant differences in readiness to change from intake to exit, exit to follow-up, and intake to follow-up. As with the BPRS and ASI findings, type one errors were corrected with Holm’s sequential Bonferroni approach and Cohen’s *d* is reported. SOCRATES Recognition scores were significantly different from intake to follow-up ( $p=.003$ ), but trended in the non-desired direction (decreased rather than increased); however the size of the effect was small.

*Effect Size (Cohen's d) and Probability Values for T-Tests Examining Pairwise Time Differences in Readiness to Change as Measured by the SOCRATES*

Subscale	Pair Wise Comparison					
	Intake to Exit (n=55)		Exit to Follow-Up (n=30)		Intake to Follow-Up (n=29)	
	<i>p</i>	<i>d</i>	<i>p</i>	<i>d</i>	<i>p</i>	<i>d</i>
Recognition	.059	.35	.119	.03	.003 <sup>a1</sup>	.24
Ambivalence	.037	.30	.845	.34	.293	.89
Taking Steps	.337	-.15	.924	-.02	.321	-.25

Cohen’s *d* effect size: small (|.20|); medium (|.50|); large (|.80|);  
<sup>a1</sup> $p < .017$ , <sup>a2</sup> $p < .025$ , <sup>a3</sup> $p < .05$ ; For each subscale, type one error for pair-wise comparisons was corrected with Holm’s sequential Bonferroni approach

Recognition scores were frequently lower at follow-up. This may have resulted from participants’ no longer questioning the harm their drug or alcohol use has caused, or no longer believing they needed to make changes in their drug or alcohol use as they were abstinent at the time of exit and/or follow-up. For example, item #1 reads: “I really want to make changes in my use of drugs;” some participants responded with “strongly disagree” at exit or follow-up if they were no longer using drugs. Responses to open-ended questions asked during the qualitative exit and follow-up interviews often reflected participants’ awareness of their substance use disorder, as well as outlined many behavior changes participants had made to prevent future substance abuse, which often conflicted with participants’ SOCRATES scores. Additionally, mean scores for the Taking Steps dimension were between the medium and high range (see Appendix B), for both exit and follow-up assessments; this implies that exit and follow-up Recognition scores were not likely a valid depiction of participants’ recognition of their struggles around substance use or previous use.

## Participant Community Outcome Indicators

### Criminal Recidivism

Criminal recidivism was assessed from two different data sources: parole violations and records of arrest. Both sets of data were evaluated to detect recidivism occurrences within the first 6 months following prison discharge, with both event and latency of events assessed. It should be noted, those participants who were not yet released or those for whom 6 months had not passed since their release date are not included in the analyses.

Re-arrest. The data in the accompanying table summarizes the re-arrest patterns for the program participants and for the comparison participants. A slightly lower proportion of the program participants had been re-arrested within 6 months of their prison release, relative to their comparison participants. Further, these re-arrests occurred much more rapidly for the program participants (within 2 months or less, on average), as compared to their comparison counterparts. This may be in part because program participants were more likely to have a greater number of individuals observing them in the community (i.e. a program case manager, RBHA personnel, treatment staff at their transitional housing unit, a co-occurring oriented parole officer, etc.). Both proportional rates of re-arrest and latency to re-arrest were not statistically significant between the treatment and comparison groups.

	<b>Total In-Prison Program Completers <i>n</i> = 59</b>	<b>Comparison Participants <i>n</i> = 99</b>
Arrested on new charge	7 (15.25%)	20 (20.20)
Mean elapsed time from release to re-arrest (months)	1.95 ( <i>SD</i> =1.91)	3.32 ( <i>SD</i> =1.76)

Parole violations. Comparison of the rates and latency of parole violations received by the treatment and comparison groups showed similarly insignificant results. As the data in this table reveal, slightly less than one-quarter of all participants had violated the conditions of their parole within 6 months of their prison release, and on average, these violations occurred approximately 3 months following their prison discharge.

