

Effective stimulant abuse treatment strategies

*Lessons learned and prospective return on
investment analyses from two programs*

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Summary

The Dodge-Fillmore-Olmsted Methamphetamine Program (DFO Meth Program) and Anoka Enhanced Treatment Program (Anoka ETP) were two of five programs that received grant funding through the Minnesota Department of Public Safety, Office of Justice Programs beginning in July 2006, to provide substance abuse treatment to individuals addicted to methamphetamine and other stimulants. Despite serving very different populations, staff from these two programs share a common treatment philosophy and use unique approaches to incorporate components of effective treatment in ways that address the specific needs of their treatment populations. This report highlights the common strategies used by each program to provide effective care, compares these approaches with what is currently known regarding effective treatment and recovery programs, and estimates the long-term financial benefits to investing in these types of treatment programs.

Effective treatment components

During the past 30 years, there has been a tremendous amount of research to identify and describe effective treatment models and practice elements. Although there is not a single treatment model that works for all, there is a growing research base describing the key treatment elements that comprise effective treatment for methamphetamine and stimulant addiction. Together, these elements describe strategies to help individuals engage and remain in treatment, abstain from drug use, and modify their behaviors. Among the treatment practices commonly identified in the literature as strategies to address specific aspects of methamphetamine and stimulant addiction are:

- Providing a range of individualized treatment and recovery services, lasting over 90 days in duration
- Incorporating relapse prevention and other cognitive behavioral therapies into the treatment model
- Coordinating services across multiple systems to ensure all components of the individual's treatment plan are addressed
- Rewarding participant actions with modest incentives to encourage healthy behaviors during treatment (contingency management)
- Monitoring possible drug use frequently throughout the course of the program

DFO Meth Program and Anoka ETP treatment models

The two programs highlighted in this report, the Dodge-Fillmore-Olmsted Methamphetamine Program (DFO Meth Program) and Anoka Enhanced Treatment Program (Anoka ETP) have developed treatment models that provide high-intensity, coordinated treatment and recovery services to participants for an extended period of time. The extended treatment program model can last up to 12 months or longer and provides participants with additional support at critical points in the recovery process, as well as extra assistance as they develop new social networks and maintain sobriety in a less-structured community setting.

Despite obvious differences in the program structure and target treatment population, the programs share similar holistic treatment philosophies that stress the importance of coordinated, multi-disciplinary treatment teams and the use of effective treatment elements. Both provide high intensity services over an extended treatment period, lasting approximately 12 months. In addition, the programs incorporate many elements of the Matrix Model, including:

- High-intensity services, with frequent treatment staff contact
- Frequent, random drug testing
- Cognitive-behavioral therapy and relapse prevention
- Contingency management
- Recognition and referrals for services to address the participant's housing, employment, education, financial, and medical needs
- Service coordination through frequent communication between treatment staff and agency representatives

Although availability of resources and cross-disciplinary communication have posed challenges to both programs, staff from both programs felt their model of coordinated care allowed them to avoid unnecessary deep-end costs associated with incarceration and foster care. In addition, because each program used a broad eligibility definition to provide treatment to a targeted population, they can provide services to individuals who may not meet Rule 25 criteria and would otherwise be unable to afford the costs of treatment and recovery services.

Many of the lessons learned by program staff focused on balancing individualized care with consistent program expectations and coordinating cross-disciplinary services:

- In order to ensure the right services are being provided, it is essential to identify the target treatment population and their specific needs
- Although the program should provide individualized services to meet the needs of each client, all partners should have a shared, consistent response to program violations
- Cross-training is important in helping all agencies coordinate services and work together more efficiently
- Despite the quality of services provided, some individuals are not ready to pursue recovery and will not complete the program successfully
- It is important to regularly reassess the strengths of the program and identify areas where services can be further improved

Promising program outcomes

The outcomes highlighted in this report used data gathered by each program during their first 12 to 18 months of implementation (through December 2007). Although these data are preliminary, they indicate positive program outcomes in a number of key areas:

Nearly half of all participants successfully completed treatment. In both programs, just under half of the participants discharged from treatment during the first 18 months of the program successfully completed outpatient treatment. It is important to note that outpatient treatment participants may be enrolled in services for one year before successfully completing the program. As a result, unsuccessful completions are identified earlier in the evaluation and the overall completion rates for the outpatient treatment programs may underestimate program retention and completion rates.

Most program participants avoided drug use during treatment. Drug tests are conducted randomly throughout the participant's involvement in outpatient treatment in both programs. A total of 1,875 drug tests have been submitted by 84 DFO program participants since the evaluation began, and the vast majority of these drug tests (98%) have been negative. The 11 successful Anoka ETP graduates had been clean and sober between 11 and 17 months at the time they exited the program, averaging slightly over 12 months. Among the unsuccessful participants, 10 had been drug-free 1 to 11 months prior to leaving the program. Most had between one and five months clean and sober at program exit.

Few parents involved with child protection lost custody of their children while participating in treatment. A total of 23 DFO participants were involved with child protection or child welfare at intake, most of whom (74%) were still working towards

resolution at discharge. Positive resolutions were reached on all six child protection cases that ended while the participant was enrolled in treatment. At intake, 26 ETP participants were involved with child protection and did not have physical custody of their child. Eight of the 11 successful or provisional program graduates (73%) were reunified with their child at discharge. All other provisional or unsuccessful participants (100%) were working towards reunification at discharge. No participant lost custody of her child while enrolled in the program.

Most program participants avoided criminal behavior while participating in the treatment program. Among the 55 participants discharged from outpatient treatment from DFO, 50 participants (91%) avoided new arrests or charges while participating in outpatient treatment. Overall, 29 of 33 participants discharged from Anoka ETP (88%) avoided new arrests or charges during treatment.

Approximately two-thirds of all participants had stable housing when discharged from outpatient treatment. Among participants who successfully completed their most recent outpatient treatment episode, all but one DFO participant (96%) had stable housing at discharge, compared to less than 50 percent of participants discharged prior to completing the program. Similarly, 13 of the 16 ETP participants identified as “successful” or “provisional” program graduates (81%) had secured stable, positive housing at discharge.

Over half of the participants were employed when discharged from outpatient treatment. Over 80 percent of DFO participants who successfully completed outpatient were employed at discharge, compared to 37 percent of participants who were discharged prior to completing treatment. Among the 11 ETP participants who successfully completed treatment, all were working at discharge and 9 participants (82%) had secured full-time employment.

Benefit-cost calculations

The early outcomes reported by each site and information shared by staff demonstrate that both treatment programs incorporate approaches that have been identified as effective treatment strategies for individuals recovering from addiction to methamphetamine and other stimulants. Although these preliminary findings suggest both programs have adopted effective treatment models, it is also important to assess whether the financial investment made by each program to deliver intensive treatment is sustainable and expected to result in long-term financial benefit to local taxpayers, as well as to the greater society as a whole. The purpose of this report is to demonstrate how two unique programs have integrated a similar treatment philosophy to provide services to individuals with very different service needs. The program costs and estimated future benefits included in this report reflect the

unique aspects of each treatment approach and should not be compared to conclude that one is more effective than the other.

In order to assess the long-term success of these programs in helping individuals avoid relapse and reentry into the criminal justice system, maintain custody of their children, and earn a livable income, it is ideal to reassess participant outcomes two or more years after they have completed the treatment program. However, several years of recorded behavior of participant groups and control groups do not yet exist for these programs. With more time and more data collection, these results will be more accurate and more complete. The results in this report reflect potential benefits from diverse areas of return, and some of these potential outcomes will take years to manifest. To make these estimates, existing studies of other programs were relied upon.

Because of the uncertainties in this type of analysis, low estimates of effect sizes from existing studies were used. For this reason alone, it is likely that the performance of these programs will exceed these estimates of benefits. It is also likely that costs will not be as high in the future, since these cost estimates draw from periods early in the program administration. Therefore, actual net benefits and benefit-cost ratios, measured using program outcomes and the costs of mature programs, can be expected to be better than the estimates here.

Program costs

In general, the costs calculated for both programs include expenses that fall into the following categories:

- treatment costs, whether by contract (DFO) or by employed counselors and contractors (Anoka);
- health care and employment services costs paid by the program;
- administrative personnel, supplies, and travel costs paid by the program; and
- volunteer hours contributed to the program.

The cost estimates are based primarily on one year of program operation and should be considered preliminary. Results from similar benefit-cost studies have been shown to vary across time, even among the most successful programs. As more data become available, estimates of program costs will be more accurate and more complete.

Given that the two programs use unique approaches to provide treatment to specific target populations, it is not surprising that the costs of these two programs are different. Although there is considerable overlap in the systems involved with participants of both

programs, the treatment model used by each program was developed with a specific focus. The cost differences between these two programs demonstrate their unique areas of focus, and direct cost comparisons between programs should not be used to favor one program over the other.

The total costs of both programs were similar and reflect unique differences in the needs of each target population and program structure. For DFO, the total program costs for calendar year 2007 are estimated to be \$266,806. The cost estimate for successful completers is about \$5,752 while each non-completion individual costs an average of \$1,291. In all, the average cost per participant during calendar year 2007 is estimated to be \$3,555 (Figure 1). For Anoka ETP, the program costs during the 2007 fiscal year are \$228,187. The average cost estimate for each successful completion costs \$11,375, while each non-completion costs \$3,228. In all, the average cost per participant in FY 2007 is estimated to be \$7,638 (Figure 1).

1. Cost estimates for the DFO Meth Program and Anoka ETP

	DFO Meth Program	Anoka ETP
Total program cost	\$266,806	\$228,187
Total participant-days ¹	17,639	7,422
Average cost of successful completion	\$5,752	\$11,375
Average cost of non-completion	\$1,291	\$3,228
Cost per participant-day ²	\$15	\$31
Average duration of participation ²	235 days	248 days
Average cost per participant²	\$3,555	\$7,638

¹ A participant-day is any day that a participant is between intake and discharge. It does not mean that services were used on that day. For example, if two participants were in the program for the entire month of May, 62 participant-days would be counted.

² Includes successful program graduates and other non-successful program participants.

The costs of the Anoka ETP and DFO Meth Program are comparable to the costs reported in other studies. A multi-site comparison of five non-methadone outpatient treatment programs estimated participant costs ranging from \$662 to \$9,072 per treatment episode when adjusted to 2007 dollars. Only one of these programs has a treatment length comparable to DFO and Anoka, and it is the most costly. By comparison, the costs estimated for both the DFO and Anoka programs are quite reasonable. An alternate way to compare costs of various treatment programs is to consider the cost of an average participant-day. When compared this way, the costs of DFO and Anoka (\$15 and \$31 per day, respectively) are low to moderate compared to the costs reported in recent studies, which range from \$6 to \$46 per day.

Prospective benefits

Benefits that successful treatment programs might produce may be realized across a number of different groups, including taxpayers, participants, participants' families, private citizens and institutions, and society at large. This analysis focuses on estimating anticipated program benefits from two different points of view – taxpayers and society at large. Taxpayer benefits come from reducing tax dollars spent on public programs and various government agencies. Social benefits include benefits to taxpayers as well as the monetary values of improved health, increased employment, and other changes that benefit program participating, their families, and the general public. While there may be a number of additional indirect program benefits that are not captured in this analysis, the estimates used in this report focus on the following benefit categories:

Estimated benefits to taxpayers include:

- reduced criminal justice system costs from fewer arrests and convictions,
- reduced corrections system costs from substituting treatment and probation for prison,
- reduced social assistance costs from increased financial self-sufficiency,
- reduced child welfare costs from increased family stability, and
- increased taxes paid by the participants from increased financial self-sufficiency.

Estimated benefits to society include the taxpayer benefits plus:

- reduced cost to crime victims from fewer incidents of criminal behavior,
- increased disposable income for participants from increased financial self-sufficiency,
- improved physical and mental health of participants from reduced substance abuse, and
- reduced “unpaid” emergency medical care from increased employment and financial self-sufficiency.

Due to the limited amount of the long-term outcome data available through each program and subsequent need to estimate long-term outcomes based on data published by other programs, the effect sizes for most estimates should be considered preliminary. To account for these uncertainties, a range, rather than a single value, is used to estimate program benefits. Benefit estimates have also been steeply discounted to reflect the uncertainty about intermediate and long-term outcomes.

The net prospective benefits for direct taxpayers and society combined were very similar across both programs. However, the areas with the greatest amount of potential benefits were different across the two programs, reflecting the unique components of their treatment model and target population. The largest benefits for the DFO Meth Program were in areas of reduced social assistance costs, reductions in incarceration, and reductions in court processing costs for new offenses. When all unique costs are combined, the total prospective social benefits from the DFO Meth Program are estimated to be \$10,918 to \$22,145. For Anoka ETP, the greatest benefits were in areas of reduced social assistance and reductions in child protection involvement. When all costs are combined, the total prospective social benefits for Anoka ETP are estimated to be \$12,398 to \$29,203 per participant.

