Colorado Division of Criminal Justice
Evaluation of the Colorado Short Term Intensive Residential Remediation Treatment (STIRRT) Programs

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Executive Summary

The Short Term Intensive Residential (STIRRT) program is intended to provide 14 days of residential substance abuse treatment designed to stabilize an individual and then provide outpatient, community-based services for six to nine months following discharge from the residential component. The program is offered at one of four Colorado locations: Arapahoe House (Denver), Crossroads Turning Point (Pueblo), Mesa County Community Corrections (Grand Junction),[1] and Larimer County Community Corrections (Fort Collins). The program is considered a "last chance" for offenders who would otherwise go to prison. Those eligible include those referred by probation, parole, Treatment Alternatives to Street Crime (TASC), Denver Drug Court, and community corrections. This evaluation includes 1,324 individuals who participated in the STIRRT program between January 1, 2008 and June 30, 2009.

FINDINGS

- Most participants (91%) successfully completed the 14-day residential component of STIRRT.
- Less than half (42.3%) of successful STIRRT discharges participated in the continuing care component of the program.[2]
- Recidivism, measured as new county or district court filing within 12 months of discharge from residential treatment, was approximately 25% regardless of participation in continuing care. This analysis included 296 individuals who participated in continuing care and were at risk of recidivating for 12 months.
  - In comparison, in FY 2008, 63.7% of community corrections clients (diversion and transition combined) successfully completed the program and 14.6% recidivated within 12 months.[3, 4]

Participants: Residential Component[5]

- Participants were primarily Caucasian (50%) and Hispanic (33%) males.[6]
- The average age was 34.1 years.
- The majority were employed or looking for work at the time of admission to the residential program.
- The majorities were married or single living independently.
- Over half of the participants had no medical problems at the time of admission yet nearly one third had a mental health problem.
- Half of the group had a high school diploma or GED.
- The average Level of Supervision Inventory (LSI) score was 32.8,[7] indicating a high level of risk and need among STIRRT participants.[8]
- Marijuana, cocaine, alcohol, and methamphetamine were the top four substances used.

Outcomes: Residential Component

- 91% of all participants completed the STIRRT residential program successfully.
  - Individual program success rates ranged from 87.1 to 96.3%.
- 39% were employed at admission into the residential program, and that group was almost twice as likely to complete the program successfully as those who were unemployed.

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[1] Mesa County terminated its STIRRT program in 2010.
[2] Admission to an outpatient facility must have occurred within 60 days of successful STIRRT discharge in order to be considered an admission to STIRRT continuing care.
[3] Community Corrections termination data provided by the Division of Criminal Justice Office of Community Corrections and analyzed by the Office of Research and Statistics. Recidivism data obtained from the Colorado Integrated Online Network (ICON) maintained by the Colorado Judicial Department. Denver County court (misdemeanor) filing data are not available for analysis and are excluded from recidivism calculations. The lack of Denver misdemeanor data disproportionately affects programs based in Denver County.
[4] The severity of the STIRRT population exceeded that of the community corrections population. The offenders included in the STIRRT evaluation scored substantially higher on the LSI than did those included in the community corrections study.
[5] The information analyzed for this report is based on DACODS (Drug/Alcohol Coordinated Data System) managed by the Division of Behavioral Health.
[6] The Arapahoe House analysis included men only.
[7] The LSI score ranges from 0-54. Scores above 29 are considered high risk/need.
[8] LSI scores were obtained from program quarterly reports and were not available at the level of the individual client.

- African Americans were more than three times as likely to complete the program successfully as those of any other race/ethnicity.

Participants: Outpatient Component

- 42.3% of the participants enrolled in continuing care after successfully completing the STIRRT residential program.
    - The proportion that participated in continuing care ranged from 25.3% to 50.9% across programs.
- The average length of time that individuals had to wait between being discharged from the residential component and admitted to continuing care was 10.1 days.
- These participants were primarily Caucasian (43.0%) and Hispanic (39.9%).
- Hispanic individuals were 70% more likely to participate in continuing care than non-Hispanics.
- Those admitted with any methamphetamine use were significantly more likely to not participate in continuing care than non-methamphetamine users.

Outcomes: Outpatient Component

- 474 individuals began continuing care during the study. Of these, 323 (68.1%) were terminated during the study; the remainder were still active in the program.
- 54 individuals who were terminated had an unknown termination status. Of the 323 for which program outcome was known, 20.4% (n=66) terminated continuing care successfully.
- The average length of stay in continuing care was 189 days for those who successfully completed continuing care (n=66).

Six and 12 Month Recidivism Rates

- Recidivism was defined as a new district or county court filing.[9]
    - The 6 month recidivism rate for those who successfully completed the residential component of STIRRT was 14.8%.
        - The rate was 12.4% for those who participated in continuing care.
        - The rate was 16.6% for those who did not participate in continuing care.
        - This difference in recidivism rates is statistically significant.
    - The 12 month recidivism rate for those who successfully completed the residential component of STIRRT was 24.9%.
        - The rate was 24.7% for those who participated in continuing care, almost identical to the 25.1% rate for those who did not participate in continuing care.
- By way of comparison, of the 63.7% community corrections clients who were successfully discharged in FY 2008, 14.6% recidivated within 12 months.[10]

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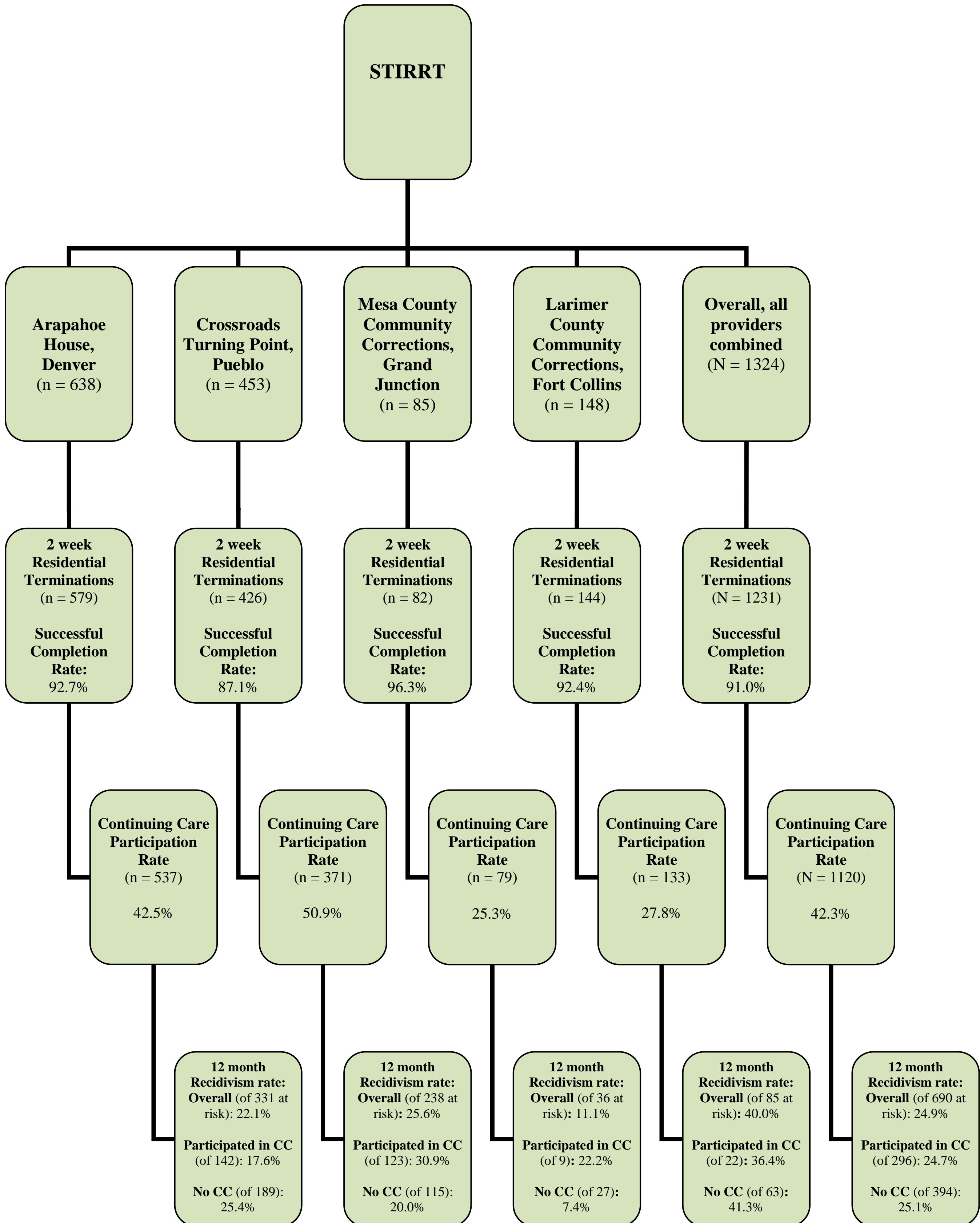
[9] Denver County court (misdemeanor) filing data are not available for analysis and are excluded from recidivism calculations. The lack of Denver misdemeanor data disproportionately affects programs based in Denver County.
[10] See footnote 4.