	<b>Total In-Prison Program Completers <i>n</i> = 59</b>	<b>Comparison Participants <i>n</i> = 99</b>
Parole Violation	14 (24.14%)	23 (23.23%)
Mean elapsed time from release to re-arrest (months)	2.90 ( <i>SD</i> =1.58)	3.41 ( <i>SD</i> =1.51)

### Community Re-Entry and Services Engagement

At the conclusion of participants' aftercare period (either due to aftercare completion, return to custody, or post-release discharge or withdrawal), over two-thirds of the program participants reported they had reunited with their families, while approximately half reported they had obtained employment (55.7%) and experienced a lapse of

	<b>Total In-Prison Program Completers <i>n</i> = 61<sup>a</sup></b>	<b>Pre-August 2007 Enrollees <i>n</i> = 41</b>	<b>Post-August 2007 Enrollees <i>n</i> = 20</b>
Family Reunification	46 (75.4%)	31 (75.6%)	15 (75%)
Obtained Independent Housing	21 (34.4%)	15 (36.6%)	6 (30%)
Employed	34 (55.7%)	26 (63.4%)	8 (40%)
Substance Use Relapse	33 (54.1%)	22 (53.7%)	11 (55%)

<sup>a</sup> Two participants currently completing their aftercare not included.

substance use of these community outcomes stratified by the time of program entrance reveals that early program entrants (prior to August 2007) experienced significantly better community outcomes in one of the four community outcomes (employment).

### **Qualitative Findings: Participant Interviews**

Qualitative interviews were conducted with research participants at release from prison and following six months in the community. Participants removed from the quantitative portion of the study due to overdue intake assessments were interviewed to ensure their feedback was captured, and as the lack of valid intake scores for these participants would not affect the validity of their interview responses. A total of 67 exit interviews (which included 4 participants removed from the quantitative data) and 35 follow-up interviews were conducted (including 2 participants removed from the quantitative data). The qualitative data were organized into extensive field notes for each interview, separated by question and topic area, and transcribed into a word processing program by the interviewer. Themes or patterns in the data were identified using the constant comparison method of grounded theory (Glaser & Strauss, 1967). Using the different themes, each of the transcripts were then coded in NVivo, a qualitative software program that managed, organized, and developed coding arrangements from the semi-structured interviews. NVivo is a software package extensively used in social science research to examine patterns and relationships that develop in qualitative data (Lewins & Silver, 2007).

In analyzing the qualitative interviews, different trends developed across time about what participants found to be helpful about the program, what could have been improved, thoughts and experiences with aftercare, actual aftercare service utilization, and issues involving psychological and substance use treatment. Some of the common trends from the qualitative data are discussed below.

### **Positive Program Aspects**

Subsidized housing. Subsidized housing emerged as an essential area of financial assistance. While some participants were happy to have had the assistance with clothes, groceries, and transportation, most discussed housing as a defining financial incentive. A few participants voiced concern that the housing provided was inadequate and did not meet their needs, but the majority expressed gratitude to have subsidized housing after being released from prison, at times even if they were unhappy with the housing environment.

Employment support. The feedback regarding employment assistance, however, was mixed. Some participants considered the employment assistance they received to be invaluable. However, others were disappointed that they did not learn more job skills, that jobs were not available to them upon returning to the community, and that COSIG program staff was not able to assist them in securing a greater number of job interviews. As might be expected, it appeared those who were able to keep a job while in the community, and were satisfied with that job, were also happier with the overall employment aid that the COSIG program provided.

Co-occurring curriculum. In general, participants also voiced gratitude for what they gained from the psycho-educational programming component of COSIG. Two skills commonly discussed were being able to better recognize triggers that lead to relapse, as well as

understanding, often for the first time, the connection between their mental health and substance related needs. In addition, participants discussed the benefits of the cognitive behavioral strategies they learned and how these skills assisted them in coping with their mental health and substance abuse needs.

Program staff. Some individuals repeatedly mentioned that because staff was responsive to their needs, empathetic, and willing to assist them in many aspects of their lives, this positively impacted their recovery and transition back to the community. Some participants were less satisfied with the assistance they received from COSIG staff, but many individuals recounted specific incidents when staff were able to help them in their re-entry to the community. One participant told of a case manager coming to see him in the middle of the night to help him through a profoundly difficult matter. Another told the story of a case manager working tirelessly to help find him a job. There were multiple COSIG staff members who were repeatedly referenced as being paramount to the program's success because of their level of dedication.

### **Challenges and Barriers**

Staffing shortages. Although many aspects of the program were praised by participants, there were four primary negative themes that developed while analyzing the interview transcripts. Most frequent were complaints of staffing shortages. There were many individuals who were grateful for the staff who were there, but it was apparent to most that turnover in staff and staff shortages created significant barriers to the program's success. For many participants this created difficulties establishing trust with staff members. It was reportedly frustrating for them to build rapport with a clinician or case manager, only to have to start over multiple times in the course of the project with new staff members.