Prospective benefit-cost estimates

These benefit-cost estimates should be considered preliminary for a number of reasons related to the newness of the programs and related lack of comprehensive outcomes data collected prior to December 2007. These estimates are based on the available data on each program and the experience of other similar programs.

When the cost estimates and prospective benefits are combined, both programs are estimated to have positive returns, both to taxpayers and to society in general. That is, for each dollar invested in these treatment programs, it is estimated that more than a dollar is gained. This is true from both a narrow taxpayer point of view as well as overall societal point of view.

Based on the values calculated for this report, the net taxpayer benefits for the DFO program are estimated to be \$2,165 to \$10,815 per participant, which corresponds to a \$1.61 to \$4.04 return to the taxpayer for every dollar invested (Figure 2). For Anoka ETP, net taxpayer benefits are estimated to be \$813 to \$9,248 per participant, which corresponds to a \$1.11 to \$2.21 return to the taxpayer for every dollar invested. Returns to society for every dollar invested were slightly higher for both programs, ranging from \$3.07 to \$6.23 for DFO and \$1.62 to \$3.82 for Anoka ETP.

2. Benefit-cost estimates for the DFO Meth Program and Anoka ETP

Return per dollar to	DFO Meth Program	Anoka
Taxpayers	\$1.61 to \$4.04	\$1.11 to \$2.21
Society	\$3.07 to \$6.23	\$1.62 to \$3.82

Better benefit-cost estimates can be calculated in the future as more complete data on participant outcomes become available. As participant outcomes are tracked months and years after treatment, more intermediate and long-term results will become available. In future studies, it may also be possible to identify one or more comparison groups who have not received treatment in similar circumstances. More data and carefully chosen comparisons will improve both the accuracy and completeness of the analysis.

Recommendations

Based on the information gathered throughout the course of this project, Wilder Research recommends program staff, local stakeholders, and policymakers consider the following recommendations to further enhance the effectiveness of treatment programs serving individuals who abuse methamphetamine or other stimulants:

- Encourage treatment and recovery programs to expand their use of effective, evidence-based treatment approaches when providing services to populations abusing methamphetamine or other stimulants.
- Explore options that address barriers to stable housing and employment for program participants, especially those with criminal records.
- Consider new opportunities to address the unique needs of women recovering from methamphetamine and stimulant addictions.
- Continue to support efforts to work across systems and with existing community-based partners to provide an array of services to program participants.
- Regularly reassess program length in order to maximize program effectiveness while avoiding the costs associated with unnecessary services.
- Support the strategic use of benefit-cost analyses to demonstrate program effectiveness.
- Develop a comprehensive evaluation approach to examine the long-term impact of innovative substance abuse treatment program, and capture data necessary for long-term outcome and benefit-cost studies.
- Pursue options to establish comparable control groups that can be used in future evaluation and benefit-cost studies.

Project background

This report is a collaborative effort to share lessons learned from two methamphetamine treatment programs that have been providing services since 2006. These two programs, the Dodge-Fillmore-Olmsted Methamphetamine Treatment Program (DFO Meth Program) and the Anoka Enhanced Treatment Program (Anoka ETP), were two of five programs that received grant funding through the Minnesota Department of Public Safety, Office of Justice Programs, beginning in July 2006.

Despite serving very different populations, staff from these two programs share a common treatment philosophy and use unique approaches to incorporate components of effective treatment in ways that addressed the specific needs of their treatment populations. This report highlights the common strategies used by each program to provide effective care, compares these approaches with what is currently known regarding effective treatment and recovery programs, and estimates the long-term financial benefits to investing in these types of treatment programs.

In many ways, this report may be considered a combined case study of promising treatment models in Minnesota. Although this report describes the treatment population from each program, summarizes outcome data, and provides a prospective benefit-cost analysis, it does not report all data collected by the two programs. Individuals interested in learning more details about each program are encouraged to read the following reports available on the Wilder Research website (www.wilderresearch.org):

Ferris, M. & Holm-Hansen, C. (2007) Dodge-Fillmore-Olmsted Methamphetamine Treatment: Six month report

Ferris, M. (2008) Dodge-Fillmore-Olmsted Methamphetamine Treatment Project: July 2006-December 2007 evaluation report

Pierce, S. (2008) Enhanced Treatment Program, Evaluation report: May 2006-December 2007

Methodology

This report is comprised of three sections: an overview of effective stimulant abuse treatment strategies, descriptions of the two treatment programs and adapted treatment elements, and a prospective return on investment analysis for each program using data collected between July 2006 and December 2007. A focused literature review was conducted to identify best practice treatment models and promising practices related to treating methamphetamine and other stimulant addiction. In addition, recent benefit-cost analyses of comparable treatment programs were identified in a separate literature review to help shape the framework used in this report to estimate the long-term benefits that may result from initial financial investments.

Key informant interviews were conducted with four staff from each program representing critical systems and stakeholders. The questions asked during these interviews were used to examine how each program model incorporated specific elements of effective treatment, their respective approaches to providing gender-specific services, and strategies used to provide cross-disciplinary services. These interviews were conducted via telephone and transcribed to identify common themes and areas of differences. A list of questions asked during each interview can be found in the Appendix.

The outcome data included in the report were gathered by staff at intake and discharge using evaluation forms developed for each program. The data highlighted in this report reflect common descriptive data and outcome measures shared by both programs. Additional outcome data have been published in comprehensive program-specific reports published by Wilder Research.

In the benefit-cost analysis, the outcome data from evaluation forms were also used, particularly to estimate immediate benefits. Administrative and accounting records related to the programs were used to estimate economic costs. These sources were supplemented by interviews with program and administrative staff, published research, and evaluations of other substance abuse treatment programs.

Characteristics of effective treatment

Trends in methamphetamine use

Substance use rates are estimated using a variety of sources, including self-report national surveys, treatment admission records, emergency room data, and drug-related arrests. Although these sources all have some limitations, together, they provide a comprehensive look at changes in substance use over time. Although methamphetamine (meth) use is not new, rates of use have increased dramatically during the past 15 years. For example, meth related emergency room visits increased 243 percent in Minnesota during a seven year span ending in 2002 (US Department of Health and Human Services, 2002).

On both state and national levels, the number of methamphetamine-related lab seizures, arrests, emergency room visits, and treatment admissions has begun to decrease. In Minnesota, these multiple indicators of substance use indicated meth use peaked around 2005. For example, treatment admissions for methamphetamine use reached 2,641 in 2005, and has since decreased to under 1,300 in 2007 (Minnesota Department of Health, 2008). Similarly, the number of known meth labs decreased from 497 in 2003 to a total of 35 in 2007 (Minnesota Department of Health, 2008).

Although these recent trends indicate a reduction in meth use, the use of this drug and other stimulants continues to be an important state and national issue. Nationwide, an estimated 1.3 million individuals aged 12 or older used methamphetamine in 2005, with Minnesota having the third highest rates of meth use in the nation among 18 to 25 year olds (National Survey on Drug Use and Health, 2007). Data from the Drug and Alcohol Abuse Normative Evaluation System, or DAANES, indicates the number of treatment admissions for meth use has decreased since 2005, methamphetamine addiction accounted for 10 percent of all treatment admissions in 2007. When admissions for all stimulants (cocaine, crack, methamphetamine, and options) are combined, they account for over one-quarter (27%) of all treatment admissions.

Methamphetamine use has also had an impact on a variety of statewide systems and services, including the state corrections system and county child protection offices. Of nearly 20,000 narcotics related arrests made in Minnesota in 2007, 40 percent were related to methamphetamine and other stimulants (BCA Uniform Crime Report, 2007). Although the number of drug offenders in state prisons has decreased since 2006, over half of the 1,893 individuals incarcerated for drug offenses had charges related to methamphetamine use or distribution (Minnesota Department of Corrections, 2008).

Although child protection cases are reported by each county, child protection officials are not required to report whether substance use contributed to the case or provided rationale for an out-of-home placement or to identify the substances used by the child's parent or guardian. Therefore, the impact of methamphetamine or other stimulant use is likely underreported in statewide child protection data. Despite these limitations, statewide data do demonstrate that substance abuse plays a role in a number of child protection cases. In 2007, substance use involvement was a reported factor in over 20 percent of the 5,731 open child protection cases in Minnesota and over one-quarter (27%) of out of home placements. Between 2006 and 2007, reported substance abuse involvement in out of home placement cases increased 14 percent, to 815 total cases (Minnesota Department of Health, 2008).

Although there are promising indications of reduced methamphetamine use, the problems associated with addiction to methamphetamine and other stimulants have a large impact on individuals and families and lead to significant community- and state-level costs. In order to fully address the issues related to stimulant addiction, a variety of prevention, intervention, and punitive strategies must be used to prevent and reduce drug use.

Understanding addiction and recovery

Before discussing effective treatment models, it is first important to have clear definitions of addiction and recovery. Drug addiction is a disease that alters the chemistry of the brain by over- or under-stimulating specific areas of the brain, which mediate a number of capabilities, including mood and judgment. The National Institute on Drug Abuse (NIDA) defines addiction as a condition that is:

[C]haracterized by compulsive, at times uncontrollable drug craving, seeking, and use that persist even in the face of extremely negative consequences. For many people, drug addiction becomes chronic, with relapses possible even after long periods of abstinence.

When addiction is considered in these terms, it becomes easier to understand the challenges individuals face when they begin their path to recovery. Although treatment participants are certainly responsible for their behavior, providers must not only provide consequences for both positive and negative behaviors, but also help participants learn how to make choices that will help them avoid future relapse.

Recovery from substance abuse is a process that is not necessarily achieved through a single treatment episode or a linear treatment path. Relapses in use and repeated treatment episodes are part of the recovery process for many individuals. Within the substance abuse field, the treatment and recovery process is often compared to the

lifelong disease maintenance activities that occur when an individual is diagnosed with a chronic health disease, such as diabetes, asthma, or hypertension (McLellen, 2002).

Treatment

During the past 30 years, there has been a tremendous amount of research to identify and describe effective treatment models and practice elements. Although there is not a single treatment model that works for all, there are overarching principles shared by the most effective drug abuse treatment and recovery programs. In 2000, NIDA identified 13 principles that characterize effective drug addiction treatment. Together, these components describe effective treatment as an array of coordinated services provided over an adequate length of time to meet the individual needs of persons working to overcome addiction.

NIDA's 13 Principles of Effective Drug Addiction Treatment

- No single treatment is appropriate for all individuals
- Treatment needs to be readily available
- Effective treatment attends to multiple needs of the individual, not just his or her drug use
- An individual's treatment and services plan must be assessed continually and modified as necessary to ensure that the plan meets the person's changing needs
- Remaining in treatment for an adequate period of time is critical for treatment effectiveness
- Counseling and other behavioral therapies are critical components of effective treatment for addiction
- Medications are an important element of treatment for many patients, especially when combined with counseling and other behavioral therapies
- Addicted or drug-abusing individuals with coexisting mental disorders should have both disorders treated in an integrated way
- Medical detoxification is only the first stage of addiction treatment and by itself does little to change long-term drug use
- Treatment does not need to be voluntary to be effective
- Possible drug use during treatment must be monitored continuously

- Treatment programs should provide assessment for HIV/AIDS, hepatitis B and C, tuberculosis, and other infectious diseases, and counseling to help patients modify or change behaviors that place themselves or others at risk of infection
- Recovery from drug addiction can be a long-term process and frequently requires multiple episodes of treatment

Although these principles are common elements of effective treatment, the specific strategies and practices used to meet the need of individuals addicted to different types of drugs may vary significantly. When meth issues became more prominent in the 1990s, a myth began: individuals addicted to methamphetamine cannot be treated. In the past 15 years, there has been growing research demonstrating that methamphetamine and other stimulant addictions can be effectively treated. However, methamphetamine addiction results in specific challenges that must be addressed in order to provide effective treatment.

Methamphetamine is an intense and powerfully-addictive stimulant. Although it is similar to amphetamine and cocaine in terms of its effects, methamphetamine persists in the body for much longer periods of time. As a result, a high after using methamphetamine is longer and more intense than when other stimulants are used. In addition to the craving related to the addiction, prolonged methamphetamine use can lead to increased anxiety, confusion, insomnia, mood disturbances, and psychotic symptoms.

The effects of methamphetamine use on the brain are long-lasting. The severity of psychiatric symptoms tend to be more severe the greater the intensity and longer the period of methamphetamine use (Sekine, 2001). Individuals addicted to meth often struggle with sequential reasoning and complex instructions, as well as symptoms of depression after they stop using the drug (Center for Substance Abuse Treatment, 1999). Compared to nonusers, individuals who had recently stopped using meth are more likely to have identifiable impairments in areas of attention, learning, and functioning despite the groups having no significant differences in intelligence prior to using the drug (Maxwell, 2005). Although research has demonstrated improved memory and motor control after nine months of abstinence, damage done to the striatum, an area of the brain that has a role in reward-linked motivation, planning, and impulse control, persists for longer periods of time (NIDA, 2004). This research demonstrates a need for treatment providers to present information in clear and simple terms, to anticipate problems related to comprehension and memory, and to incorporate strategies to address these limitations at intake and throughout treatment.