Figure 1. Outcome summary: Overall and by program:



Section One: Introduction and Background

Addiction is a complex illness characterized by intense and sometimes uncontrollable cravings that may lead to compulsive use of illegal substances that persist even when the individual faces devastating consequences, according to the National Institute on Drug Abuse. Although the very first use of an illegal, addictive substance is voluntary, over time a person's ability to choose not to continue the use of the substance(s) becomes compromised. Seeking and consuming substances then becomes compulsive. This behavior results largely from the effects of prolonged exposure to the drug and the effect this exposure has on brain function. Addiction then influences reward and motivation, learning and memory, as well as behavioral control.[11]

Because substance abuse and addiction disrupt so many aspects of an individual's life, treatment is difficult. Normally, effective treatment programs incorporate many components, each directed to a particular aspect of the illness and its consequences. Treatment must help the individual stop using drugs, maintain a drug-free lifestyle, and achieve productive functioning in all aspects of their life (e.g., family, work, society). Because addiction is typically a chronic disease, people cannot simply stop using drugs for a few days and be cured. Most patients require long-term or repeated episodes of care to achieve the ultimate goal of sustained abstinence and recovery of their lives.[12]

Drug *dependence* and *addiction* are used synonymously in the medical field; abuse is a component of dependence/addiction. According to the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Revised (DSM-IV-TR; 2000)[13], substance dependence is a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues use of the substance despite significant substance-related problems. Dependence results in a pattern of repeated self-administration that can lead to tolerance, withdrawal, and compulsive drug-taking behavior. Dependence or addiction is identified by substance use history which includes 3 or more of the following:

1. increase in tolerance (more of the drug is needed to achieve the same effect),
2. withdrawal symptoms,
3. use of more than intended or for a longer period of time than intended,
4. unsuccessful efforts to control substance use,
5. a great deal of time is spent in obtaining, using or recovering from the use of substances,
6. Important activities are reduced because of substance use, or
7. continuation of use despite related problems.

Substance abuse is a maladaptive pattern of substance use leading to significant impairment in functioning or psychological distress. One of the following must be present within a 12 month period:

1. recurrent use resulting in a failure to fulfill major obligations at work, school, or home;
2. recurrent use in physically hazardous situations (e.g., driving while intoxicated);
3. legal problems resulting from recurrent use, including arrests for substance-related conduct; or
4. continued use despite significant social or interpersonal problems caused or exacerbated by the substance use.

Both dependence/addiction and abuse are common among individuals in the criminal justice system. In fact, the definitions refer to legal problems resulting from substance use. The DSM-IV-TR also notes that both substance dependence and abuse are difficult to treat and often involve a cycles of substance abstinence and use.

Nationally, in 2008, an estimated 22.2 million persons aged 12 or older were classified with "past year" substance dependence or abuse (8.9% of the total population aged 12 or older). Of these, 3.1 million were classified with

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[11] http://www.drugabuse.gov/Infofacts/treatmeth.html
[12] Ibid.
[13] American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders.* (4th ed, text revision). Washington, DC: Author.

dependence on or abuse of both alcohol and illicit drugs, 3.9 million were dependent on or abused illicit drugs but not alcohol, and 15.2 million were dependent on or abused alcohol but not illicit drugs.[14]

James and Glaze (2006) reported that between 56% and 66% of the 2.2 million people that were incarcerated in U.S. prisons and jails in 2005 were estimated to have a substance abuse disorder.[15] Of the 5 million people on probation in 2006, approximately 27% had a drug crime as their most serious offense.[16] Similarly, 37% of parolees had served a sentence for a drug offense.[17]

Substance Abuse in Colorado

One-quarter of felony filings in Colorado are drug crimes. Table 1, below, shows the total number of district court filings for drug crimes between calendar years 2000 and 2008 in Colorado.

Table 1. District Court Filings: CY 2000 and 2008

Year	Total district court filings	Drug filings	% of total filings
2000	35,770	9,005	25.2
2001	36,860	9,211	25.0
2002	39,147	9,371	23.9
2003	41,257	10,191	24.7
2004	42,427	10,744	25.3
2005	45,405	11,917	26.3
2006	46,501	11,433	24.6
2007	44,245	11,213	25.3
2008	40,494	9,619	23.8

Source: Colorado Judicial Branch Annual Statistical Report, FY 2000-2008.

To better understand drug crimes, the Colorado Division of Criminal Justice, Office of Research and Statistics (ORS) collected data on a sample (N = 2626) of court cases from 10 judicial districts that received dispositions in 2006.[18] This study found that methamphetamine was the most common drug among those sentenced to prison and probation: 43% of DOC drug convictions and nearly 35% of those on probation were involved with methamphetamine (see Table 2).

[14] Substance Abuse and Mental Health Services Administration. (2009). *Results from the 2008 National Survey on Drug Use and Health: National Findings* (Office of Applied Studies, NSDUH Series H-36, HHS Publication No. SMA 09-4434). Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, Division of Population Surveys.

[15] James, D.J., & Glaze, L.E. (2006). *Mental health problems of prison and jail inmates. Bureau of Justice Statistics Special Report.* (NCJ Publication No. 213600.) Washington, DC: Department of Justice.

[16] Glaze, L.E., & Bonczar, T.P. (2007). *Probation and parole in the United States, 2006. Bureau of Justice Statistics Bulletin.* (NCJ Publication No. 220218.) Washington, DC: Department of Justice.

[17] Ibid.

[18] The 10 judicial districts included the following counties: Adams, Arapaho, Boulder, Broomfield, Denver, Douglas, Elbert, El Paso, Gilpin, Jackson, Jefferson, Larimer, Lincoln, Mesa, Pueblo, Teller and Weld. The 10 judicial districts were selected for highest numbers of filings in 2005. Five of these court locations were rural. Data were collected by hand to obtain details not available in electronic systems. The sample was stratified by sentence placement, and to be included in the sample the case had a sentence to prison (DOC), community corrections, probation, probation and community corrections, or probation and jail. The probation data presented in Table 2 is for those sentenced to probation *only*. Individuals sentenced to probation and jail, and probation and community corrections are not represented here.