Lack of individual therapy. It appears in examining the data that the staff shortages may have had a spill-over effect in the second most consistently discussed negative theme in the interviews. Overwhelmingly, participants were discouraged by the lack of individual therapy provided to them during the program. Some did not feel comfortable sharing all matters in a group setting, and valued the time they were able to spend alone with their therapist. Other participants valued this individual time because they did not trust others in the group setting to be respectful or to maintain confidentiality. When individual treatment was reduced during times of staff shortages, it was especially difficult for participants who had once benefitted from this treatment.

Challenges in developing a therapeutic prison environment. The concern that confidential information was disclosed to others is a component to the third major complaint of the program expressed in the qualitative interviews: the difficulty of achieving the therapeutic environment in a prison environment. Reasons for this concern were trifold. As mentioned, some stated they overheard members of the group sharing confidential information on the yard, but others were frustrated with the lack of therapeutic environment because of non-COSIG inmates on the same cell block, and later in the same cells, as participants. This created some obvious disruptions to the Modified Therapeutic Community. The therapeutic environment was further compromised when lock downs prevented participants from attending group meetings. This lack of consistency in the execution of the program was frustrating for some.

Broken promises. Others complained of not receiving services that were promised at the start of the program. The most common example was getting proper identification (i.e. drivers license, birth certificate) prior to being released from prison. Some participants argued having this documentation prior to being released would have greatly assisted them with applying for employment or obtaining community services. It should be noted that closer to the conclusion of the program, arrangements had been made for the CO III on the COSIG yard to obtain birth certificates for participants prior to their release upon request, but this change occurred after many participants had taken part in their exit interviews.

Deemphasis on mental health care in the community. At exit, many individuals stated they were planning on seeking treatment in the community that would address their mental health needs. For instance, several participants mentioned they would like to have individualized therapy sessions. At follow-up, few individuals reported following through. Some enrolled in the COOL program and a couple others mentioned day treatment, or other psycho-educational endeavors, but few had extensive therapy of any sort to address mental health concerns. It could be that those who endorsed wanting additional psychological treatment recidivated before their follow-up interview and therefore were underrepresented in the pool of participants who completed follow-up interviews. Another hypothesis is that structural barriers (availability of treatment, wait time, location and transportation, etc.) kept some participants from enrolling in individualized psychological treatment in the community. Overall, individuals at follow-up appeared to talk about few psychological issues, as opposed to substance use issues which often dominated the discussion of service utilization. Some individuals went as far as to deny actual mental illness while still endorsing mental health symptoms. For example, one participant stated, "I have no psychological illness, just some anxiety."

It was apparent in the six month follow-up interviews that substance abuse was given more treatment weight in the community than mental illness. Treatment for substance abuse for alcohol and drugs was of paramount importance to both individuals at the time of exit from the program and at the six month follow-up. Almost all participants at the time of exit from the program endorsed the importance of attending 12-Step programs or SMART Recovery. Individuals in general had no preference in one of the recovery groups over the other, but most planned to attend at least one type of group. Likewise, those who completed six month follow-up interviews consistently discussed attending addiction support groups. Far fewer mentioned day treatment programs or other programs for their substance abuse problems. The lack of utilization of formal treatment programs over informal support groups may have been due to the long history many participants had in these groups while in the prison system or during previous stays in the community.

## Discussion

Clinical assessments revealed that participants in the treatment group showed great improvements in mental health symptomology, as well as substance use and related areas. From intake to the program to the time of one's release, participants saw a significant improvement in depression, guilt and hallucinations, with depression showing the greatest improvement. By follow-up, participants continued to show significant improvements for those dimensions and also demonstrated improvements in somatic concerns, anxiety, elevated mood, and suspiciousness.

Participants additionally improved on five of the seven domains of the ASI from intake to exit from the program, including: drug use, legal status, family/social status, psychological status and employment (participants were encouraged to perform inmate jobs while incarcerated). At the time of follow-up, participants had demonstrated improvement on all dimensions of the ASI, excluding medical status. Medical status showed no significant improvements across all testing periods.