Population-specific treatment needs

Effective treatment should address the individualized needs of the treatment participant that are identified during an initial comprehensive assessment and reviewed throughout treatment. Although the needs of individual participants may be quite unique, there are some important aspects of treatment that should be considered when providing treatment to specific populations.

It is estimated that up to 80 percent of methamphetamine users have experienced some type of physical, emotional, or sexual abuse (Cohen, et al., 2002). This may be especially true of women, who tend to enter treatment with greater psychological symptoms, lower self-esteem, parenting issues, and problems related to limited income, educational achievement, and employment (Yser, et al., 2005). Women are more often involved with child protection than men, and although they may be highly motivated to complete treatment to be reunited with their children, they may also be experiencing intense feelings of guilt, shame, and loss when entering treatment (Grella, et al., 2006). There is general consensus that women often enter treatment with greater needs than men. However, when women receive a comprehensive array of services to meet their needs, treatment outcomes are similar among men and women (Hser, 2003).

In order to meet the needs of specific cultural communities, services must not only be provided in the individual's primary language, but service options must also reflect the specific needs of the population. For example, studies comparing service utilization among Hispanic and White treatment participants in California found that Hispanic participants tended to have more problems related to education and employment than White participants (Niv & Hser, 2006). In Native American communities, treatment models are being modified to incorporate holistic approaches and traditional practices (Freese, et al., 2000). To provide effective treatment services, providers must be able to accurately assess the needs of individual participants and recognize when treatment modifications or new linkages to complementary support services are needed.

Characteristics that predict success

There are a number of sociodemographic and drug use characteristics that are associated with treatment success. For example, younger individuals with low incomes and lower levels of social support are more likely to discontinue or fail treatment (Brecht et al., 2005). Treatment success rates also tend to be lower among individuals who inject the drug, as well as among those who used drugs on a daily basis (Hillhouse, et al., 2007; Brecht et al., 2005).

Across all populations, consistent evidence demonstrates that individuals tend to have better post-treatment outcomes (reduced drug use, lower rates of relapse) when they have

a longer period of drug abstinence during treatment and participate in treatment for at least 90 days (NIDA, 1999). According to NIDA, effective drug treatment can decrease drug use by 40 to 60 percent, significantly decrease criminal activity during and after treatment, and improve future employment prospects (1999).

Despite recognition that the physical and psychiatric effects of methamphetamine use result in challenges when providing treatment, recent research has demonstrated that treatment retention rates are similar between individuals entering treatment primarily for meth use compared to individuals using cocaine (Rawson et al., 2000). When treatment outcomes of different drug-using groups were compared, results are very similar for individuals using meth and other “hard drugs” (including cocaine, heroin, and other opiates). However, both groups were less successful in treatment than individuals who entered treatment for alcohol or marijuana abuse (Lunchansky, et al., 2007).

Issues to consider

Although some components of methamphetamine and other stimulant-focused treatment remain comparable to treatment provided for any type of addictive behavior, the intense physical and psychological effects of methamphetamine abuse suggest that some unique issues should be considered. Prior to indentifying essential components of treatment for individuals recovering from meth abuse, the following four considerations should be taken into account (Taylor, 2007):

- Treatment should allow for alternating and collaborative levels or care that address both the drug-dependency and other sociocultural factors that support or inhibit treatment success
- Treatment must be delivered in a manner that considers the cognitive limitations of meth-abusing individuals, including limited abilities to make rational decisions
- Treatment must provide immediate feedback to both positive and negative behaviors with the appropriate use of sanctions and rewards
- Treatment should provide a consistent structure and frequent supervision to participants

Effective treatment components

There is a growing research base describing the key treatment elements that comprise effective treatment for methamphetamine and stimulant addiction. Together, these elements describe strategies to help individuals engage and remain in treatment, abstain from drug use, and modify their behaviors. This list is not an exhaustive summary of all treatment practices, but describes approaches that are commonly identified in the literature as strategies to address specific aspects of methamphetamine and stimulant addiction.

Length of treatment

When substance abuse treatment is an individualized process, participants progress through the program at their own pace. Although there is not a simple range that will be an appropriate treatment duration for all participants, research shows that outcomes improve with longer periods of treatment, and involvement that lasts less than 90 days tends to have little or no effect on treatment outcomes (NIDA, 1999). Some research suggests that treatment episodes between three and six months may be most appropriate to positively impact outcomes and avoid participant drop out that tends to occur after six months (Devereux, 2004). Length of treatment will likely vary by program, based on the participants, the program structure, and intensity of services offered. Although less common than short-term treatment interventions, a number of 12-month programs been developed to provide a continuum of services to participants, from intensive inpatient or outpatient treatment to maintenance and aftercare services (Taxman, 2004).

However, a variety of factors, including funding stability, intensity of services provided, and insurance reimbursement criterion, can all influence treatment duration. To balance the responsibility of providing effective treatment with the decisions that must be made to address economic reality, programs should consider ways to ensure they are providing high-quality services by examining the program's effectiveness, regularly considering improvements, and exploring whether treatment duration impacts the effectiveness of services provided (Devereux, 2004).

Cognitive behavioral therapy and relapse prevention

Relapse prevention and other cognitive behavioral therapies help participants learn ways to identify unproductive thinking that can lead to negative behaviors, including drug use. Interactions between the participant and therapist focus on examining the positive and negative consequences of continued use, learning to recognize signs of craving, developing coping and problem-solving skills, and planning strategies to avoid substance use or relapse. This type of therapy helps participants not only learn about addiction, but also develop recovery skills that can be retained after treatment ends (Carroll, et al., 1994).

Care coordination

The development of comprehensive, individualized treatment plans and services is a common characteristic of effective treatment. To ensure that the right services are provided and the individual is making progress in all areas of the treatment plan, some type of oversight and care coordination is often necessary. Depending on the type of program, this coordination may be provided primarily by probation officers or treatment staff (Barthwell et al., 1995, Gunter et al., 2004). Early results from the Iowa Case Management Project demonstrate that comprehensive care coordination can support treatment by improving employment outcomes and lowering symptoms of depression (Cretzmeyer et al., 2003). Despite limited research, treatment providers often see the need for coordinated services that address issues beyond addiction and have experienced situations where a participant's family support, vocational skills, or education became the primary reason treatment was a success or failure (Devereux, 2004).

Contingency management

The use of modest incentives, such as gas cards, movie tickets, and restaurant gift certificates, to reward negative test results and other positive behaviors in treatment can effectively increase participants' ability to comply with their treatment plan. This strategy, called contingency management, has been shown to increase drug abstinence in a number of treatment programs (Rawson, et al., 2006, Roll et al, 2006). Despite evidence that low-cost incentives can have a significant impact, some policy makers have concerns about providing tangible rewards for participants (Pierce et al., 2006). For example, some policy makers may feel that providing incentives to reward participants for attending group sessions or submitting negative drug test samples is simply giving money to participants for things they should be responsible for doing through their involvement in treatment. However, research indicates these small incentives do help individuals establish and maintain positive behaviors that support their recovery.

Community-reinforcement plus vouchers

One example of a treatment approach incorporating contingency management is the community-reinforcement model. This 24-week outpatient treatment model was developed to provide treatment to individuals addicted to cocaine. It incorporates a variety of components to help the individual develop individual skills and stronger relationships to reinforce behaviors that lead to recovery. The main treatment components include couples therapy or relationship counseling, vocational assistance or skill development, development of sober social networks and recreational opportunities, development of living skills, and medication monitoring for individuals also working to overcome addiction to alcohol (Silverman, et al., 1996).

The Matrix Model

One of the promising treatment approaches that combines many of these treatment models is the Matrix Model. This 16-week outpatient treatment approach involves a highly-structured program incorporating relapse prevention, frequent drug testing, information about addiction, and opportunities to involve family and peers (through self-help groups) in the treatment and recovery process (Obert et al, 2000). Early research found that participants in Matrix treatment stayed in treatment longer, submitted more negative drug tests, and experienced longer periods of abstinence than those receiving other standard types of treatment (Rawson et al., 2004). However, there were no significant differences in outcomes between groups six months after treatment ended.

Adapting promising strategies into practice

In research, there is often a focus on identifying evidence-based practices that have been proven effective and can be replicated in various settings. Although there is certainly value in demonstrating the effectiveness of different treatment approaches and developing promising treatment models, the research approach usually taken to identify best-practice models may pose challenges. Researchers who have been involved in the Matrix Model have suggested that using randomized clinical trials to develop highly-standardized treatment criteria may not be the best way to inform practice (Obert et al., 2005). A structure that is too rigid may lead to programs that are unable to meet the changing needs of clients, accentuate the skills of staff, and adapt to changes in available funding.

This is not to say that treatment programs do not need to have a focused approach to treatment and a structure that sets clear goals and consistent expectations for participants. Instead, it may suggest the need for information to be shared among programs that clearly describe their approach to treatment, how it meets the needs of their target population, and ways in which program challenges have been addressed and overcome.

Descriptions of two treatment programs

The two treatment programs highlighted in this report incorporate many key elements of effective treatment while utilizing a modified Matrix Model structure to provide a coordinated approach to services. Despite having a similar philosophical approach to treatment, the two programs are structured very differently and focus on serving different target populations. This section briefly describes the two treatment programs before comparing and contrasting specific elements of the services they provide.

Dodge-Fillmore-Olmsted (DFO) Methamphetamine Program

The Dodge-Fillmore-Olmsted Methamphetamine Program (DFO Meth Program) is a corrections-based substance abuse treatment program that involves three treatment sites: Crossroads, Odyssey, and Journey. Crossroads is a jail-based pre-treatment program, focused on stabilizing incarcerated offenders prior to beginning outpatient treatment. Community-based treatment is provided by two gender-specific programs: Odyssey, for men, and Journey, for women. A graduate group, not included in the evaluation, is also available to participants who successfully complete outpatient treatment.

Individuals are eligible to participate in Crossroads if they have a diagnosed substance dependency, use methamphetamine or other stimulants, and are involved with probation. The treatment program does not utilize any eligibility criteria for treatment based upon the type or severity of criminal offense that led to arrest. Only a few individuals enter outpatient treatment without participating in Crossroads.

The treatment model incorporates a number of components, including cognitive behavioral therapy, motivational interviewing, contingency management (or behavioral incentives), and frequent drug testing, over a longer period of time than is generally provided through standard treatment programs. The coordinated approach to care integrates many components of the Matrix Model, as well as elements of Differential Substance Abuse Treatment (DSAT), a model that considers both the treatment needs and criminal risk of individuals with addictions who are involved in the criminal justice system.

To meet the needs of all clients, the DFO Meth Program has established partnerships with a variety of community organizations and individual providers. As a result of these collaborative efforts, a number of services are available at the three program locations. Comprehensive medical and dental services are provided at Crossroads, while all programs can refer participants for a variety of mental health services, including medication monitoring, psychiatric/psychological assessments, and counseling.

Treatment services are provided by two community-based agencies, each focusing on services for either men or women. Probation officers are also heavily involved in treatment activities by monitoring treatment attendance, requesting random drug tests, and coordinating services that address the participant's needs.

Anoka County Enhanced Treatment Program (ETP)

The Anoka County Enhanced Treatment Program (Anoka ETP) is based on the Matrix Model for methamphetamine addiction, which utilizes counselors to guide the participant through the program and provide coaching in dealing with chemical dependency issues, mental health issues, family conflict, parenting issues, domestic violence, grief and loss issues, and employment and housing concerns.

The program targets women charged for a meth-related crime, arrested for a methamphetamine-related charge and diverted from the criminal justice system, or with children who have been referred to the Child Protection system because of the mother's involvement with methamphetamine. Women can also self-refer to the treatment program.

The program is housed at the Rum River Human Service Center in a "storefront" environment where the program counselors/therapists have their offices, meet individually with group members, and facilitate weekly cognitive behavioral groups, mental health support groups, and a chemical dependency support group. Drug testing services are also provided in the Center complex.

The treatment program incorporates many strategies that are included in the Matrix Model, including: cognitive-behavioral therapy, self-help involvement, family involvement, information about recovery, a structured schedule, and positive community reinforcement. The program has two full-time ETP counselors/therapists on staff who have received dual disorder training, and work with the participants as advocates, mentors, and care coordinators. The ETP counselors provide cognitive-behavioral therapy, as well as mental health support, to group members, while a private contractor provides the chemical dependency portion of treatment to ETP clients.

Populations served

Since beginning to evaluate their respective programs in Spring 2006, the DFO program has provided services to 162 participants, while Anoka's ETP program has served 51. Despite obvious differences in the percentage of women served by each program, there were similarities in the ages of participants served, with about half of the participants being between the ages of 21 and 30 (Figure 3).