Table 2. Percent charged with and percent convicted of a drug crime: five most frequent drugs

Drugs	DOC (n=537)		Probation (n=283)	
	Charged % (n)	Convicted % (n)	Charged % (n)	Convicted % (n)
Cocaine	24.2 (130)	20.3 (109)	21.6 (61)	14.1 (40)
Crack	7.6 (41)	6.1 (33)	8.5 (24)	5.7 (16)
Methamphetamine	53.8 (288)	43.8 (235)	49.8 (141)	34.6 (98)
Marijuana	17.7 (95)	12.7 (68)	23.7 (67)	19.1 (54)
Heroine	3.2 (17)	2.2 (12)	2.5 (7)	1.1 (3)

Note: Categories are not mutually exclusive.
Source: Sample of cases closed in 2006, analyzed by the Division of Criminal Justice, Office of Research and Statistics. See Footnote 16 for sample description.

Methamphetamine-, cocaine-, and marijuana-related offenses are commonly abused substances in Colorado according to court records. This finding, presented in Table 2, is consistent with findings from Short Term Intensive Residential Remediation (STIRRT) program participants, discussed later in this report. This intersection between drug abuse and criminal behavior requires that substance abuse treatment be an integrated part of criminal sentencing and accountability. A treatment-accountability approach to sentencing integrates criminal justice sanctions, treatment, and behavioral incentives for offenders with service needs related to alcohol and drug addictions is recommended by the National Institute on Drug Abuse.[19] Governor Ritter promoted this approach when he created the 2007 "recidivism reduction plan."

Governor's Recidivism Reduction Plan

In 2007, Colorado Governor Bill Ritter developed a Recidivism Reduction plan to reduce crime and control the increasing costs of incarceration. Among the Governor's several Recidivism Reduction initiatives was the expansion of residential STIRRT programming and subsidizing the cost of continuing care services for approximately 800 offenders. The STIRRT program expansion included an evaluation component, undertaken by the Division of Criminal Justice, Office of Research and Statistics (ORS). ORS researchers worked with staff from the Colorado Department of Human Services, Division of Behavioral Health and other stakeholders to evaluate the STIRRT program.

Short Term Intensive Residential Remediation Treatment

The Short Term Intensive Residential (STIRRT) program is intended to provide 14 days of residential substance abuse treatment designed to stabilize an individual and then provide outpatient, community-based services for six to nine months following discharge from the residential component. The program is offered at one of four Colorado locations: Arapahoe House (Denver), Crossroads Turning Point (Pueblo), Mesa County Community Corrections (Grand Junction),[20] and Larimer County Community Corrections (Fort Collins). The program is considered a "last chance" for offenders who would otherwise go to prison. Those eligible include those referred by probation, parole, Treatment Alternatives to Street Crime (TASC), Denver Drug Court, and community corrections.

STIRRT is designed to reduce substance abuse and criminal behavior by providing immediate substance abuse treatment and compliance with criminal justice supervision. STIRRT is a 9 month program consisting of 14 days of intensive, 8 hours/day residential treatment followed by 8 to 9 months of continuing care services. The program follows the Strategies for Self-Improvement and Change (SSC) curriculum, a cognitive-behavioral manualized program developed in 1998 by

[19] National Institute on Drug Abuse (2006).*Principles of substance abuse treatment for criminal justice populations: A research-based guide.* Washington, DC: National Institutes of Health, U.S. Department of Health and Human Services. NIJ Publication No. 06-5316
[20] Mesa County terminated its STIRRT program in 2010.

Wanberg and Milkman.[21] Based on learning theory, the program teaches offenders to think rationally and objectively by working through three phases of treatment: challenge to change, commitment to change, and ownership of change.

The Governor's Recidivism Reduction budget funded four STIRRT programs in locations across the state. Variation likely exists across programs, but on-site evaluations of services delivered were not included in the design of this study. Therefore, any differences reported here across programs cannot be explained with existing data. Additionally, Arapahoe House has previously published evaluations of its program, but this report represents the first evaluation that includes all STIRRT program locations.

STIRRT Program Locations

Arapahoe House. Arapahoe House, which was the first and is the largest STIRRT program, opened in April 1996 and is currently located in Commerce City. This program has multiple facilities around the Denver area, however, Commerce City is the location of their headquarters facility. This non-profit, private facility has the capacity to house 20 male clients. Approximately 40 clients are served each month because 10 clients are released while 10 others are admitted every Monday. After the two week program has concluded, those offenders living in the Denver area are typically referred to a continuing care service provided by Arapahoe House; non-metro residents are also referred to continuing care programs in other locations.[22] Arapahoe House began admitting females in August, 2008.[23]

Crossroads Turning Point, Inc (Crossroads). Located in Pueblo, Crossroads Turning Point, Inc. began its STIRRT program in October 2000. This non-profit, private program initially had six beds each for male and female participants.[24] However, in 2007 the program expanded and currently has 10 beds each for males and females, for a total of 20 STIRRT beds. Ten participants in this program are admitted every Monday, corresponding with 10 graduates, for up to 40 participants each month.

Larimer County Community Corrections (Larimer County). Larimer County opened its doors to STIRRT clients in October 2007.[25] This Community Corrections facility maintains 10 STIRRT beds for males and admits a new group every two weeks. One group will start the program when the previous group graduates, serving up to 20 offenders each month. No female offenders are currently admitted.

Mesa County Criminal Justice Services Department (Mesa County). In Grand Junction, the Mesa County Criminal Justice Services Department began its STIRRT program in December 2007. They have 10 STIRRT beds for men and 5 beds for women.[26] Similar to Larimer County, this community corrections facility only allows new clients to begin the program after the previous group has completed the two week program, for up to 30 participants each month. Services at the Mesa County program were terminated at the end of FY 2010.

Subject Selection

The STIRRT program was developed to treat offenders who have been referred by probation, parole, Treatment Alternatives for Safer Communities (TASC), Denver Drug Court, and Community Corrections. Eligibility criteria are set by the Division of Behavioral Health.[27] Accordingly, participants must meet the following criteria:

1. Be 18 years of age or older
2. Have at least one felony conviction, with the current offense being a felony
3. Have no pending court cases

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[21] Wanberg, K. W., & Milkman, H. B. (1998). *Criminal conduct and substance abuse treatment: Strategies for self-improvement and change -- the Provider's guide*. New York, NY: Sage Publications.
[22] Colorado Social Research Associates (2006). *Arapahoe House: STIRRT outcome evaluation.* Report to the Colorado Alcohol and Drug Abuse Division.
[23] Because the address of the female program was not included in the human subjects approval certificates (only the main facility address was included), Arapahoe House attorneys would not allow this data to be released to the researchers. Only the male participants are included in the current study.
[24] Colorado Department of Human Services, Alcohol and Drug Abuse Division. (2007). *Short term residential remedial treatment (STIRRT): Admission criteria for residential treatment.*
[25] Ibid.
[26] Ibid.
[27] Ibid.