Significant changes in SOCRATES scores for the Recognition dimension, from intake to follow-up occurred in the non-desired direction. As discussed earlier, this may have arisen from participants' misunderstanding as to how to respond to an item once abstinent (i.e. they may have believed they no longer wanted to make changes in their substance use, as they were abstinent and a "change" would involve use, in their interpretation). Reductions in mental health symptoms and reduced substance use, as measured by the BPRS and ASI, conflict with the notion that participants' recognition of their substance abuse problems decreased over time.

With the assistance of re-entry staff, over three-quarters of participants reunited with their families (75.4%) and enrolled in the RBHA system (75.4%). More than half additionally gained employment (57.7%), obtained AHCCCS benefits (57.38%), and attended support groups or program alumni meetings (54.1% and 50.8% respectively). Late enrollers, however, were less likely than early enrollers to gain employment or attend support groups or alumni meetings. This may have been a result of staffing shortages and other fidelity matters.

The semi-structured qualitative interviews that were conducted at exit and six months post-prison release highlighted some of the positive and negative components of the COSIG program in the views of the participants. Individuals considered greater insight into their co-occurring problems, psycho-educational obtainment, and post-release financial and support incentives, as some of the most significant benefits to taking part in the program. On the contrary, less staff turnover and shortages, increased and more consistent individual counseling, and a larger emphasis on obtaining a therapeutic environment were all areas where participants felt the program could improve. Overall, participants were quite focused on their sobriety at both interview timeframes, and understood the importance of maintaining that sobriety to keep from returning to prison. The majority of individuals rated it as the most important factor, or at least highly important, when asked how significant it was to their success in the community. Mainly, participants stated they would recommend the COSIG program to others, even when they had a specific grievance with the program.

## Study Limitations

This study has several limitations, in particular, the lack of sufficient data for the comparison group. There was little data with which to compare the treatment group to the comparison group at the point of six months in the community post-release, outside of recidivism data. It would have been valuable to have baseline and follow-up clinical data, particularly mental health and substance abuse assessment scores, for the comparison group, as was gathered for the treatment group. This would have allowed for a comparison of clinical profiles of those in the treatment group to those in the comparison group to determine if similar improvements in mental health and substance abuse symptomology occurred in the comparison group. It would have additionally been useful to have obtained these data for those participants in the treatment group who were discharged, withdrawn, or who returned to custody, to compare to treatment group completers, to determine if completion of the in-prison treatment program and the aftercare component led to more positive clinical outcomes than outcomes found with noncompleters of the treatment group.

Assessing and interviewing both the noncompleters of the treatment group and all participants in the comparison group would have been costly and labor intensive. Participants in the comparison group were located in various complexes across the state of Arizona. Participants in the treatment group who returned to custody were also often transferred to complexes in other areas of the state, while others were arrested in neighboring states. Travel to and from those complexes would have been time consuming and expensive. An additional cost would have included the financial incentives provided to participants for taking part in interviews and assessments (a possible total of \$45 per participant). Researchers and policy makers involved in future studies would need to weigh the costs and benefits of collecting this information.

An additional limitation of this study was the lack of adequate treatment dosage data. As mentioned earlier in this report, participants who enrolled later in the study were permitted to complete portions of the curriculum in a self-study format versus in a group setting with a facilitator. While the number of completed modules were still tracked by the evaluation team, they could no longer be used as an accurate measure of program completion, at least for the cohort for which the exception was made.

Another planned measure of treatment dosage that was ultimately insufficient was the tracking of individual counseling sessions participants had with program staff. Staffing shortages led to reduced one-on-one sessions; at times, individual sessions consisted of informal 15 minute “check-ins” that were not adequately tracked. Measures of rates of individual counseling received by participants could have been used alongside curriculum completion rates to get a sense of the dose of treatment participants received at various points in the program and could have served as an additional component with which to compare the pre- and post-August 2007 cohorts.

The diminishment of program fidelity made evaluation of this program and analysis of the data challenging as well. The resignation of key staff members, staff shortages, termination of transportation of participants by case managers, allowance of modules to be completed in self-study format, the move to a prison yard less conducive to treatment, disruptions to the Modified Therapeutic Community, terminations of various aftercare services, the reduction in case

management intensity, and other hurdles to program fidelity created countless confounding variables. As outlined in the findings, participants in the treatment group were separated into pre- and post-August 2007 cohorts. This timeframe appeared to be a mid-point from when the program was functioning as intended, for the most part, and when program fidelity was threatened. It may have been ideal to split participants into additional cohorts, accounting for specific events, such as the conclusion of case management or conclusion of subsidized housing, but the sample size of participants would not have provided enough power for statistical analyses had the participants been split into additional groups.