3. Age and gender of program participants

	DFO Meth Program (N=162)		Anoka ETP (N=51)	
	Number	Percent	Number	Percent
Gender				
Male	115	71%	0	0%
Female	23	14%	51	100%
Unknown	24	15%	0	0%
Age				
19-20 years	16	12%	3	6%
21-30 years	70	52%	25	51%
31-40 years	29	22%	15	31%
41-50 years	17	13%	6	12%
Over 50 years	2	1%	0	0%
Unknown	15	0%	2	4%

Although each program serves a unique target population, there are some similarities among participant groups. In both programs, approximately one-quarter of participants entered the program to seek substance abuse treatment for the first time, and most had been involved in the criminal justice system prior to intake (Figure 4). Compared to DFO participants, women enrolled in ETP were more often parents of dependent children, with most (71%) involved with child protection at intake.

4. Participant characteristics at intake

	DFO Meth Program (N=162)		Anoka ETP (N=51)	
	Number	Percent	Number	Percent
Prior treatment attempts				
No prior treatment attempts	36	22%	14	27%
1-5 prior treatment attempts	70	43%	36	61%
More than five prior treatment attempts	8	5%	0	0%
Unknown	48	30%	6	12%
Parenting/child protection status				
Parents of dependent children	63	39%	45	88%
Open child protection case at intake	23	14%	36	71%
Criminal involvement status				
Convicted of one or more crimes	162	100%	43	85%
Not convicted of any crimes	0	0%	8	16%

Preliminary outcomes

Although the evaluations conducted for each program should continue to be perceived as preliminary due to the limited amount of outcome data available, both programs have reported promising results for participants who completed their respective programs. The data highlighted in this section reflect the outcomes for participants discharged during the first 18 months of each program, through December 2007. Because each program had developed a unique program evaluation, participant outcomes may be measured somewhat differently. Similar outcome measures are included in this report, when available.

Treatment completion

Nearly half of all participants successfully completed treatment. In both programs, just under half of the participants discharged from treatment during the first 18 months of the program successfully completed outpatient treatment (Figure 5). It is important to note that outpatient treatment participants may be enrolled in services for one year before successfully completing the program. As a result, unsuccessful completions are identified earlier in the evaluation and the overall completion rates for the outpatient treatment programs may underestimate program retention and completion rates. For example, if all individuals who are currently enrolled in the three programs successfully completed that treatment component, completions rates would increase to 93 percent for Crossroads, 69 percent for Odyssey, and 53 percent for Journey. Future evaluation

reports will be able to better examine completion rates by examining data over a longer period of time and considering program success among clients eligible for discharge at specific intervals.

5. Percentage of participants who successfully completed outpatient treatment

Program attended	Discharged	Successfully completed program	Completion rate
DFO – programs combined	55	25	45%
Odyssey	42	20	48%
Journey	13	5	38%
Anoka - ETP	37	17 ¹	46%

¹ *Eleven of the 17 participants were successful program graduates, indicating they had met all treatment goals. The remaining six participants were considered “provisional graduates,” meaning they had met most of their goals, but transferred to a new program prior to graduation from the program.*

Drug abstinence

Most drug tests submitted by DFO program participants were negative. Drug tests are conducted randomly throughout the participant’s involvement in outpatient treatment in both programs. A total of 1,875 drug tests have been submitted by 84 DFO program participants since the evaluation began. The vast majority of these drug tests (98%) have been negative. Most Odyssey participants (76%) and half of the Journey participants (50%) were discharged without testing positive for any drug use. Of the 16 participants with positive drug tests, 11 submitted a single positive test, while 5 submitted up to four positive samples.

All successful Anoka ETP graduates were clean and sober 11 months or more prior to discharge. The 11 successful graduates had between 11 and 17 months continuous time clean and sober at the time they exited the program, averaging slightly over 12 months. Among the 20 unsuccessful participants, ten had been drug-free for 1 to 11 months prior to leaving the program. Most had between one and five months clean and sober at program exit.

Relationships with dependent children

Few parents involved with child protection lost custody of their children while participating in treatment. A total of 23 DFO participants were involved with child protection or child welfare at intake, most of whom (74%) were still working towards resolution at discharge. Positive resolutions were reached on all six child protection cases that ended while the participant was enrolled in treatment. At intake, 26 ETP participants were involved with child protection and did not have physical custody of their child. Eight of the 11 successful or provisional program graduates (73%) were reunified with their child at discharge. All other provisional or unsuccessful participants (100%) were working towards reunification at discharge. No participant lost custody of her child while enrolled in the program.

New arrests and program violations

Most program participants avoided criminal behavior while participating in the treatment program. Among the 55 participants discharged from outpatient treatment from DFO, 50 participants (91%) avoided new arrests or charges while participating in outpatient treatment. Four of the five individuals who were charged had committed offenses related to drug or alcohol use. All successful ETP graduates avoided criminal behavior while involved in the program. Overall, 29 of 33 participants discharged (88%) were arrested with new charges during treatment. Three of the four individuals charged had committed offenses related to drug use.

Stable housing

Approximately two-thirds of all participants had stable housing when discharged from outpatient treatment. Among participants who successfully completed their most recent outpatient treatment episode, all but one DFO participant (96%) had stable housing at discharge, compared to less than 50 percent of participants discharged prior to completing the program. Similarly, 13 of the 16 ETP participants identified as “successful” or “provisional” program graduates (81%) had secured stable, positive housing at discharge, while only three unsuccessful treatment participants (19%) left treatment with access to stable housing.

Employment

Over 80 percent of the participants were employed when discharged from outpatient treatment. Over 80 percent of DFO participants who successfully completed outpatient were employed at discharge, compared to 37 percent of participants who were discharged prior to completing treatment (Figure 6). Among the 11 ETP participants who successfully completed treatment, all were working and 9 participants (82%) had secured full-time employment. Employment outcomes were not available for ETP participants who did not complete the treatment program.

6. Percentage of DFO program participants employed at discharge, by successful completion of outpatient treatment

	Successfully completed outpatient treatment (N=24)	Did not successfully complete outpatient treatment (N=30)
Employed or attending school	20 (83%)	11 (37%)
<i>Employed full-time</i>	18 (75%)	7 (23%)
<i>Employed part-time</i>	2 (8%)	3 (10%)
<i>Attending school, not employed</i>	0 (0%)	1 (3%)
Not employed	4 (17%)	19 (63%)

Note: Sub-categories describing employment or school participation are written in italics.

Treatment strategies and lessons learned

To identify common effective treatment components, barriers encountered when providing services, and lessons learned during the first 18 months of implementing their respective programs, key informant interviews were conducted with four staff from each program. The individuals who participated in interviews were involved in planning the program and implementing services, and represented the following fields: chemical dependency treatment, social services/child protection, and correction/probation (see the Appendix for a list of all interview questions).

Treatment philosophy

Representatives of both sites were asked to describe their program's approach to treatment. Despite obvious differences in the program structure and target treatment population, the programs share similar holistic treatment philosophies that stressed the importance of coordinated, multi-disciplinary treatment teams and the use of effective treatment elements. Both programs incorporate many elements of the Matrix Model, including:

- High-intensity services, with frequent treatment staff contact
- Frequent, random drug testing
- Cognitive-behavioral therapy and relapse prevention
- Contingency management
- Recognition and referrals for supports and services to address the participant's housing, employment, education, financial, and medical needs

Service coordination through frequent communication between treatment staff and agency representatives was considered a critical component of both programs. Weekly meetings allow staff to share information regularly, identify early signs of relapse among participants, and discuss how to address negative behaviors, such as absences from treatment groups or positive drug tests. These meetings also provide opportunities to discuss services that may be pursued to address any emerging participant needs.

Staff from both ETP and DFO felt that their respective models were unique compared to other treatment programs, because they provided higher-intensity services for longer periods of time. The extended treatment program provides participants with additional support at critical points in the recovery process, and extra assistance as they develop new social networks and maintain sobriety in a less-structured community setting. The high degree of coordinated services was also perceived to be a unique advantage of their approach to treatment. Although both programs have had a primary focus on providing treatment to meth-addicted individuals, DFO staff also felt their program has been successful with participants with other stimulant addictions.

Each program also identified treatment elements that were more unique to their specific programs. For example, ETP has pursued a number of services to support participants with children, including free child care during meetings, parenting classes, and Early Childhood Family Education (ECFE) classes. Chemical dependency counselors from DFO are able to work with male participants during the jail-based pre-treatment program and continue their relationship with the participant throughout outpatient treatment.

Challenges to coordinated treatment services

To ensure consistency in the policies and practices adopted across all agencies involved with the participants, both programs rely heavily on regular communication and frequent team meetings. Although staff from both programs identified cross-disciplinary communication as a strength of their respective treatment models, they also identified a number of challenges to developing and maintaining a coordinated approach to service

delivery. Despite having a shared understanding of recovery and treatment goals, individuals from each field (corrections, child protection, and chemical dependency treatment) may perceive situations differently or suggest different approaches to respond to a participant not adhering to parts of their treatment plan.

Availability of resources has also presented challenges to both programs. Despite serving different geographic regions of the state, both programs have found limited housing options to be a barrier to treatment. Sober housing is essential for participants to be successful in outpatient treatment, but there are few referral options for individuals who have limited incomes or poor rental histories. Traditional funding streams that provide reimbursement for specific services can also pose as barriers if these dollars cannot be augmented with additional money to support indirect staff time, such as the time spent in care coordination meetings. Some of these potential funding barriers can be addressed in unique ways. For example, funding for the program coordinator who oversees Corrections Recovery Services for DFO is split between social services and probation.

The two programs have also faced challenges in meeting the needs of different populations. For example, in order to provide gender-specific services, DFO has contracted with two different treatment providers. Although there is communication across all agencies, the provider for the women's programming has not been able to consistently participate in the regular care coordination meetings with corrections and social services staff. Additional work is needed to continue to build those multi-disciplinary relationships and further incorporate services to meet the specific needs of women. Alternatively, ETP staff have found it difficult to address the needs of participants who exhibit some mental health problems, but do not meet criteria that would make them eligible to receive a broader array of services.

Observed program benefits

Both programs feel that one of the most important benefits to their approach to treatment is the potential cost savings that can result from reductions in future criminal activity, improved employment opportunities, and a more stable home environment for the children of the treatment participants. Although this approach to treatment requires a significant amount of staff time, the program representatives felt that these expenses are still relatively lower than the costs associated with incarceration and foster care.

In addition to these benefits, staff felt that their program model allowed them to provide treatment and services to individuals who do not meet Rule 25 eligibility criteria and may not be otherwise able to afford the cost of treatment. Program staff also felt that the principles they use to work collaboratively can also be used on other projects where

multiple agencies are often involved and allow them to be better poised to apply for future grants and use funding in an efficient manner.

Lessons learned

The staff who participated in the key informant interviews were also asked to share the lessons they have learned when implementing these treatment programs and tips they would share with others interested in pursuing this multi-disciplinary approach to treatment. Both programs made a number of recommendations that other programs should consider when pursuing a collaborative approach to treatment:

- All team members must have a shared understanding of the program's mission and confidence that effective treatment services are being provided
- Regular communication across all agencies is a key component of the program's success
- The process used to discuss problems and make decisions should be transparent and clearly understood by all team members
- Respect for the different perspectives of agencies and individuals is essential when resolving conflict or disagreement within the team
- Clearly understanding the mandates and policies of partner agencies allows the team to recognize opportunities for greater flexibility in service planning and decision-making
- In order to ensure the right services are being provided, it is essential to identify the target treatment population and their specific needs
- Although the program should provide individualized services to meet the needs of each client, all partners should have a shared, consistent response to program violations
- Cross-training is important in helping all agencies coordinate services and work together more efficiently
- Despite the quality of services provided, some individuals are not ready to pursue recovery and will not complete the program successfully
- It is important to regularly reassess the strengths of the program and identify areas where services can be further improved

Prospective benefit-cost analysis

The information shared by staff demonstrate that both programs incorporate approaches that have been identified as effective treatment strategies for individuals recovering from addiction to methamphetamine and other stimulants. In addition, early outcome data from each program demonstrates that a large percentage of program participants are successfully completing treatment, abstaining from drug use, finding employment, and obtaining stable housing. Although these preliminary findings suggest both programs have adopted effective treatment models, it is also important to assess whether the financial investment made by each program to deliver intensive treatment is expected to result in long-term financial benefit to taxpayers, as well as to the greater society as a whole.

This section of the report describes the costs associated with each program, the anticipated benefits associated with various participant outcomes, the estimated benefit-cost ratio for each dollar invested in each program, and a brief summary comparing these results with the benefit-cost results from similar programs. Additional details describing the benefit-cost approach, assumptions made when calculating program costs, and approach used to establish the monetary value of taxpayer and societal benefits is included in the Appendix.

Interpreting the results

There are important caveats that should be kept in mind when reviewing these results. First, and foremost, these estimates are prospective. That is, these are estimates of the value of outcomes that have yet to happen. To measure the long-term success of these programs in helping individuals avoid relapse and reentry into the criminal justice system, maintain custody of their children, and earn a livable income, it would be necessary to reassess outcomes for several cohorts of participants two or more years after they have completed treatment. However, several years of recorded behavior of participant groups do not yet exist for these programs because the programs themselves have been in existence for such a short period. With more data, estimates of benefits and costs will be more accurate and complete.