4. Have a SOA-R Level of 4 or more (4a, 4b, 4c, 4d)[28]
5. Have an Level of Supervision Inventory (LSI)[29] score of 29 or above and have had a positive urine analysis
6. Have no medical or mental health condition(s) that may interfere with the program
7. Be medically stable and must bring any and all necessary medication with them
8. If a client is convicted of a sexual offense (violent or non-violent), the person must meet agency admission criteria and the individual's pre-sentence investigation (PSI) and/or criminal history must be sent to the agency.[30]
   - The Arapahoe House, Crossroads, and Mesa County facilities accept male sex offenders.
9. A client may participate in STIRRT more than once if:[31]
   - The client has graduated or been released from STIRRT for at least one (1) year, and
   - The client enters a different STIRRT program.
   - The accepting program has final say on accepting or not accepting the client, and
   - New referrals have priority over return participants.
10. After completing the residential program, a client is encouraged to attend a continuing care program.

Purpose of the Current Evaluation

This study examines the program outcome and recidivism rates for each of the STIRRT programs. The analysis includes program completion rates and 6 and 12 month recidivism (new court filing) rates. Also, factors associated with successful termination, participation in continuing care, and recidivism are examined.

[28] The Standardized Offender Assessment-Revised, or SOA-R, is a battery of assessments legislatively mandated (C.R.S. § 16-11.5-102) to determine the degree to which an individual has a substance abuse and/or mental health problem. These tests include the *Simple Screening Instrument–Revised* (SSI-R), the *Adult Substance Use Survey–Revised* (ASUS-R), and the *Level of Supervision Inventory–Revised VII* (LSI-R). A score of 4a, 4b, 4c, or 4d indicates that the individual is in need of outpatient care that is enhanced, intensive, intensive residential, or a therapeutic community, respectively.

[29] The Level of Supervision Inventory (LSI; Andrews & Bonta, 2005) is a quantitative assessment that contains 54 items that measure the level of risk of reoffending and need for treatment of each client. This measure contains both "static" (e.g., criminal history) and "dynamic" (e.g., alcohol/drug problems, family/marital problems) risk factors each of which have been found by Andrews and Bonta to be predictive of future criminal behavior. The dynamic risk factors are useful in directing treatment and intervention programs with the goal of preventing the individual from reoffending.

[30] Not all STIRRT programs accept sex offenders.

[31] It should be noted that the current evaluation includes only an offender's most recent participation.

Section Two: Method

All participants admitted to STIRRT programs between January 1, 2008 and June 30, 2009 were included in the current sample (N = 1326). Only the most recent episode was included for those that participated multiple times.

Data and Procedure

Data Sources

Drug/Alcohol Coordinated Data System (DACODS). DACODS reports are gathered on each client at residential and nonresidential program at intake and at discharge. These data are forwarded to the respective Managed Service Organization (MSOs)[32], who then forward the data to the Division of Behavioral Health (DBH). For this study, DBH provided the DACODS data to the Division of Criminal Justice. DACODS reports include client characteristics such as employment, living situation, drug use, and treatment needs. A copy of the DACODS form can be found in Appendix A.

Integrated Colorado Online Network (ICON). Recidivism data were collected by electronically matching personal identifiers from DACODS records to the Judicial Department's Integrated Colorado Online Network (ICON) information management system.[33]

Quarterly Reports. During the course of this study, representatives from each STIRRT program met quarterly at the DBH. The number of individuals served during that quarter and descriptive statistics were provided to DBH at these meetings. These reports also provided average Level of Supervision Inventory (LSI) scores for each location by quarter.

Human Subjects Protection

Data were analyzed and are reported in the aggregate only. Individual-level information was not analyzed nor disclosed. The research design and human subjects' protections were approved by the Western Institutional Review Board (WIRB). The need for individual subjects to consent to participation in the study was waived by WIRB because of the protection of identifiers from improper use and disclosure.

Study Limitations

Population Size. Few cases enrolled in the continuing care component of STIRRT. Additionally, the follow-up period for the recidivism study was time-limited so many individuals were still enrolled in continuing care when the observation period ended. These two factors limited the number of cases eligible for the recidivism aspect of the study. Analyses conducted on few cases must be interpreted with caution.

Data Quality. The primary source of data for the study is DACODS, described above. Case managers from each facility complete the DACODS instrument when clients enter and terminate treatment. The data are then transferred to the relevant Managed Service Organization which then transfers the data to DBH. Many factors affect data accuracy and completeness including staff training and turnover. The many steps in the data transfer process, and the timeliness of these transfers, may delay the addition of case information to the larger DACODS database.

This report reflects information in DACODS. The data may not be consistent with data collected and analyzed internally by individual STIRRT programs. Further, the data recorded on the DACODS instruments may be inaccurate. For example, researchers intended to examine length of stay for STIRRT residential participants. When this information was available, analysts found the length of stay to range from 0 to 42 days when 1-14 is the expected range. This is an example of data quality concerns. Given the multiple data transfers across agencies, procedures should be implemented that review the accuracy and completeness of the DACODS information provided to DBH.

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[32]MSOs are contractual agencies that reimburse behavioral health programs on behalf of the state.
[33]Denver County court (misdemeanor) filing data are not available for analysis and are excluded from recidivism calculations. The lack of Denver misdemeanor data disproportionately affects programs based in Denver County.

Section Three: Description of Program Participants

This section describes individuals admitted into STIRRT residential programs between January 1, 2008 and June 30, 2009 based on information collected by the Division of Behavioral Health (DBH) via the Drug/Alcohol Coordinated Data System (DACODS).[34] The exception is Level of Supervision Inventory (LSI) data which was obtained from STIRRT program staff at quarterly meetings held by the DBH.

The number of participants in each program is shown in Table 3. The newer programs, Mesa and Larimer Counties, had fewer participants and lower capacity. Nearly half of the clients in the study were from Arapahoe House.[35] Most of the participants in the study were men.

Table 3. Admissions to STIRRT by program: January 1, 2008 - June 30, 2009

	Program Capacity	Frequency	Percent Male	Percent of Population
Arapahoe House, Denver	20	638	100.0	48.2
Crossroads Turning Point, Pueblo	20	453	55.0	34.2
Mesa County, Grand Junction	15	85	67.1	6.4
Larimer County, Fort Collins	10	148	100.0	11.2
Total Population	65	1324	82.5	100

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
Note: These numbers represent unduplicated participants reported on DACODS.[36]

Table 4 shows the ethnic composition of STIRRT participants. The majority of participants were Caucasian (49.7%) or Hispanic (33.3%).

Table 4. Race/ethnicity of STIRRT participants by provider

	N	Caucasian %	African American %	Hispanic %	Other %	Total %
Arapahoe House, Denver	638	45.0	22.6	28.1	4.4	100
Crossroads Turning Point, Pueblo	453	46.5	5.3	44.4	3.8	100
Mesa County, Grand Junction	85	80.0	0	14.1	5.9	100
Larimer County, Fort Collins	148	62.1	1.4	32.4	4.1	100
Overall	1324	49.7	12.8	33.3	4.2	100

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
Note: “Other” includes, but is not limited to, Asian and American Indian.

The age of participants ranged between 18 and 68 with an overall mean of 34.1 years. Most of the participants were 30 years or older. Table 5 shows the distribution across age categories. Note that only 2% of all participants were less than 20 years of age.

[34] The information included was not criteria for admission or grounds for denial but is a description of those who participated in STIRRT during the study time frame.
[35] See footnote 23.
[36] Although duplicate entries for an individual may have been due to data entry errors, it is also possible that an individual participated in the program multiple times during this time frame. Only the most recent episode was used in the current analyses.