### **Future Research**

While a moderately sized body of research regarding the prevalence of substance abuse disorders or mental health disorders in incarcerated individuals exists, studies specifically outlining rates of co-occurring disorders in incarcerated offenders is limited. Greater clarity regarding the occurrence of co-occurring disorders in offender populations should inform relevant parties as to the level of need for such treatment programs, as well as provide illumination of corresponding logistical matters. Further studies in this area may reveal the staffing needs for these types of programs, psychotropic medication needs for facilities offering co-occurring programs, program cost, and other matters.

Additional study regarding the most effective treatment methods for offenders with co-occurring disorders is needed as well. The treatment program evaluated in this study involved multiple treatment modalities including cognitive-behavioral techniques, modified therapeutic community (MTC) components, motivational enhancement therapy (MET), group interventions, psychoeducation, peer-delivered support services and other methods. While qualitative data was available from participant interviews, future studies that compare modalities of treatment based on outcomes, that would supplement qualitative data, would be valuable. As outlined in the qualitative findings section, participant reviews of the modified therapeutic community were mixed. Some believed it was not attainable unless on a yard that is devoted strictly to those taking part in treatment programs. Future studies regarding MTCs in correctional settings in particular are necessary.

Greater emphasis on aftercare and re-entry services is also needed in the literature, particularly regarding the effectiveness of aftercare services, the appropriate intensity of aftercare services, coordination of aftercare and re-entry services, and other related matters. Much of the current literature focuses on co-occurring care within facilities, and less on aftercare and re-entry matters.

While important lessons can be gleaned from the Services Pilot Project, the formation of additional programs providing co-occurring treatment to inmates with substance abuse and mental health disorders is not likely to occur without greater clarification as to the rates of co-occurring disorders in correctional systems, the most successful treatment modalities, the value of transitional/re-entry services, as well as cost-effectiveness data, particularly regarding the potential for reducing recidivism.

## References

- Arizona Department of Commerce (n.d.). *Profile: Maricopa County Arizona*. Retrieved October 24, 2008, from: <http://www.azcommerce.com/doclib/COMMUNE/Maricopa%20County.pdf>
- Arizona Department of Commerce (n.d.). *Profile: Pima County Arizona*. Retrieved October 24, 2008, from: <http://www.azcommerce.com/doclib/COMMUNE/Pima%20County.pdf>
- Arizona Department of Corrections. *Count sheets for February 2008* [Data file]. Retrieved October 24, 2008, from: [http://www.azcorrections.gov/adcr/reports/count\\_sheet.asp?QMonth=2&QYear=2008](http://www.azcorrections.gov/adcr/reports/count_sheet.asp?QMonth=2&QYear=2008)
- Arizona Department of Corrections. *Arizona State Prison Complex – Tucson*. Retrieved October 24, 2008, from: <http://www.azcorrections.gov/adcr/prisons/tucson.asp>
- Arizona Department of Corrections. *Inmate ethnic distribution by unit July 2009* [Data file]. Retrieved September 16, 2009 from: [http://www.azcorrections.gov/Zoya\\_ethnic.aspx](http://www.azcorrections.gov/Zoya_ethnic.aspx)
- Butzin, C., Martin, S., & Inciardi, J. (2002). Evaluating component effects of a prison-based treatment continuum. *Journal of Substance Abuse Treatment, 22*, 63-69.
- Center on Alcoholism, Substance Abuse and Addiction (CASAA) (1995). *SOCRATES Version 8*. Retrieved August 20, 2009 from: <http://casaa.unm.edu/inst/SOCRATESv8.pdf>.
- Concato, J., Shah, N., & Horitz, R.I. (2000). Randomized, controlled trials, observational studies, and the hierarchy of research designs. *The New England Journal of Medicine, 342*(25), 1887-1892.
- Department of Justice, Bureau of Justice Statistics (2007). *Probation and parole statistics*. Retrieved November 12, 2009 from: <http://www.ojp.usdoj.gov/bjs/pandp.htm>
- Department of Justice, Bureau of Justice Statistics (2008). *Prison statistics*. Retrieved November 12, 2009 from: <http://www.ojp.usdoj.gov/bjs/prisons.htm>
- Glaser, B.G., & Strauss, A.L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Walter de Gruyter: Hawthorne, NY.
- Hartwell, S. (2004). Triple stigma: Persons with mental illness and substance abuse problems in the criminal justice system. *Criminal Justice Policy Review, 15*, 84-99.
- James, D.J. & Glaze, L.E. (2006). *Mental health problems of prison and jail inmates*. Washington, D.C.: U.S. Department of Justice.
- Knight, K., Sampson, D. & Hiller, M. (1999). Three year reincarceration outcomes for in-prison therapeutic community treatment in Texas. *The Prison Journal, 79*, 337-359.