These results reflect potential benefits from diverse areas of return, and some of these potential outcomes will take years to manifest. To make these estimates, existing studies of other programs and published research were relied on, but not all areas are well studied. For example, the link between substance abuse treatment for parents and their children's school success is not yet researched enough to be used in this analysis.

Ideally, the benefit-cost analysis would compare long-term outcomes from each treatment program to a group of comparable participants, a control group, who did not receive the same intervention. Neither treatment program has incorporated a control group into its current evaluation design. Therefore, results from recent studies were also used to estimate outcomes for individuals who would not have participated in treatment.

Prospective benefit-cost studies can yield a range of results based on the estimates used to determine the long-term effects of treatment. Because of the uncertainties in this type of analysis, low estimates of effect sizes from existing studies were used and preliminary outcomes reported by each program were heavily discounted to avoid overestimating treatment results. For this reason alone, it is likely that the actual performance of these programs over time will exceed the estimates of benefits included in this analysis. It is also likely that actual program costs will not be as high in the future, since these cost estimates draw from periods early in the program administration. As a result, a future study exploring the overall net benefits and benefit-cost ratios using actual long-term program outcomes and the costs of mature programs can be expected to be higher than the estimates reported here.

Finally, the purpose of this report is to study how two unique programs have integrated a similar treatment philosophy to provide services to individuals with very different service needs. The program costs and estimated future benefits included in this report reflect the unique aspects of each treatment approach and should not be compared to conclude that one is more effective than the other.

Estimates of program costs

In general, the costs calculated for both programs include expenses that fall into the following categories:

- treatment costs, whether by contract (DFO) or by employed counselors and contractors (Anoka);
- health care and employment services costs paid by the program;
- administrative personnel, supplies, and travel costs paid by the program; and
- volunteer hours contributed to the program.

There are three important things to keep in mind when reviewing these results: the preliminary nature of these estimates, the differences between these programs' populations and goals, and finally, the similarities and differences between these programs and other programs studied in the literature. These are estimates based

primarily on one year of program operation and should be considered preliminary. Results from similar benefit-cost studies have been shown to vary across time, even among quite successful programs. As more data become available, estimates of program costs will be more accurate and more complete.

Baseline assumptions

The costs calculated for each program are based on assumptions about the types of services individuals would likely utilize if the program were not available, that is, the baseline. For the DFO program, the baseline assumes individuals not enrolled in DFO would have the same length jail time as the treatment case, and the period of probation that typically follows for most offenders. The baseline also assumes none of the treatment, health, or job services available to DFO participants are provided in jail or in the community for non-participants.

For the Anoka program, the baseline assumes individuals would not receive any treatment similar to the ETP, nor any publicly-funded treatment or recovery programs. To the extent that services would have been available and used, these assumptions will tend to overestimate the cost difference between program participation and the baseline.

Costs for the DFO Meth Program

All three program components were included in the cost estimate for the DFO program, with the total program length including the time spent in the jail-based program (Crossroads) as well as the time in the relevant community-based site (Odyssey or Journey).

The total program costs for calendar year 2007 are estimated to be \$266,806, and the total participant-days¹ are estimated to be 17,639. Using these data, the DFO program can be estimated to cost an average of \$15 for each participant-day. Successful program graduates were served for an average of 380 days (for an estimated total cost of \$5,762 each), compared to about 85 days for non-successful program participants (for an estimated cost of \$1,291 each). The average treatment duration for successful program graduates was about 380 days and the average duration for those not completing the program was about 85 days. In all, the average cost per participant during calendar year 2007 is estimated to be \$3,555 (Figure 7).

¹ “Participant-days” measure the amount of mixed program services. It means only that a participant is between intake and discharge, not that any services are rendered to the participant that day. For example, if 2 participants were active throughout the month of May, 62 participant-days would be included in the cost estimate, regardless of the number of treatment sessions.

Costs for Anoka ETP

The program's 2007 fiscal year (July 2006 through June 2007) was used to estimate overall and per participant program costs. By focusing on this time frame, the costs are not artificially inflated due to start-up costs and low initial participation (prior to July 2006), and periods of time where incomplete cost data were available (late 2007).

During fiscal year 2007, the total program costs are estimated to be \$228,187, and the total participant-days are 7,422. Based on these estimates, the average cost per participant-day is \$31. Participants who completed the program spent an average of 370 days in the program while those who did not complete the program spent an average of 105 days in the program. The cost estimate for each successful graduate is \$11,375 on average, while each non-completion is estimated to cost \$3,228 on average. In all, the average cost per participant in FY 2007 is estimated to be \$7,638 (Figure 7).

7. Cost estimates for the DFO Meth Program and Anoka ETP

	DFO ¹	Anoka ETP ²
Total program cost	\$266,806	\$228,187
Total participant-days	17,639	7,422
Average cost of successful completion	\$5,752	\$11,375
Average cost of non-completion	\$1,291	\$3,228
Cost per participant-day ³	\$15	\$31
Average duration of participation ³	235 days	248 days
Average cost per participant³	\$3,555	\$7,638

¹ Cost estimates are based on data from calendar year 2007, except average duration.

² Cost estimates are based on data from July 2006 through June 2007, FY 2007, except average duration.

³ Includes successful program graduates and non-successful program participants.

Comparison of program costs

Given that the two programs use unique approaches to provide treatment to specific target populations, it is not surprising that the costs of these two programs are different. Although there is considerable overlap in the systems involved with participants of both programs, the treatment model used by each program was developed with a specific focus. While the Anoka ETP model focuses on providing services to women involved in the child protection system, the DFO program addresses the substance abuse treatment needs of a criminal population. The cost differences between these two programs demonstrate their unique areas of focus, and direct cost comparisons between programs should not be used to favor one program over the other.

Some of the cost differences between the two programs reflect their staffing approach or other characteristics of their specific treatment model. These differences in program structure also have direct effects on the ability of each program to respond to changes in program participation. In Anoka's program, for example, salaried staff have multiple responsibilities in the program, including substantial time providing counseling and therapy. To add capacity, additional staff would need to be hired by the program or some current staff responsibilities would need to be shifted to outside contractors. In contrast, the treatment services provided through DFO's program are provided by an outside provider agency better able to adapt to changes in program demand.

The costs of the Anoka ETP and DFO combined program are comparable to the costs reported in other studies. A multi-site comparison of five non-methadone outpatient treatment programs estimated participant costs ranging from \$662 to \$9,072 per treatment episode when adjusted to 2007 dollars (French et al., 1996). Only one of these programs has a treatment length comparable to DFO and Anoka, and it is the most costly. Based on these comparison programs, the costs estimated for both the DFO and Anoka programs appear to fall within a moderate range.

Recent studies have estimated the costs of a variety of treatment programs that address abuse of a range of drugs, including methamphetamine. One study estimated costs for a variety of programs ranging in length from 5 to 28 weeks, with associated costs ranging from \$1,132 to \$2,099 (French, et al., 2008), while another estimated the average cost of an approximately 17-week treatment program to be \$3,557 (Bhati, Roman, & Chalfin, 2008). To date, there have not been published cost estimates of programs that last approximately 52 weeks to compare more directly to Anoka ETP and DFO.

An alternate way to compare costs of various treatment programs is to consider the cost of an average participant-day. When compared this way, the costs of DFO and Anoka (\$15 and \$31 per day, respectively) are low to moderate compared to the costs reported in recent studies, which range from \$6 to \$46 per day (French et al., 1996; 2008; Bhati, Roman & Chalfin, 2008).

Estimates of prospective benefits

Benefits that successful treatment programs might produce may be realized across a number of different groups, including taxpayers, participants, participants' families, private citizens and institutions, and society at large. This analysis focuses on estimating anticipated program benefits from two different points of view – taxpayers and society at large. Taxpayer benefits come from reducing tax dollars spent on public programs and various government agencies. Social benefits include benefits to taxpayers as well as the monetary values of improved health, increased employment, and other changes that

benefit program participants, their families, and the general public. The taxpayer point of view is important because it addresses the question of whether the public, when considered as a whole, will receive a positive return on their investment. Other viewpoints not captured in this analysis may also be important, but are captured when the analysis is calculated from society's point of view.

There are many areas of possible benefits to consider. This analysis attempts to include the broadest list of possible benefits with reliable effect size and monetary value estimates that can be obtained. With these considerations in mind, the benefits used in this analysis focus on the following benefit categories:

Estimated benefits to taxpayers include:

- reduced criminal justice system costs from fewer arrests and convictions,
- reduced corrections system costs, from substituting treatment and probation for prison,
- reduced social assistance costs from increased financial self-sufficiency,
- reduced child protection costs from increased family stability, and
- increased taxes paid by the participants from increased financial self-sufficiency.

Estimated benefits to society include the taxpayer benefits plus:

- reduced cost to crime victims from fewer incidents of criminal behavior,
- increased disposable income for participants from increased financial self-sufficiency,
- improved physical and mental health of participants from reduced substance abuse, and
- reduced "unpaid" emergency medical care from increased employment and financial self-sufficiency.

Due to the absence of long-term outcome data available through each program and subsequent need to estimate long-term outcomes based on data published by other programs, the effect sizes for these estimates should be considered preliminary. To account for these uncertainties, a range, rather than a single value, is used to estimate program benefits. Early outcomes have also been steeply discounted, resulting in conservative outcome estimates to reflect the uncertainty about intermediate and long-term effects of treatment. Additional details describing the monetization of these benefits can be found in the Appendix. Throughout the report, all cost values are reported in 2007 dollars.

Benefits not monetized

Not all potential benefits have been considered in this analysis. For example, no attempt was made to monetize the intangible benefits to participants or their families due to improved quality of life or increased self-esteem. Anecdotal evidence from participants and program personnel indicate that these benefits may be quite large, but these potential benefits have not been measured in a quantifiable manner by either program. In addition, even if these outcomes were captured through the data collected by each program, there are also significant challenges to assigning a monetary value to these measures.

The potential public health benefits of treating stimulant abuse have not been considered here. The California Society of Addiction Medicine (CSAM) has reported high rates of HIV and other STD infections among methamphetamine abusers, suggesting that reductions in meth use could result in fewer infections and improved health outcomes for the general public as well as program participants. However, more specific evidence is needed to include this type of potential benefit.

Only preliminary work has been done on the benefits of increased school success for participants' children. As this is an under-studied area of long-term benefits, more research needs to be done on the effects of substance abuse treatment on the children of participants. In particular, while it is possible to tie fewer school days missed and fewer school-moves to increased success, the link between substance abuse treatment of parents and fewer school days missed is not yet established.

Benefits from the DFO programs

The estimate of prospective taxpayer benefits due to the combined DFO program ranges from \$5,721 to \$14,370 per participant, with the greatest financial benefits resulting from reduced processing costs for new offenses in the criminal justice system and reduced social assistance costs (Figure 8).

8. Estimated benefits to taxpayers from the DFO combined program

Benefit type	Low estimate	High estimate
Reduced criminal justice system costs	\$2,223	\$2,552
Reduced corrections system costs	\$0	\$4,229
Reduced social assistance costs	\$1,975	\$3,950
Reduced child welfare costs	\$336	\$1,161
Increased taxes paid	\$1,187	\$2,477
Total taxpayer benefits	\$5,721	\$14,370

When benefits to society are calculated, some of the areas of greatest benefit are the result of reduced victim costs and increased disposable income. Together, the estimated benefits to society (other than taxpayers) are \$7,173 to \$11,725 per participant (Figure 9). There are some situations where a benefit type may be positive from one perspective, and negative from another. For example, decreases in social assistance paid to participants are a benefit to taxpayers, but a negative benefit to participants. As a result, when estimating total benefits to society, deductions must be made to remove “overlapping” benefits from the final calculation and eliminate double counting. When calculating total social benefits, this must be removed from the sum. When all unique benefits are combined, the total prospective social benefits from the DFO combined program are estimated to be \$10,918 to \$22,145.

Additional details on the methods, assumptions, and sources used in estimating benefits for this analysis, are included in the Appendix.

9. Estimated benefits to society from the DFO combined program

Benefit type	Low estimate	High estimate
Reduced victim costs	\$3,491	\$4,244
Increased disposable income	\$2,666	\$5,566
Improved physical and mental health	\$739	\$1,639
Decreased "unpaid" emergency medical care	\$277	\$277
Subtotal social benefits (other than taxpayers)	\$7,173	\$11,725
Total taxpayer benefits	\$5,721	\$14,370
Less overlap of social and taxpayer benefits¹	\$(1,975)	\$(3,950)
Total social benefits	\$10,918	\$22,145

¹ The savings to taxpayers from lower social assistance use by participants is also a loss to participants. To take this into account, the overall social benefit is reduced by this amount.

Benefits from the Anoka ETP

The total taxpayer benefit per participant from the Anoka program is estimated to be between \$8,452 and \$16,887, with the greatest benefits resulting from reduced need for social assistance and reduced child protection costs (Figure 10).