Table 5. Age (in years) at time of admission to STIRRT residential by provider

	N	18-29 years %	30-39 years %	40-49 years %	50-59 years %	60 years and above %	Total %
Arapahoe House, Denver	638	38.1	27.3	25.9	8.0	0.7	100
Crossroads Turning Point, Pueblo	453	41.9	29.4	19.2	8.8	0.7	100
Mesa County, Grand Junction	85	48.2	22.4	24.7	4.7	0.0	100
Larimer County, Fort Collins	148	52.0	25.0	15.5	6.8	0.7	100
Overall	1324	41.6	27.4	22.4	7.9	0.7	100

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.

Table 6 shows variation across the programs in the proportion of individuals employed at admission, ranging from 43.4% at Arapahoe House to 29.2% at the Mesa County program.

Table 6. Employment status at time of admission to STIRRT residential by provider

	N	Employed[a] %	Unemployed, looking for work %	Unemployed, not looking for work %	Unemployed, for accepted reason[b] %	Other/ Unknown %	Total %
Arapahoe House, Denver	638	43.4	47.8	1.6	7.1	.2	100
Crossroads Turning Point, Pueblo	453	33.1	21.6	31.8	11.9	1.5	100
Mesa County, Grand Junction	85	28.2	47.1	20.0	2.4	2.4	100
Larimer County, Fort Collins	148	41.9	18.9	19.6	7.4	12.2	100
Overall	1324	38.7	35.6	15.1	8.5	2.1	100

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
Note: “Employed” includes both full time and part time employment and “accepted reasons” for unemployment include homemakers, full time students, retirees, and disabled.

Table 7 shows that half of the STIRRT participants had achieved at least a high school diploma or a GED (51.6%). The Larimer County program had the greatest proportion of participants with a high school diploma or a GED.

Table 7. Level of education at time of admission to STIRRT residential by provider

	N	Less than High School %	High School Diploma or GED %	Some College %	College %
Arapahoe House, Denver	638	24.5	52.5	19.4	3.6
Crossroads Turning Point, Pueblo	453	35.1	46.8	17.2	0.9
Mesa County, Grand Junction	85	38.8	47.1	12.9	1.2
Larimer County, Fort Collins	148	20.9	64.9	12.2	2.0
Overall	1324	28.6	51.6	17.4	2.3

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.

Just over half of STIRRT participants had never been married (53.9%). However, almost 20% were either married or divorced at the time of their admission to the program (see Table 8, below).

Table 8. Marital status at time of admission to STIRRT residential by provider

	N	Never married %	Married %	Widowed %	Separated %	Divorced %	Total %
Arapahoe House, Denver	638	58.0	19.1	1.3	3.3	18.3	100
Crossroads Turning Point, Pueblo	453	47.9	19.9	1.5	7.7	23.0	100
Mesa County, Grand Junction	85	47.1	18.8	0.0	10.6	23.5	100
Larimer County, Fort Collins	148	58.8	22.3	0.0	5.4	13.5	100
Overall	1324	53.9	19.7	1.2	5.5	19.7	100

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.

Table 9 shows that approximately one in five STIRRT participants were living with parents; most (two-thirds) were living independently. Five percent were homeless.

Table 9. Living status at time of admission to STIRRT residential by provider

	N	Homeless %	Dependent living with parents %	Dependent living in supervised setting %	Independent living %	Total %
Arapahoe House, Denver	638	6.6	13.9	10.8	68.7	100
Crossroads Turning Point, Pueblo	453	3.8	35.5	2.2	58.5	100
Mesa County, Grand Junction	85	1.2	21.2	18.8	58.8	100
Larimer County, Fort Collins	148	6.1	23.6	17.6	52.7	100
Overall	1324	5.2	22.9	9.1	62.8	100

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.

Tables 10 and 11 show the number of times STIRRT participants have previously entered a substance abuse treatment program or a detox program. Many of the individuals had been in treatment previously.

Table 10. Treatment episodes prior to admission to STIRRT residential

	N	Mean	Median
Arapahoe House, Denver	638	1.54	1
Crossroads Turning Point, Pueblo	453	1.16	1
Mesa County, Grand Junction	85	1.32	1
Larimer County, Fort Collins	148	3.08	2
Overall	1324	1.56	1

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.

Table 11. Detoxification episodes prior to time of admission to STIRRT residential

	n	Mean	Median
Arapahoe House, Denver	388	.45	0
Crossroads Turning Point, Pueblo	256	1.34	1
Mesa County, Grand Junction	84	0	0
Larimer County, Fort Collins	95	.89	0
Overall	823	.73	0

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
Note: Not every participant had information regarding prior detoxification episodes.

In addition, Tables 12 and 13 show that the majority (57.8%) did not have any medical problems or mental health problems (69.0%). However, Arapahoe House had the fewest individuals with at least some medical problems (36.5%) whereas Crossroads had the largest number of individuals with medical problems (50.1%). Arapahoe House also had the fewest individuals with mental health problems (24.2%).

Table 12. Medical problems at time of admission to STIRRT residential by provider.

	N	None %	At least some %	Total %
Arapahoe House, Denver	638	63.5	36.5	100
Crossroads Turning Point, Pueblo	453	49.9	50.1	100
Mesa County, Grand Junction	85	51.8	48.2	100
Larimer County, Fort Collins	148	60.8	39.2	100
Overall	1324	57.8	42.2	100

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
Note: "At least some" includes those that were categorized as having slight, moderate, or severe medical conditions.

Table 13. Mental health problems at time of admission to STIRRT residential by provider.

	N	No %	Yes %	Total %
Arapahoe House, Denver	638	75.7	24.3	100
Crossroads Turning Point, Pueblo	453	62.5	37.5	100
Mesa County, Grand Junction	85	62.4	37.6	100
Larimer County, Fort Collins	148	63.5	36.5	100
Overall	1324	69.0	31.0	100

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.

The Level of Service Inventory (LSI) is one of the most common tools used to classify the risk level and service needs of adult offenders. Risk and needs are assessed in multiple areas: criminal history, education and employment, financial, family and marital relationships, residential accommodations, leisure and recreation activities, companions, alcohol and drug problems, emotional and personal, attitudes and orientations. The LSI scores range from 0-54. Scores above 28 are considered high needs, and DBH required a minimum LSI score of 29 for program participation. LSI information is not

included in DACODS but programs are required to report the overall average LSI scores each quarter. As shown in Table 14, on average, all four programs accepted individuals with high LSI scores. Quarterly average scores ranged from 29.8 to 34.0.

Table 14. Mean LSI scores by STIRRT provider

	FY 2008		FY 2009				Overall Mean
	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	
Arapahoe House, Denver	32.9	32.8	33.7	33.9	32.8	33.1	33.2
Crossroads Turning Point, Pueblo	33.4	34.0	33.7	33.9	33.3	unknown	33.7
Mesa County, Grand Junction	31.7	29.8	31.4	29.0	33.0	32.0	31.2
Larimer County, Fort Collins	34.0	32.7	34.0	32.3	34.0	32.7	33.3
Overall	33.0	32.3	33.2	32.3	33.3	32.6	32.8

Source: Provider reports presented at quarterly STIRRT advisory committee meetings. All numbers were rounded to one decimal point prior to calculating overall means.
Note: Population sizes are not reported for this table because this information was not always available on the quarterly reports presented by the providers.

The DACODS form collects information on primary, secondary, and tertiary substances of choice. Table 15 reflects the proportion of clients who reported involvement with specific drugs. Note that each substance is not mutually exclusive as each individual could have been involved with multiple drugs.

Table 15 shows that the top four substances used by STIRRT participants included marijuana (49.7%), cocaine (43.5%), alcohol (44.3%), and methamphetamine (34.9%).