Lewins, A. & Silver, C. (2007). *Using Software in Qualitative Research: A Step-by-Step Guide*. SAGE Publications. Thousand Oaks, CA.

Mauer, M. & King, R.S. (2007). *A 25-year quagmire: The war on drugs and its impact on American society*. Retrieved October 1, 2009 from: [http://www.sentencingproject.org/doc/publications/dp\\_25yearquagmire.pdf](http://www.sentencingproject.org/doc/publications/dp_25yearquagmire.pdf)

Messina, N., Burdon, W., Hagopian, G., & Pendergast, M. (2004). One year return to custody rates among co-disordered offenders. *Behavioral Sciences and the Law*, 22, 503-518.

Peters, R.H., & Hills, H.A. (1993). Inmates with co-occurring substance abuse and mental health disorders. In H.J. Steadman & J.J. Cocozza (Eds.) *Providing services for offenders with mental illness and related disorders in prisons*. Washington, DC: The National Coalition for the Mentally Ill in the Criminal Justice System.

Peters, R. & Petrila, J. (2004). Introduction to this issue: Co-occurring disorders and the criminal justice system. *Behavioral Sciences and the Law*, 22, 427-429.

Pew Center on the States (2008). *One in 100: Behind bars in America 2008*. Retrieved November 11, 2009 from: [http://www.pewcenteronthestates.org/uploadedFiles/8015PCTS\\_Prison08\\_FINAL\\_2-1-1\\_FORWEB.pdf](http://www.pewcenteronthestates.org/uploadedFiles/8015PCTS_Prison08_FINAL_2-1-1_FORWEB.pdf)

Sacks, S., Sacks, J.Y., McKendrick, K. Banks, S. & Stommel, J. (2004). Modified TC for MICA offenders: Crime outcomes. *Behavioral Sciences and the Law*, 22, 477-501.

Travis, Solomon, and Waul (2001). *From prison to home: The dimensions and consequences of prisoner reentry*. Washington, D.C.: Urban Institute – Justice Policy Center.

U.S. Census Bureau (2008). *State & county QuickFacts: Arizona*. Retrieved September 16, 2009 from: <http://quickfacts.census.gov/qfd/states/04000.html>

## Appendix A

### Exit and Follow-Up Interview Questions

*Script read to participants: Everything we discuss here is completely confidential. The information shared with the staff will not contain anything that can identify you personally. However, if you do state that you intend to do harm to yourself or to others, I will have to share that with the staff. There are no right or wrong answers to the questions. Feel free to skip any questions you do not feel comfortable answering. Do you have any questions?*

#### Exit Interview Questions

1. Which parts of the program did you find the most helpful/useful?
2. Which parts of the program did you find the least helpful/useful?
3. If you could change something about the program what would it be? Or add something?
4. In the past were you involved in any other in-prison programs?
  - a. How was this in-prison program different from other programs you were involved with in the past?
5. How do you feel the staff treated you?
6. How comfortable were you participation in the program and in the groups?
7. How did the program help you prepare for re-entry?
  - a. What could have been done differently?
8. How involved were you in developing your release plan?
9. What services are you expecting to use after release?
10. Did any of the community providers come to prison to help you with your plan?
11. Can you describe what's going to happen during your first three days after release?
12. How was your family involved with your re-entry planning? Were they contacted?
13. What makes you the most nervous about being released?
14. How do you feel the program met your co-occurring treatment needs?
  - a. The progress that you made in the program?
  - b. What aspects met this need?
  - c. What would you have liked to have seen done differently?
15. What substance abuse treatment do you anticipate you will use after release?
16. What mental health treatment do you anticipate you will use after release?
17. Are you taking any prescription medication on a regular basis?
  1. Which medication?
  2. How are you going to obtain the meds after release?
  3. Do you need any assistance in order to get the meds?
18. How important is it to you to keep up with your recovery needs after release?
19. How confident are you in not returning to prison?
20. Would you recommend this program to others?
21. Overall, how satisfied were you with the program?
22. Anything you would like to add?