10. Estimated benefits to taxpayers from the Anoka ETP

Benefit type	Low estimate	High estimate
Reduced criminal justice system (processing) costs from fewer further offenses	\$1,446	\$1,660
Reduced corrections system costs from less incarceration	\$0	\$1,170
Reduced social assistance costs from increased self-sufficiency	\$3,598	\$4,342
Reduced child welfare costs from increased family stability	\$1,913	\$6,614
Increased taxes paid	\$1,495	\$3,101
Total taxpayer benefits	\$8,452	\$16,887

The estimated societal benefits, excluding direct benefits to taxpayers, is \$7,545 to \$16,658 per participant, with the greatest potential benefits estimated in the areas of increased disposable income and improved physical and mental health (Figure 11). After accounting for the overlap in reduced social assistance, the total prospective social benefits for Anoka ETP are estimated to be \$12,398 to \$29,203 per participant.

11. Estimated benefits to society from the Anoka ETP

Benefit type	Low estimate	High estimate
Reduced victim costs due to fewer further offenses	\$1,761	\$2,141
Increased disposable income	\$3,359	\$6,966
Improved physical and mental health	\$2,148	\$7,274
Decreased "unpaid" emergency medical care	\$277	\$277
Subtotal social benefits (other than taxpayers)	\$7,545	\$16,658
Total taxpayer benefits	\$8,452	\$16,887
Less overlap of social and taxpayer benefits¹	\$(3,598)	\$(4,342)
Total social benefits	\$12,398	\$29,203

¹ The savings to taxpayers from lower social assistance use by participants is also a loss to participants. To take this into account, the overall social benefit is reduced by this amount.

Comparison of program benefits

Despite differences in their treatment models and target populations, the total social benefits estimate for each program were very similar. The anticipated benefits of each program reflect the differences between each treatment model and specific characteristics of each target population. For example, all DFO participants had criminal justice involvement and this affects the estimated benefits from fewer further offenses, reduced corrections costs, and fewer further victimizations. Overall, the prospective benefits for DFO in these areas are higher than the benefits for Anoka ETP because fewer Anoka participants had prior or current criminal justice involvement. Likewise, most DFO participants do not have custody of minor children. This has impact on social assistance costs, child welfare costs, and the private costs of child abuse and neglect. Overall, the prospective benefits in these areas are higher for the Anoka ETP participants. Direct program comparisons should not be made based on the estimated value for each benefit, as these variations reflect actual differences in their target population and unique treatment goals.

Prospective benefit-cost estimates

Benefits and costs are combined and reported as both net benefits and benefit-cost ratios. Net benefits are simply total benefits less total costs, and are reported as an average amount per participant. This average will include participants who complete treatment and do much better than average, as well as participants who do not complete treatment and do substantially worse than average. The average also reflects key baseline characteristics of the population served by each program, such as criminal justice involvement. The benefit-cost ratio is the relevant benefits divided by the total program costs. Again, this is an average over all the program participants and the total investment.

Because both programs are funded by state and county dollars, in this analysis, the total program costs remain the same regardless of whether a taxpayer or societal point of view is being used. However, when benefits are considered, the overall benefits to society include direct taxpayer benefits and other broad benefits. As a result, societal returns will be greater than those to direct taxpayers.

When the cost estimates and prospective benefits are combined, both programs are estimated to have positive returns, both to taxpayers and to society in general. That is, for each dollar invested in these treatment programs, it is estimated that more than a dollar is gained. This is true from both a narrow taxpayer point of view as well as overall societal point of view. As a result of the limited intermediate and long-term data available, there is a degree of uncertainty in the prospective benefit calculations. Therefore, a range is used to estimate the value of net benefits to both direct taxpayers and society.

Based on the values calculated for this report, the net taxpayer benefits for the DFO program are estimated to be \$2,165 to \$10,815 per participant, which corresponds to a \$1.61 to \$4.04 return to the taxpayer for every dollar invested (Figure 12). For Anoka ETP, net taxpayer benefits are estimated to be \$813 to \$9,248 per participant, which corresponds to a \$1.11 to \$2.21 return to the taxpayer for every dollar invested (Figure 12).

12. Estimated net benefits to taxpayers and benefit-cost ratio per participant

	DFO Meth Program	Anoka ETP
Total taxpayer benefits	\$5,721 to \$14,370	\$8,452 to \$16,887
Average program cost	\$3,555	\$7,638
Net taxpayer benefits	\$2,165 to \$10,815	\$813 to \$9,248
Benefit-cost ratio	\$1.61 to \$4.04	\$1.11 to \$2.21

The net social benefits for the DFO program are estimated to be \$7,363 to \$18,590 per participant, which corresponds to \$3.07 to \$6.23 return to society for every dollar invested (Figure 13). For Anoka ETP, the net social benefits are estimated to be \$4,760 to \$21,564 per participant, which corresponds to a \$1.62 to \$3.82 return to society for every dollar invested (Figure 13).

13. Estimated net social benefits and benefit-cost ratio per participant

	DFO Meth Program	Anoka ETP
Total social benefits	\$10,918 to \$22,145	\$12,398 to \$29,203
Total program costs	\$3,555	\$7,638
Net social benefits	\$7,363 to \$18,590	\$4,760 to \$21,564
Benefit-cost ratio	\$3.07 to \$6.23	\$1.62 to \$3.82

Across both programs, the net social benefits are somewhat greater than benefits to direct tax payers. However, there is considerable overlap in the range of benefits estimated for both programs. As a result, this analysis does not indicate that one program is expected to have higher returns than the other.

Comparable published results

Although a variety of benefit-cost studies were reviewed, none of the published results are based on programs that are completely comparable to DFO or Anoka ETP. A comprehensive literature review was conducted to contract the benefit-cost analysis framework and develop outcome estimates from comparable treatment programs. Most published studies reviewed for this analysis focus on male-only populations in the

criminal justice system. The length of most treatment programs was much shorter than either DFO or Anoka ETP, and few programs focused primarily on treatment for methamphetamine or other stimulant addiction. In addition, while each published study considers some of the benefits considered in this analysis, none consider the entire range.

The study that is most comparable to this analysis reported the costs and benefits of substance abuse treatment for participants in state-subsidized programs across 13 counties in California. Ettner et al. (2006) reported net benefits to society averaged \$8,211 per participant and a benefit-cost ratio of about \$5.46 among outpatient treatment participants. This is one of the few studies to consider benefits from reduced medical care, reduced criminal activity, and increased earnings in a general population. While the programs considered in this study were shorter than Anoka and DFO, the treatment population is dominated by stimulant substance abuse problems, including methamphetamine and cocaine. The study does not identify programs designed specifically for women or mothers, but 40 to 50 percent of the studied population are female. The estimates from this analysis of Anoka and DFO are generally in line with the results reported by Ettner, both for net benefits and benefit-cost ratios. The differences suggest that the current estimates may be somewhat low.

Although other studies examined for this report focused on target populations or treatment models that were less similar to those of DFO or Anoka ETP, the reported results of many benefit-cost analyses are still reasonably close to the estimates included in this report:

- A general study of treatment of drug, alcohol, and mental disorders in Washington State, Aos, Mayfield, Miller, and Yen (2006), finds about \$3.77 in benefits for every dollar cost. From a narrower taxpayer perspective, it finds the benefit-cost ratio is about \$2.05.
- Reporting on what is likely the largest program in the country, Hawken et al. (2007), finds that the Substance Abuse and Crime Prevention Act (SACPA) had a nearly \$2.50 benefit-cost ratio considering benefits from a 30-month follow-up period for prison-eligible participants. This result is for the entire SACPA program, not strictly for the substance abuse treatment program component.
- Bhati, Roman, and Chalfin (2008) present results of work done to simulate drug court policy changes. It estimates the current benefit-cost ratio from drug courts, in general, to be about \$2.21. This work separates results based on population characteristics and finds that the benefit-cost ratio for those at risk of abuse is higher (\$2.71) compared to those at risk of dependence (\$1.84). Aos, Phipps, and Barnoski (2005) reviews and synthesizes the literature in a meta-analytic framework to find a

\$2.83 benefit-cost ratio. All of this work focuses on the benefits from decreased incarceration and decreased further crime for participants already involved with the criminal justice system.

- The long-term study of a drug court system in Portland, Oregon, Finigan, Carey, and Cox (2007), reports a benefit-cost ratio of \$2.63. However, this result has been disputed because the costs of the drug court system were lower than the costs of the baseline. In this case, a program produced benefits and costs less than the alternative. Net benefits per participant are about \$13,600, considering only the benefits from lower processing costs and less future crime in the first five years after entering the program.
- The Government Accounting Office (GAO, 2005) study of drug court effectiveness showed positive net benefits for all seven programs reviewed, ranging from \$1,000 to about \$15,000 per participant.
- A study looking only at medical costs among the general assistance population, Wickizer et al. (2006), estimated that the benefits from reduced medical expenses alone for one year approximately equaled the cost of substance abuse treatment. No follow up data on the persistence of benefits was available to form a more complete economic analysis.
- Few economic studies have been done in the area of child protection programs, likely because of the long follow-up duration required. A rare study of the available evidence from programs to reduce child protection, Lee, Aos, and Miller (2008), did not find a substance abuse program with a strong enough evaluation to include.

Overall, there is a need for more research to be conducted to examine the long-term outcomes and associated benefits of various treatment models across different populations. Although the literature reviewed for this study confirms the results from this analysis are in line with other programs, no benefit-cost study has been published for a program completely comparable to the DFO Meth Program or Anoka ETP. Their focus on stimulant addiction, including methamphetamine, and coordination with agencies to address issues around criminal justice and child protection involvement are unique program elements that are not well-reflected in other studies. As more data becomes available in future studies, stronger conclusions can be made about the overall effectiveness of these innovative treatment approaches.

Recommendations

The information presented in this report highlights promising outcomes for program participants and early indications of cost-savings to taxpayers and society. While these results are positive, it is also important to consider opportunities to enhance current program approaches, address barriers to treatment at multiple levels, and further examine the effectiveness of these, and other, innovative treatment programs.

Based on the information gathered throughout the course of this project, Wilder Research recommends program staff, local stakeholders, and policymakers to consider the following recommendations to further enhance the effectiveness of treatment programs serving individuals who abuse methamphetamine or other stimulants:

Encourage treatment and recovery programs to expand their use of effective, evidence-based treatment approaches when providing services to populations abusing methamphetamine or other stimulants. This report outlines how key treatment components, including an extended treatment period, the use of cognitive-behavioral therapy, a holistic approach to service planning, and contingency management, have been adopted to provide services to very different treatment populations. Although the programs highlighted in this report are relatively new, their preliminary data indicates promising outcomes resulting from their approach to treatment. Expanding the use of these treatment components by other substance abuse programs, rather than encouraging the use of a single program model, may be a better way to increase the availability of effective substance abuse treatment programs throughout the state.

Explore options for addressing barriers to stable housing and employment for program participants, especially those with criminal records. Although the preliminary outcome data reported by both programs show improvement in areas of housing and employment, there are a number of state and local policies that can create significant barriers to individuals recovering from substance abuse problems. DFO and Anoka ETP have responded to these issues by building strong partnerships and relationships with community partners and agencies. However, additional local, county, and state actions may be needed to further increase access to safe, sober housing, job training programs, and employment opportunities.

Consider new opportunities to address the unique needs of women recovering from methamphetamine and stimulant addictions. Current research and observations from program staff indicate that women often enter treatment with greater needs at intake, which may be due to an extended period of substance use prior to entering treatment.

Staff from both programs also observed that relationship and parenting issues were especially difficult for women throughout the treatment process. These findings suggest that additional gender-specific services may be necessary to provide a holistic treatment program for women. As a result, programs focusing on women may need to incorporate services and supports that are not as necessary in a male-only treatment program, potentially resulting in greater needs for transportation to different services or other additional costs.

Continue to support efforts to work across systems and with existing community-based partners to provide an array of services to program participants. Research on effective treatment programs and interviews with DFO and Anoka ETP staff stress the importance of providing individualized, holistic, and comprehensive services to participants. To continue providing an array of effective services, each program must consider ways to regularly communicate with partners, identify opportunities to build relationships with new agencies or organizations, and consider when new service options are necessary to meet the changing needs of program participants.

Regularly reassess program length in order to maximize program effectiveness while avoiding the costs associated with unnecessary services. Although there is strong research demonstrating 90 days of treatment is not an adequate amount of time to address substance abuse issues, especially when methamphetamine or other stimulants are used, there is not a consensus among experts as to the most appropriate length of treatment. Given the financial difficulties public programs face due to reductions in local, state, and federal budgets, there is likely to be even greater interest in ensuring the length of treatment is long enough to significantly reduce recidivism and relapse, but not longer than necessary. Both DFO and Anoka ETP are encouraged to regularly reassess how they define successful completion of their program in order to ensure the length of the program is determined by the completion of individualized treatment goals.