Table 15. Drug use at time of admission to STIRRT residential by provider

	Arapahoe House, Denver % (n=638)	Crossroads Turning Point, Pueblo % (n=453)	Mesa County, Grand Junction % (n=85)	Larimer County, Fort Collins % (n=148)	Overall % (N=1324)
Marijuana	50.0	41.1	60.0	68.9	49.7
Cocaine	45.8	46.6	30.6	31.8	43.5
Alcohol	40.6	40.6	56.35	64.9	44.3
Methamphetamine	27.9	34.2	51.8	57.4	34.9
Heroin	5.2	4.4	3.5	3.4	4.6
Other Opiate	1.1	5.5	2.4	4.1	3.0
LSD	0.9	0.2	1.2	2.7	0.9
Benzodiazepine	0.2	0.9	0.0	2.7	0.7
Other Hallucinogen	0.5	0.2	1.2	1.4	0.5
Ecstasy	0.6	0.0	0.0	0.7	0.4
Other Amphetamine	0.0	0.4	0.0	0.0	0.2
Over the Counter Drugs	0.0	0.2	1.2	0.0	0.2
Non Prescription Methadone	0.0	0.2	0.0	0.0	0.1
Other Drug Problem	0.0	0.2	0.0	0.0	0.1
Other Sedative	0.0	0.2	0.0	0.0	0.1

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
Note: This table includes all of the drugs reported on DACODS.

Summary

In sum, STIRRT participants tended to be male Caucasians in their mid-thirties, never married, half of whom were high school graduates and two-thirds of whom were unemployed. Most had no medical or mental health problems. The average LSI scores categorized them as high risk/need and the most common substances of abuse were marijuana, cocaine, alcohol and methamphetamine.

Section Four: Program Outcomes

Overall, 1231 participants terminated from STIRRT residential. Most participants, 91.0%, successfully completed the 14-day program. Table 16, below, shows that Mesa County had the highest success rate at 96.3% (n = 82) and Crossroads had the lowest success rate at 87.1% (n = 426).

Table 16. Termination status rates by program

	N	Successful Termination %	Terminated Unsuccessfully %	Other/Unknown outcome %	Total %
Arapahoe House, Denver	579	92.7	6.3	1.0	100
Crossroads Turning Point, Pueblo	426	87.1	6.8	6.1	100
Mesa County, Grand Junction	82	96.3	3.7	0.0	100
Larimer County, Fort Collins	144	92.4	4.2	3.4	100
Total	1231	91.0	6.0	3.0	100

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
Note: "Other/Unknown" includes individuals who may have transferred to another facility to complete the program. This termination category was rarely used, however, the outcome of these individuals is not known. Therefore, they are categorized as "unknown."

Predicting Successful Program Completion

Many factors were examined to determine what characteristics were related to successful completion of the residential program, but only three factors were predictive of success and failure. Table 17, below, shows that participants who entered the program with any methamphetamine involvement were 80% more likely to be unsuccessfully terminated from the program as those who entered because of another substance. Furthermore, those that were employed were 90% more likely to be terminated successfully and African Americans were 3.4 times as likely to be terminated successfully as those of any other race/ethnicity.

Table 17. Predictors of termination outcome, STIRRT residential (all programs included)

Predictor	Most likely to be terminated	Odds Ratio	n
Methamphetamine use[a]	Unsuccessfully	1.8	1231
Employed at admission[b]	Successfully	1.9	1194
African American[c]	Successfully	3.4	1194

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
[a] p =.009; [b] p = .024; [c] p = .046

When examining the four programs independently (see Table 18, below) the following predictors of success and failure were found:

- Arapahoe House
  - Those who had been married at least once (this includes individuals who were married at the time that they participated in the STIRRT program as well as those who were divorced, separated, or widowed) were 4.6 times as likely to be terminated successfully as those who had never been married.
  - African American participants were 4.4 times as likely to be successfully terminated as participants of any other race/ethnicity.
  - Someone admitted with methamphetamine as at least one of their preferred drugs was 2.7 times as likely to be unsuccessfully terminated as all others.

- Crossroads
  - Those who were admitted with marijuana as at least one of their preferred substances of choice were twice as likely to be terminated unsuccessfully.

There were no significant predictors of termination status (e.g., successful or unsuccessful) for Mesa or Larimer County participants. This is likely due to the small participant pool at each of these locations. The small number of clients may result in less statistical power to detect differences.

Table 18. Program-specific predictors for successful or unsuccessful termination from residential STIRRT programs

Location	Predictor	Most likely to be terminated…	Odds Ratio	n
Arapahoe House, Denver	Ever Married[a]	Successfully	4.6	573
	African American[b,e]	Successfully	4.4	573
	Methamphetamine use[c]	Unsuccessfully	2.7	579
Crossroads Turning Point, Pueblo	Marijuana use[d]	Unsuccessfully	2.0	429
Mesa County, Grand Junction	None			82
Larimer County, Fort Collins	None			144

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
[a] p =.016; [b] p = .051; [c] p =.014; [d] p =.029
[e]This finding may be limited to Arapahoe House because few African Americans were admitted to the other programs.

Summary

Most individuals successfully completed the 14-day residential component of STIRRT. African Americans and those employed were more likely to complete the programs. Unsuccessful terminations tended to be involved with methamphetamine.

Section Five: Continuing Care Participants

Continuing care is an expected part of the STIRRT program, but many clients do not engage in subsequent treatment. In fact, the concern that the cost of continuing care precluded participation resulted in funding for this component in the FY 2008 state budget, as discussed earlier in this report.

Only clients who successfully completed STIRRT are included in the following discussion. Admission to an outpatient facility must have occurred within 60 days of STIRRT discharge in order to be considered an admission to STIRRT continuing care.

Concerns about lack of participation in continuing care are well founded. Less than half (42.3%) of the 1,120 STIRRT residential participants who completed the program successfully went on to participate in this portion of the program (see Table 19, below).[37] This ranged greatly between program locations with Mesa County having the lowest percentage of continuing clients at 25.3%, and Crossroads having the greatest at 50.9%.

Table 19. Participation in continuing care

	Total N	Participated in Continuing Care		Total %
		No %	Yes %	
Arapahoe House, Denver	537	57.5%	42.5%	100
Crossroads Turning Point, Pueblo	371	49.1%	50.9%	100
Mesa County, Grand Junction	79	74.7%	25.3%	100
Larimer County, Fort Collins	133	72.2%	27.8%	100
Total Population	1120	57.7%	42.3%	100

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
Note: Only those that completed the residential portion of the program successfully are included in this analysis.

It is not clear why the majority of individuals did not continue treatment in the community following the 14-day program. It is possible that many clients were not aware that treatment costs were subsidized by DBH.[38]

Table 20 demonstrates that, of those who successfully completed the STIRRT residential program and went on to participate in continuing care, the overall average length of time between discharge from the residential program and admission to outpatient was approximately 10 days with a median of 8 days. A statistically significant difference was found between Larimer County and Crossroads[39] such that continuing care participants discharged from the Larimer County program waited significantly longer (mean = 16.5 days) than those from Crossroads (mean = 7.9 days).

Table 20. Length of time between STIRRT discharge and continuing care admission

	N	Mean (days)	Median (days)
Arapahoe House, Denver	228	10.6	8.0
Crossroads Turning Point, Pueblo	189	7.9	4.0
Mesa County, Grand Junction	20	13.2	7.50
Larimer County, Fort Collins	37	16.5	10.0
Overall	474	10.1	8.0

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.