#### Follow-Up Interview Questions

1. Which parts of the re-entry program did you find the most helpful/useful to you during the past six months?

2. Which parts of the re-entry program did you find the least helpful/useful to you during the past six months?
3. Thinking back, if you could have changed something about the program what would it have been? Or add something? How could it be improved?
4. What parts of the re-entry program did you find the most helpful/useful? The least helpful/useful?
  - a. How could it be improved?
5. Were you involved in any co-occurring programs in the last 6 months?
6. How was the COSIG program different from other programs you were involved with in the past 6 months?
7. When people leave prison and return to the community, there's a lot of adjustment that goes on. What have been the most difficult adjustments that you had to make?
  - a. What are some of the problems/major issues you have had in the past 6-months?
8. How could the COSIG staff have helped you adjust better? Or if they did help you with these issues, what did they do?
9. What kind of services or supports would you have liked to receive before you left prison that would have made your adjustment easier?
10. What kind of services or supports would you have liked to receive in the past 6 months that would have made your adjustment easier?
11. Did you receive all the services or help through the COSIG program that you anticipated you would at release?
  - a. What could have been done differently?
12. Have you been employed since release?
  - a. How many jobs?
  - b. Where? Doing what? Why did you terminate employment at past jobs? Do you like it?
  - c. How many hours per week do you work?
  - d. Do you have good working relationships with those you work with?
13. How many different places have you lived since release?
  - a. Location?
  - b. With whom?
  - c. For how long?
  - d. What kinds of place was this? Describe your housing situation to me?
14. Was your family involved in the past 6 months? How?
15. How was your case manager involved in the past 6-months? Have you been in touch with other COSIG staff or participants?
16. Overall, how satisfied were you with the services you have received thru the program?
17. What mental health treatment did you receive in the past 6 months?
  - a. How long?
  - b. Frequency?
  - c. Reason for continuing or quitting treatment?
  - d. Current attending?
18. What substance abuse treatment did you receive in the past 6 months?
  - a. How long?
  - b. Frequency?
  - c. Reason for continuing or quitting treatment?
  - d. Currently attending?

19. How do you feel the services you received after release met your co-occurring treatment needs?
  - a. What else did you want to happen? What could have been done differently?
20. How important is it to you to continue to keep up with your recovery needs?
21. How confident are you at this point in time that you will not return to prison?
  - a. How much of that confidence comes from your involvement in the re-entry program?
22. Would you recommend this program to others?
23. Is there anything else you would like to add? Anything you would like to ask me?

## Appendix B

### SOCRATES Rating Scale

#### Recognition

Very Low: 7–26  
Low: 27–30  
Medium: 31–33  
High: 33–35  
Very High: None

#### Ambivalence

Very Low: 4–8  
Low: 9–13  
Medium: 14–15  
High: 16–17  
Very High: 18–20

#### Taking Steps

Very Low: 8–25  
Low: 26–30  
Medium: 31–33  
High: 34–36  
Very High: 37–40

---

<sup>i</sup> Kessler, R.C., Crum, R.M., Warner, L.A., Nelson, C.B., Schulenberg, J., Anthony, J.C. (1997) Lifetime Co-Occurrence of DSM-III-R Alcohol Abuse and Dependence with Other Psychiatric Disorders in the National Comorbidity Survey. *Archives of General Psychiatry* 54(4), 313-321.

<sup>ii</sup> North, C.S., Eylich, K. M., Pollio, D.E., Spitznagel, E.L., (2001) *Are Rates of Psychiatric Disorders Changing Over Time in the Homeless Population?* Paper presented at the annual meeting on the American Public Health Association: Atlanta, GA. October, 2001

<sup>iii</sup> Ditton, P.M. (1999). *Mental health and Treatment of Inmates and Probationers*. Washington DC: Bureau of Justice Statistics. Retrieved June 1, 2004 from <http://www.ojp.usdoj.gov/bjs/pub/ascii/mhtip.txt>

<sup>iv</sup> Osher, F., et al., (2002) *A Best Practice Approach to Community Re-Entry from Jails for Inmates with Co-Occurring Disorders: The APIC model*. Delmar, NY: National GAINS Center.