In addition, program staff, local stakeholders, and policy makers are encouraged to consider the following recommendations to enhance future evaluation activities:

Support the strategic use of benefit-cost analyses to demonstrate program effectiveness. Benefit-costs analyses based on retrospective data collection may yield useful, but not conclusive, results. Ideally, long before a benefit-cost analysis is conducted, data collection strategies must be implemented to capture follow-up data on key outcome measures, and accounting records may need to be modified to isolate appropriate program data. Therefore, future studies for these, and other, programs should be pursued after thoughtful planning.

A comprehensive benefit-cost analysis is not an appropriate evaluation strategy for all treatment programs. Although these studies can provide policymakers and stakeholders with important information about the programs they are funding, we recommend these studies be pursued strategically with programs that have the existing data infrastructure in place to support this type of study, or capacity to develop these critical data collection elements.

Develop a comprehensive evaluation approach to examine the long-term impact of innovative substance abuse treatment programs. The preliminary outcomes demonstrated by both programs were gathered through evaluation activities that focused primarily on capturing key information when participants enter and exit the program. Although these evaluation activities are useful and provide each program with data to regularly reassess their program's strengths and areas of improvement, this work alone does not capture data that can be used to assess the long-term impact of each program in regard to participant outcomes and more accurate benefit-cost analyses.

In order to develop an evaluation approach to capture this long-term data, program representatives are encouraged to:

- 1) consider opportunities to improve their current data management systems to maintain accurate individual cost data;
- 2) continue building interagency relationships with partners to not only provide essential services, but also integrate evaluation activities in their work;
- 3) identify similar comparison groups that can be used to better measure the effectiveness of each program model; and
- 4) develop necessary participant releases to capture follow-up data from participants and their family members who complete or discontinue the treatment program.

Although these steps will help each program continue to increase their internal evaluation capacity to conduct future long-term studies of program effectiveness, support from local, county, and state stakeholders is also needed before large follow-up studies can be conducted. In addition to financial support for future evaluation activities, stakeholders can also encourage the pursuit of long-term studies by considering how to overcome barriers to the sharing of key outcome data.

Pursue options to establish comparable control groups that can be used in future evaluation and benefit-cost studies. The preliminary outcomes demonstrated by both programs were gathered through evaluation activities that focused primarily on capturing key information when participants enter and exit the program. Although these evaluation

activities are useful and provide each program with data to regularly reassess their program's strengths and areas of improvement, this work alone does not capture data that can be used to assess the long-term impact of each program in regard to participant outcomes and more accurate benefit-cost analyses. If there is interest in further exploration of treatment effectiveness or overall cost-savings of these and other unique substance abuse treatment programs, a coordinated effort to use state-level data to establish a comparable control group may be beneficial.

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Appendix

Benefit-cost approach and methods

Key informant interview questions

Benefit-cost approach and methods

This section of the Appendix contains details about the approach and methods used in the benefit-cost analysis done for the DFO Meth Program and Anoka ETP. Its purpose is to provide additional information about how the estimated costs and benefits, given in the main report, were calculated. Additional information on the following topics is included:

- An overview to the benefit-cost approach used, including definitions of key terms;
- A description of the assumptions made and methods used to calculate program costs;
- Detailed descriptions of the monetization methods used to estimate the monetary values of key taxpayer and societal benefits; and
- Identification of outcome data needed to conduct a full benefit-cost analysis in the future.

The benefit-cost approach

This report includes a prospective benefit-cost analysis for two programs providing comprehensive treatment and recovery services to individuals overcoming addictions to methamphetamine and other stimulants. Previous research from both programs (the DFO Meth Program and Anoka ETP) have described the approach they have taken to provide effective services to participants, and how those strategies have resulted in reductions in drug use and improvements in housing stability and employment among individuals who complete the treatment program. Benefit-cost analysis is a method used to answer whether the gains of the program outweigh the costs of its implementation. While this can be a useful question to consider, it usually requires a significant amount of data collection that may be difficult for a program to extract or gather if information systems were not originally designed with these requirements in mind.

Key components of the benefit-cost design

Study design

Benefit-cost analyses are most credible, and therefore, most useful, if they are based on reliable outcomes data collected using a strong design method. Ideally, a randomized experimental design would be used to collect key outcome data from two or more treatment groups. This allows the analysis to take into account the effects of differences in participant background characteristics, such as age and gender, and also participants' desire for treatment, so that the effects of the program itself can be determined. When a randomized experimental study design cannot be used, due to practical considerations or

ethical concerns, it is important to consider how to incorporate a valid comparison group into an alternate study design.

Design and data requirements for a prospective benefit-cost analysis, like this one, are lower, but the results are also less accurate. Estimates of effect sizes are typically drawn from existing benefit-cost studies of similar programs. The range of these estimates and the differences between programs and populations adds to the uncertainty of prospective analysis.

To date, no comparable benefit-cost analysis has been published for a program that is entirely reflective of the participants enrolled in DFO and Anoka ETP or the treatment model used by either program. To address this limitation, this analysis uses reported results from a variety of other programs over varying time periods to estimate intermediate and long-term outcomes and prospective benefits.

As these programs mature, there will be an opportunity for a full benefit-cost analysis, using follow up data to estimate effect sizes. The necessary outcome data and design requirements for doing a full analysis of these programs are addressed in a later section of this appendix.

Key terms

A number of common terms used in this and other benefit-cost analyses are defined in this section in order to aid in accurately interpreting the estimates included in this report.

- **Baseline.** One of the key concepts in benefit-cost analysis is “baseline.” This refers to the scenario, or set of assumptions, that describes what would have occurred if treatment was not available. The costs and benefits of the treatment program are then measured as differences from the baseline. For example, the baseline for the DFO program assumes all potential participants would have costs associated with jail time due to offenses already committed, regardless of whether they participate in treatment. Because there is no difference between the baseline and treatment scenarios, this jail time is not included in the total program costs. On the other hand, successful completion of treatment has been shown to reduce the likelihood of further offenses. In this case, there is a difference between treatment and baseline and the difference in the amount of jail time that results from *further* offenses is considered a program benefit. The assumptions used to establish the baseline for both DFO and Anoka ETP are described in greater detail as program costs and benefits are defined.
- **Point of view.** Another key concept in benefit-cost analysis is “point-of-view.” Program costs and benefits can be calculated differently by considering their value to various stakeholders, including participants, their families, taxpayers, or society as a

whole. A single program outcome can result in benefits to more than one group. For example, when a program intervention leads to reductions in crime, taxpayers benefit from reductions in criminal justice system costs, while society also benefits from reductions in victim expenses. It would not be appropriate to count the benefits of reduced victim expenses for taxpayers, since taxpayers do not initially bear these costs.

Overall social benefits combine the benefits to all stakeholders, including program participants, their families, taxpayers, and the general public. This calculation is not, however, a simple sum of the benefits to each group because some outcomes create a benefit to one group and simultaneous loss to another. When this happens, the losses must be deducted from the overall sum of benefits to avoid double-counting. For example, although a reduction in the use of public programs is a benefit to taxpayers, there is no overall benefit to society because individual participants are also losing these services. This estimate includes benefit-cost calculations from two distinct points of view: taxpayers and society as a whole.

- **Economic costs.** The calculations used in benefit-cost analyses use “economic costs,” which differ from accounting costs in several ways. Economic costs assign values for any volunteer labor or donations that a program uses, which is not typically included in accounting costs. Economic costs do not differentiate costs according to the funding source used to pay for them as long as the funding sources are all in the same stakeholder group, though these differences are important in accounting. Whereas accounting costs are often calculated in aggregate (i.e., the total personnel costs of a particular program), economic costs use individual-level data whenever possible to estimate how costs are distributed across the client base. While accounting costs are often booked when they are paid, economic costs should be tied to the date the cost was incurred or the resources used. Accounting costs are typically reported in “current dollars,” that is 2006 results will be reported in 2006 dollars and 2007 results will be reported in 2007 dollars, with no adjustment for inflation. Economic costs are usually adjusted for inflation so that they can be more directly compared. Throughout the report, all economic costs are reported in 2007 dollars.
- **Effect size and monetizing outcomes.** To calculate program benefits, it is essential to know the “effect size,” how much outcomes change as a result of the intervention. Effect size may refer to a variety of outcomes, such as reductions in arrests, increased school attendance, or changes in key measures of health. However, the measure used to determine effect size must tie to something that can be “monetized,” meaning the monetary value of the changes can be estimated. For example, reduced arrests can be inferred to result from reduced criminal offenses, which lead to fewer incidents of victimization, fewer investigations, fewer criminal prosecutions, fewer hearings, and less jail time. A monetary value must be estimated for each of these changes.

Calculations in this analysis use units of participant-days to determine the average costs of services and program benefits for each day of treatment. This unit refers to the total number of days, intake to discharge, the individual is enrolled in the treatment program. It does not reflect the actual amount of service received by a participant on any particular treatment day.

- **Timeframe.** The timeframe used to determine program costs or benefits can have a significant impact on the final benefit-cost calculations. Program start-up costs may be considerably higher than the actual program costs that occur after the program has been fully implemented. So ideally, a timeframe for cost estimation should be chosen well after program start up. Similarly, actual program outcomes have been shown to vary considerably from year to year even for quite successful programs. Choosing a timeframe that does not accurately reflect the long-term changes in outcomes may lead to calculations that under- or over-estimate program benefits.

Methods used to estimate costs

It is important to know the assumptions and methods used to estimate program costs in order to compare these results to other programs or consider the accuracy of these estimates. A list of the costs considered in this analysis, the timeframe used to estimate program costs, and descriptions of the methods and assumptions used to calculate all cost estimates is included in this section.

Costs considered

In general, the following costs are included in the estimate for each program:

- treatment costs, whether by contract (DFO) or by employed counselors and contractors (Anoka ETP);
- health care and employment services costs paid by the program;
- administrative personnel, supplies, and travel costs paid by the program; and
- volunteer hours contributed to the program.

The costs related to pre-existing criminal investigation, arrest, or adjudication for DFO participants, as well as child protection investigation or hearings for Anoka ETP participants are not included as program costs. Although these expenses are real, they would have been incurred regardless of whether the individual participated in the treatment program. Therefore, they are also part of the baseline and are not included in this analysis.

Data limitations

Ideally, individual direct cost data would be used whenever possible to determine actual program expenses for all participants. This would allow for direct comparisons of program cost and benefits to be calculated for the same cohort of participants and provide opportunities to measure the distribution of individual costs. Similar to results found in studies of health care utilization, a recent evaluation of the Substance Abuse and Crime Prevention Act (SACPA) program found that a small number of offenders were responsible for a disproportionate share of crime costs, up to ten times higher than those of the median participant (Hawken, et al., 2007). Although this pattern may also be present among participants enrolled in the DFO and Anoka ETP programs, these calculations could not be made due to a lack of individual-level data. Instead, the costs included in this analysis refer to the average cost per participant.

In a full benefit-cost analysis, the timeframe for estimating costs is important and should be related to the timeframe for estimating benefits. Ideally, costs and benefits are calculated for the same participant cohort. For example, if an outcome of interest is recidivism over a two-year period, cost data from the participant group who completed treatment two years earlier would be used. In the current analysis, the window used to estimate program costs was at least one year long and avoided the program startup period as much as possible. Given the short history of the two programs and the changes they have made to improve performance, it was not possible to fully eliminate or even estimate start-up costs as compared to an estimate of ongoing program costs. Since some start-up costs have been included in the analysis, the program cost estimates are likely to be somewhat higher than the ongoing program operating costs. In addition, these estimates are based on preliminary reports by both programs, which may change as more data become available.

The compilation of cost data is further complicated by the fact that not all participants are successful graduates of the programs and additional costs are incurred by those that leave treatment prior to completion. For example, additional jail time costs must be included for DFO participants who break their probation by discontinuing treatment. Finally, because successful program graduates spend a longer period of time in the program compared to those who drop out of the program early, the completion rates reported by both programs likely underestimate the actual percentage of program participants who successfully complete treatment. To minimize this type of error, completion rates were estimated for a time that would allow all participants to complete their treatment. For example, to be included in the estimate of the Anoka completion rate, a participant had to start the program before October, 2006. As a result, the timeframe used to calculate the

completion rate begins prior to the timeframe used to collect cost data and there is overlap between these two data collection periods.

Costs for DFO Meth Program

The DFO Meth Program is comprised of three unique treatment components, a jail based-program (Crossroads) and gender-specific outpatient services for men (Odyssey) and women (Journey). The DFO program estimates refer to the combined costs of these three treatment components.

Although there is some indication that completing the outpatient treatment program may, for some participants, shorten the probation period they would otherwise experience, no data were available to indicate how many participants this affects or how much probation time is saved. Therefore, we assume that the probation period and intensity of oversight during probation are the same for the baseline and treatment cases. To the extent that participants' probation period is shorter than baseline, this assumption overestimates costs. Similarly, costs are underestimated to the extent that participants' intensity of oversight is greater than baseline.

The baseline also includes prison time for some of the participants had there not been the DFO treatment program. This avoided cost of reduced prison time is included as a benefit to taxpayers in the analysis. The baseline does not include treatment services in jail or in the community, nor does it include any of the additional health or employment services that the DFO program currently provides. However, it is unlikely that this assumption is completely accurate. To the extent that potential participants would have received some treatment services and other supports even without the program, the analysis overestimates the actual cost differences of the treatment program.