[37] Note that only those admitted to both the residential and the continuing care components between January 1, 2008 and June 30, 2009 are included in these numbers.
[38] Arapahoe House and Crossroads have a $5 copay. The remainder of the treatment costs are covered by the Division of Behavioral Health.
[39] $p < .05$

Although the ethnic composition varied between participants from each residential program, continuing care participants were primarily Caucasian (43.0%) and Hispanic (39.9%; see Table 21, below).

Table 21. Race/ethnicity of those entering continuing care by residential program

	N	Caucasian %	African American %	Hispanic %	Other %	Total %
Arapahoe House, Denver	228	40.4	23.2	31.6	4.8	100
Crossroads Turning Point, Pueblo	189	38.1	4.2	54.5	3.2	100
Mesa County, Grand Junction	20	85.0	.0	10.0	5.0	100
Larimer County, Fort Collins	37	62.2	.0	32.4	5.4	100
Overall	474	43.0	12.9	39.9	4.2	100

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
Note: “Other” includes, but is not limited to Asian and American Indian.

Table 22 shows that the mean age of continuing care participants was almost 35 years. This was not found to be significantly different from those that did not participate in a continuing care program (mean = 33.7 years). Nor was it significantly different from the average age of the general STIRRT residential population (mean = 34.1 years).

Table 22. Age (in years) of those entering a continuing care program by residential program

	N	Mean	Median	Minimum	Maximum
Arapahoe House, Denver	228	35.36	34.50	18	61
Crossroads Turning Point, Pueblo	189	33.90	31.00	18	61
Mesa County, Grand Junction	20	33.20	28.50	22	57
Larimer County, Fort Collins	37	33.84	32.00	21	50
Overall	474	34.57	33.00	18	61

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.

Predicting Participation in Continuing Care

Table 23 shows that Hispanic clients were 1.7 times as likely to participate in a continuing care program as STIRRT residential participants of other ethnicities. In addition, individuals who were married when admitted to treatment were 40% more likely to not participate in continuing care than unmarried clients. Those reporting any methamphetamine use were 1.3 times as likely to not participate as non-methamphetamine users.

Table 23. Predictors of participation in continuing care (all programs included)

Predictor	Most likely to	Odds Ratio	n
Hispanic ethnicity[a]	Participate in CC	1.7	1120
Married[b]	Not participate	1.4	1120
Methamphetamine use[c]	Not participate	1.3	1120

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
[a] $p = .000$; [b] $p = .028$; [c] $p = .036$

Further analysis showed that Hispanic clients discharged from Arapahoe House were 50% more likely to go on to continuing care than those of other ethnicities (see Table 24, below). Additionally, Hispanic clients discharged from Crossroads were 80% more likely to continue in treatment. In the case of clients discharged from the Mesa County program, individuals using cocaine were 5.7 times as likely to not continue in treatment as those who were not involved with cocaine.

Table 24. Provider specific predictors of participation in continuing care

Location	Predictor	Most likely to	Odds Ratio	n
Arapahoe House, Denver	Hispanic ethnicity[a]	Participate in CC	1.5	537
Crossroads Turning Point, Pueblo	Hispanic ethnicity[b]	Participate in CC	1.8	371
Mesa County, Grand Junction	Cocaine use[c]	Not participate	5.7	79
Larimer County, Fort Collins	None			133

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
[a] $p = .050$; [b] $p = .010$; [c] $p=.032$

Summary

Less than one-half of those who successfully completed the residential component of STIRRT participated in continuing care outpatient treatment in the community. Mesa County had the lowest percentage of continuing clients at 25.3%, while Crossroads had the greatest at 50.9%. Hispanic clients were the most likely to participate in continuing care after discharge from STIRRT, while those who were married at admission and methamphetamine users were less likely to participate.

Section Six: Continuing Care Outcomes

Of the 474 individuals who started a continuing care program between January 1, 2008 and June 30, 2009, 323 (68.1%) were terminated from outpatient care in this same period. The remainder was still active in the program.

Table 25 demonstrates that, of those terminated from continuing care, over half (51.7%) failed treatment. Only 20.4% were terminated successfully. The other 27.9% were terminated for other reasons, such as transfer, incarceration and death. As continuing care is intended to be 8 – 9 months in length, it is likely that a disproportionate number of unsuccessful discharges occurred within the data collection time frame and these results are not representative of future continuing care outcomes.

Table 25. Termination status from continuing care by original STIRRT program

	N	success/treatment completed %	Terminated Unsuccessfully %	Other/Unknown outcome %	Total %
Arapahoe House, Denver	100	24.0%	44.0%	32.0%	100
Crossroads Turning Point, Pueblo	158	12.7%	57.0%	30.4%	100
Mesa County, Grand Junction	18	33.3%	50.0%	16.7%	100
Larimer County, Fort Collins	47	34.0%	51.1%	14.9%	100
Total	323	20.4%	51.7%	27.9%	100

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
Note: "Other/Unknown" includes individuals who may have transferred to another facility to complete the program. While such transfers rarely occurred, the outcome of these individuals is not known. Therefore, they are categorized as "unknown."

As shown in Table 26, below, the overall average length of stay for a successful continuing care episode was almost 6 months, ranging from 2 weeks to just over a year. Arapahoe House and Larimer County clients who successfully completed continuing care had significantly shorter average lengths of stay (127 and 192 days, respectively) than did Crossroads and Mesa County clients (246 and 246 days, respectively).[40]

Table 26. Length of stay for successful continuing care discharges by STIRRT residential program[41]

	N	Mean (days)	Median (days)	Minimum (days)	Maximum (days)
Arapahoe House, Denver	24	127.0	106.0	23.0	333.0
Crossroads Turning Point, Pueblo	20	245.6	247.0	88.0	568.0
Mesa County, Grand Junction	6	245.8	241.5	104.0	360.0
Larimer County, Fort Collins	16	191.8	219.5	14.0	337.0
Overall	66	189.4	177.0	14.0	568.0

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.

[40] $p < .001$
[41] These results reflect only those that successfully completed the non-residential continuing care portion of the STIRRT program between January 1, 2008 and June 30, 2009.

Summary

During the 18-month study period, only 42% of residential participants enrolled in continuing care. Of those that were discharged from continuing care, 20.5% successfully completed and 52% were terminated unsuccessfully. The remainder had an ‘other’ or ‘unknown’ discharge status, which includes transfer to another facility, incarceration, and death. These results are unlikely to be representative of future continuing care outcomes. It is possible that a longer study period would show a larger proportion of continuing care participants terminating successfully.

Section Seven: Recidivism Rates

Recidivism is defined as a new district or county court filing within 6 or 12 months of release from the two week STIRRT residential program. The risk to recidivate increases with longer periods of opportunity to re-offend and a recidivism study requires that all offenders have identical "opportunity periods." More individuals are available for the 6-month recidivism analysis as they have the required 6-month "opportunity period" than are available for the 12-month recidivism analysis. All individuals in the 12-month analysis are included in the 6-month analysis, but only those reaching the full 12-month opportunity period are included in the 12-month analysis.

Table 27 demonstrates that the 6 month recidivism rate for all STRIRRT residential participants was 14.8%. It was found that 6 month recidivism rates were significantly lower for those that participated in continuing care than for those who did not (12.4% vs. 16.6%).[42] However, this difference was not apparent after 12 months. The 12 month recidivism rate was 24.7% for those who did not participate compared to 25.1% for those who did participate in continuing care.

[42] $p = .03$

Table 27. New county or district court filings (recidivism) by STIRRT program and continuing care participation

	Average LSI Score [a]	Participated in Continuing Care [b]	6 Month Recidivism Rate[c]	12 Month Recidivism Rate[c]
Arapahoe House, Denver	33.2	**537 completed the STIRRT program**	**13.8% (521 were at risk for 6 months)**	**22.1% (331 were at risk for 12 months)**
Participated in CC		42.5% (228/537)	10.1% (228)	17.6% (142)
Did Not participate in CC		57.5% (309/537)	16.7% (293)	25.4% (189)
Crossroads Turning Point, Pueblo	33.7	**371 completed the STIRRT Program**	**15.3% (of 359 at risk)**	**25.6% (of 238 at risk)**
Participated in CC		50.9% (189/371)	14.8% (189)	30.9% (123)
Did Not participate in CC		49.1% (182/371)	15.9% (170)	20.0% (115)
Mesa County, Grand Junction	31.2	**79 completed the STIRRT Program**	**15.2% (of 79 at risk)**	**11.1% (of 36 at risk)**
Participated in CC		25.3% (20/79)	20.0% (20)	22.2% (9)
Did Not participate in CC		74.7% (59/79)	13.6% (59)	7.4% (27)
Larimer County, Fort Collins	33.3	**133 Completed the STIRRT Program**	**17.2% (of 128 at risk)**	**40.0% (of 85 at risk)**
Participated in CC		27.8% (37/133)	10.8% (37)	36.4% (22)
Did Not participate in CC		72.2% (96/133)	19.8% (91)	41.3% (74)
Overall	32.8	**1120 Completed STIRRT**	**14.8% (of 1087 at risk)**	**24.9% (of 690 at risk)**
Participated in CC		42.3% (474/1120)	12.4% (of 474)	24.7% (296)
Did Not participate in CC		57.7% (646/1120)	16.6% (of 613)	25.1% (394)

Note: Groups with very few cases should be interpreted with caution.
Source: [a] Level of Supervision Inventory (LSI) is a 54-item risk/needs assessment instrument. Data obtained from quarterly provider reports.
[b] Continuing care data provided by Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health and analyzed by the Division of Criminal Justice, Office of Research and Statistics. Continuing care participants include only those admitted to and discharged from the STIRRT residential program and admitted to continuing care between January 1, 2008 and June 30, 2009.
[c] Recidivism data was obtained from the Integrated Colorado Online Network (ICON) maintained by the Colorado Judicial Department. Denver County court (misdemeanor) filing data are not available for analysis and are excluded from recidivism calculations. The lack of Denver misdemeanor data disproportionately affects programs based in Denver County. This may contribute to the finding that recidivism resulting from misdemeanor filings only is 38.8% lower for Arapahoe House discharges than that found for discharges from non-Denver based programs.

Predicting Recidivism

Although African Americans were more likely to successfully complete the residential program and Hispanic clients were more likely to enroll in continuing care, ethnicity was not found to be associated with the likelihood of recidivating statewide. In Larimer County, however, Hispanic participants were 2.8 times as likely to recidivate within 6 months, and 7.8 times as likely to recidivate in 12 months, as non-Hispanic clients.

Those who participated in the Mesa County program were almost 10 times as likely to recidivate at 6 months if they were married at the time of admission. Additionally, Mesa County clients who reported methamphetamine use were 7.2 times as likely to recidivate at 6 months as non-meth users (see Table 28, below).

Table 29 shows that in the case of 12-month recidivism, those who had ever been married were more likely to not recidivate. Overall, these individuals were 60% more likely to remain crime-free. This was especially the case in Larimer County, where those who had ever been married were 5.4 times as likely to not recidivate as those who had never married.

Table 28. Predictors of 6 month recidivism by program

Provider	Predictor	Most likely to	Odds Ratio	N
Arapahoe House, Denver	None			521
Crossroads Turning Point, Pueblo	None			359
Mesa County, Grand Junction	Married[a]	Recidivate	9.9	79
	Methamphetamine use[b]	Recidivate	7.2	
Larimer County, Fort Collins	Hispanic ethnicity[c]	Recidivate	2.8	128
Overall	None			1087

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
[a] p=.005 [b] p=.024 [c] p = .032

Table 29. Provider specific predictors of 12 month recidivism

Provider	Predictor	Most likely to	Odds Ratio	N
Arapahoe House, Denver	None			331
Crossroads Turning Point, Pueblo	None			238
Mesa County, Grand Junction	None			36
Larimer County, Fort Collins	Hispanic ethnicity[a]	Recidivate	7.8	85
	Ever married[b]	Not recidivate	5.4	
Overall	Ever married[c]	Not recidivate	1.6	690

Source: Drug/Alcohol Coordinated Data System (DACODS), Division of Behavioral Health.
[a] p = .000; [b] p=.004; [c] p = .008

Summary

Six and 12 month recidivism rates were quite high for both those who did and did not participate in continuing care. The 6 month recidivism rate was 14.8% and the 12 month recidivism rate was 24.9%. By way of comparison of those who successfully completed community corrections in FY 2008, 14.6% recidivated within 12 months.[43]

[43] See footnote 4.

Section Eight: Conclusion

Most STIRRT clients successfully completed the 14-day residential program. Successful program completion rates were high for all four program locations, ranging from 87.1% to 96.3%. However, less than half (42.3%) clients who successfully completed the residential component participated in continuing care. Because the STIRRT program is intended to be a 2 week intensive residential program followed by an 8 to 9 month non-residential program it may be useful if this portion of the program was also mandated by the court, similar to the residential portion of the program.

While this study found that 6 month recidivism rate were significantly lower for those that participated in continuing care than for those who did not (12.4% vs. 16.6%), this difference was not apparent after 12 months. After 12 months, approximately a quarter of former STIRRT clients recidivated, regardless of whether they did or did not participate in continuing care (see Table 27 and Figure 1). In some cases, recidivism rates were lower for those who *did not* participate in continuing care than for those that did, but these differences were not statistically significant. This finding is difficult to explain. Fortunately, the rates of new court filings were relatively low. Clearly, the continuing care component of STIRRT requires further study. This includes a longer study period to determine the effect of successful continuing care participation on recidivism.

The DACODS data may under-represent the number of individuals going to continuing care due to data quality issues. If the group enrolling in continuing care expanded, the recidivism rates between those that did and did not participate in continuing care may change.

Research has found that continuing care is necessary for overcoming a substance abuse problem. Extensive research has led the National Institute on Drug Abuse (2006) to suggest the following guidelines for all substance abuse treatment programs:

1. Drug addiction is a brain disease that affects behavior.
2. Recovery from drug addiction requires effective treatment, followed by management of the problem over time.
3. Treatment must last long enough to produce stable behavioral changes.
4. Assessment in the first step to treatment.
5. Tailoring services to match needs is important for effective drug abuse treatment for criminal justice populations.
6. Drug use during treatment should be carefully monitored.
7. Treatment should target factors that are associated with criminal behavior.
8. Criminal justice supervision should incorporate treatment planning for drug abuse and treatment providers should be aware of criminal justice supervision.
9. Continuity of care is essential for drug abusers re-entering the community.
10. A balance of rewards and sanctions encourages pro-social behavior and treatment participation.
11. Offenders with co-occurring drug abuse and mental health problems often require an integrated treatment approach.
12. Medications are an important part of treatment for many drug abusing offenders.
13. Treatment for individuals re-entering society should include treatment for serious medical issues.

While this evaluation is the most complete study of STIRRT to date, evaluation efforts by independent researchers should continue. Efforts to improve data quality of DACODS will increase confidence in study findings. Over time, more data will be available which will shed more light on the degree of participation in continuing care and the impact of this participation on recidivism.

Appendix A

Drug/Alcohol Coordinated Data System (DACODS)