Costs for the DFO program were not consistently available as site-specific data, which led to some problems when considering the most appropriate timeline for the study. The 2007 calendar year was used as the timeframe in this analysis. However, Journey, the women's outpatient program, began in April 2007. Although it would have been ideal to eliminate the Journey start-up period from the analysis, this would have resulted in reducing the period used for analysis to less than one year. Because some start-up costs for Journey are included in the analysis, it is likely that the ongoing operating costs will be somewhat lower than estimated. This effect is mitigated by the fact that Journey has a substantially smaller program population than Odyssey.

All three sites were included in the cost estimate for the DFO program. The total economic costs for calendar year 2007 are estimated to be \$266,806 (Figure A1). When estimating the duration of the program, the total treatment length combined the time spent

in the jail-based program and relevant community-based site. The total participant-days of treatment were estimated to be 17,639. The estimated average cost per participant-day was \$15.13 for the combined DFO program. The average treatment duration for successful program graduates was about 380 days, while the average duration for participants who ended treatment early was about 85 days. Using these estimates, services for each successful graduate cost about \$5,752, and the cost for each unsuccessful treatment participant was approximately \$1,291. Overall, the average cost per DFO participant during the 2007 calendar year was \$3,555.

Costs for Anoka ETP

The baseline for Anoka ETP assumes no similar treatment services would be used by participants if the program was not available. To the extent that individuals in similar situations to Anoka ETP participants seek out other publicly-funded treatment and recovery services, this assumption overestimates the cost difference between program participation and baseline.

After reviewing accounting data for the Anoka program, the 2007 fiscal year (July 2006 – June 2007) was determined to provide the best estimate of overall and individual costs. This time period minimizes the startup costs that would otherwise overestimate true program costs.

The data used to estimate the program completion rate and subsequent individual costs includes participants who were eligible to complete the 12-month program by the end of September 2007. During this timeframe, 12 of 24 eligible participants (50%) successfully completed the program. This timeframe reflects the longest period where accurate data were available. Unfortunately, it does include some early participants whose chances of successful completion may have not have been the same as later participants. During the 2007 fiscal year, the total economic costs were estimated to be \$228,187, and the total participant-days counted during the same time period were 7,422 (Figure A1). Based on these estimates, the average cost per participant-day was \$30.74. Participants who successfully completed the program spent an average of 370 days in the program, while those who did not complete the program spent an average of 105 days in the program. The estimated average cost for each successful program graduate was \$11,375, while the cost for each non-graduate averaged \$3,228. The overall estimated average cost per Anoka ETP participant in FY 2007 was estimated to be \$7,638.

A1. Cost estimates for DFO combined program and Anoka ETP

	DFO¹	Anoka²
Total program cost	\$266,806	\$228,187
Total participant-days ³	17,639	7,422
Cost per participant-day ⁴	\$15.13	\$30.74
Average duration of participation ⁴	235 days	248 days
Average cost per participant	\$3,555	\$7,638

Sources: Anoka program data, DFO program data, and Wilder Research calculations.

¹ Cost estimates are based on data from calendar year 2007, except average duration.

² Cost estimates are based on data from July 2006 through June 2007, FY 2007, except average duration.

³ A participant-day is any day that a participant is between intake and discharge. It does not mean that services were used on that day. For example, if two participants were in the program for the entire month of May, 62 participant-days would be counted.

⁴ The estimate includes all program participants regardless of whether they successfully completed the program at discharge.

Methods used to estimate prospective benefits

The prospective benefits estimated in this report reflect the monetary value of benefits each program might expect if they achieve similar results to those reported by other effective treatment programs around the county. To do this, a framework has been developed that includes a list of benefits to consider and monetization methods for each area of benefit. This framework is not only useful for the current analysis, but should also aid in future benefit-cost evaluations of these programs. This section includes a description of the benefits identified for each program and the rationale for their inclusion in the analysis, a comprehensive description of the monetization methods used to estimate each benefit, and the estimated value of prospective benefits per participant of each program.

Benefits considered

Benefits are considered from two points of view in this analysis: benefits to direct taxpayers and benefits to society as a whole. The benefits identified for both treatment programs, and the rationale for their inclusion are identified below.

Benefits to taxpayers

- **Reduced criminal justice system costs from fewer further offenses.** Lower recidivism rates should result in lower costs for processing new cases and incarcerating repeat offenders.
- **Reduced corrections system costs from less incarceration for current offenses.** When treatment and probation are substituted for prison, the averted net costs are a benefit to the taxpayers.
- **Reduced social assistance costs resulting from increased financial self-sufficiency.** Reducing substance abuse increases the likelihood of employment and increases the wages received. There will be less use of public programs by successful program graduates and their families, including fewer periods and shorter stays on MFIP, Medicaid, and food stamps.
- **Reduced child protection costs from increased family stability and increased financial self-sufficiency.** Reducing the number of child protection cases should lead to fewer cases opened, fewer hearings, and fewer out-of-home placements, all of which incur costs for taxpayers.
- **Increased taxes paid due to increased financial self-sufficiency.** Increased employment and higher wages lead to higher taxes – a benefit to other taxpayers as the participant begins to share this burden.

Benefits to society

Benefits to society include all the benefits to taxpayers plus:

- **Reduced victimization costs for persons affected by crimes due to fewer further offenses.** Fewer people are victimized as a result of reduced criminal activity among program graduates.
- **Increased disposable income for program graduates from improved employment outcomes.** Reducing substance abuse increases the likelihood of employment and increases the wages received.
- **Improved physical and mental health outcomes for program graduates and their families due to reduced substance abuse and increased self-sufficiency.** The net decrease in health care costs is a benefit to participants when they would pay these costs. Net changes are sometimes negative – that is, after treatment participants may

spend more on health care than non-participants as they attend to health issues that have been neglected.

- **Decreased “unpaid” emergency care in community medical facilities due to improved self-sufficiency, increased stability, and improved health.** Reducing substance abuse, increasing self-sufficiency, and substituting preventive and non-emergency health care reduces uncompensated emergency care costs on medical facilities.

A savings to one group can also be a cost to another, so caution is needed when totaling the overall social benefits. For example, when all benefits to society are estimated, the savings to taxpayers from reduced social assistance is a cost to participants who no longer receive (as much) social assistance. In this case, to avoid double-counting, the amount of benefit to society is reduced by the amount of savings to taxpayers from reduced social assistance. It is useful to consider the taxpayer perspective and the overall social perspective, but the net benefits cannot be calculated simply by reporting a sum of all individual areas of benefit.

Monetization methods

Usually, several measures are available to estimate the monetary value for each benefit area. For example, when reduced child protection costs are considered, two possible measures that result in different amounts of benefit are: (1) each averted case of child abuse and neglect opened for investigation by Child Protective Services, or (2) each averted case of out-of-home placement by Child Protective Services. In this section, one or more measures, and their associated monetary values, are identified in each benefit area. The research supporting each value estimate is also identified.

Reduced criminal justice costs

By reducing further criminal activity, the costs to taxpayers of future investigations, arrests, detentions, adjudications, and sentences will be averted. The cost of processing and holding an offender through adjudication varies somewhat by the type of offense (Bhati, Roman, and Chalfin, 2006), which is reflected in this analysis (Figure A2). The Minnesota Department of Corrections (2007) estimated per diem cost of \$89.13 was used to determine the cost of one year of prison.

A2. Monetary value of reduced criminal justice costs from reduced further crime

Type of benefit or averted cost	Value
1 fewer arrest for drug offense or DUI ¹	\$7,300
1 fewer arrest for property crime ¹	\$4,500
1 fewer arrest for violent crime ¹	\$9,200
1 county jail term (avg. 128 days) ²	\$9,600
1 year of prison ²	\$32,500
1 year of probation	\$1,500

Sources: Bhati, Roman, and Chalfin (2008), pp 41-4; MN DOC (2007), p. 16; Finigan et al. (2006), Table 15; and Wilder Research calculations.

Notes: All values are reported in 2007 dollars.

¹ Includes estimated average cost of investigation, arrest, detention, and adjudication.

² Includes estimated average cost of facility operations, health care, and indirect administration. Does not include capital costs.

Reduced correction system costs

In situations where participants would have been sentenced to prison time for their current offense, but were instead able to participate in treatment and probation, the prison costs are averted. In this analysis, this averted prison time is considered a benefit of the program. After subtracting the cost of probation from the cost of prison, a net benefit of \$31,000 was calculated for one year (Figure A3).

A3. Monetary value of reduced correction system costs from less incarceration crime

Type of benefit or averted cost	Value ¹
1 year of prison ¹	\$32,500
1 year of probation	\$1,500
1 year of probation in lieu of prison	\$31,000

Sources: MN DOC (2007), p. 16; Finigan et al. (2006), Table 1; and Wilder Research calculations.

Notes: All values are reported in 2007 dollars.

¹ Includes estimated average cost of facility operations, health care, and indirect administration. Does not include capital costs.

Reduced social assistance costs

Estimates of average MFIP and Child Care Assistance costs are based on the stated average assistance paid per case in July 2007 according to the MN Department of Human Services (2008). The MN Care average cost is based on 2007 total average (less enrollee premiums) and the Food Support cost is based on 2007 monthly average issuance, again from MN DHS (2008). The costs for administration or case workers are not included. The estimate of reduced use of general assistance medical programs is based on Wickizer et al. (2006) and includes an effect size in the estimate (Figure A4).

A4. Monetary value of reduced social assistance costs due to increased financial self-sufficiency

Type of benefit or averted cost	Value
1 year of MFIP plus DWP (per case)	\$7,100
1 year of MN Child Care Assistance	\$5,900
Reduced GA medical costs	\$3,000
1 year of MN Care	\$3,400
1 year of Food Support	\$2,400

Sources: MN DHS (2008), Tables 1, 10, 17, and 20b; Wickizer et al. (2006); and Wilder Research calculations.

Note: All values are reported in 2007 dollars.

Reduced child protection costs

Lee, Aos, and Miller (2008) estimated the costs of child protection cases in Washington State when they reviewed efforts to prevent children from entering and remaining in the child welfare system. They also estimated the combined effect size and monetary value of reduced child protection involvement for a family drug court program, which is similar to the Anoka ETP and DFO programs. These estimates are used to determine the anticipated reductions in child protection expenses, assuming the program costs of DFO and Anoka ETP are similar (Figure A5).

A5. Monetary value of reduced child protection costs due to increased family stability

Type of benefit or averted cost	Value
1 opened child protection case of child abuse or neglect ¹	\$5,200
1 case of out-of-home placement by child protective services ²	\$27,900
Reduced lifetime taxpayer costs of child abuse and neglect due to family drug court program ³	\$1,700

Sources: Lee, Aos, and Miller (2008), Exhibit 3 and Exhibit B1, and Wilder Research calculations.

Notes: All values are reported in 2007 dollars.

¹ Includes cost of investigation, supervision, police involvement, hearings, and short-term protective custody, but not health care.

² Includes cost of investigation, supervision, police involvement, hearings, short-term protective custody and adoption support services.

³ Per participant benefit including effect size estimate.

Increased taxes paid

The monetary value of additional taxes paid by participants as a result of increased financial self-sufficiency is simply the dollar estimate of those additional taxes. The income effects using the annual wages of the most demanded occupations that require “short-term on-the-job” training were estimated for the Southeast Minnesota region (MN DEED, 2008), as described in the section on increased disposable income below. The average total tax rate (including federal income, state income, and state and local sales taxes) was then applied to calculate the resulting tax burden (Figure A6).

This is a benefit to other taxpayers, though obviously not to the participants. For this reason, the benefit of additional income to participants includes only *disposable* income, that is, income after taxes.

A6. Monetary value of increased taxes paid from increased financial self-sufficiency

Type of benefit or averted cost	Value
1 year of new full-time employment	\$17,140
Estimated tax burden on 1 year of new full-time employment	\$5,280
1 year of additional earnings due to treatment	\$1,740
Estimated tax burden on 1 year of additional earnings	\$540

Sources: Goldklang et al. (2003); Aos et al. (2006), Exhibits B.3 and B.4; MN DEED (2008); Tax Foundation (2008); and Wilder Research calculations.

Note: All values are reported in 2007 dollars.

Reduced victim costs

Although the victim costs associated with crimes that treatment participants committed prior to entering treatment cannot be averted, when future criminal activity is reduced, there are fewer victims and a reduction in victim-related costs. It is important to remember that many crimes are not reported, and arrest rates are low for many types of crime. These factors must be taken into account when estimating averted victim costs from arrest data. The estimated value of victim costs, including tangible and intangible costs, varies considerably by type of offense (Figure A7).

A7. Monetary value of reduced victim costs due to fewer further offenses

Type of benefit or averted cost	Value
1 less violent crime incident	\$112,000
1 less property crime incident	\$900
1 less drug crime incident	\$30
1 less other crime incident	\$400

Sources: *McCollister (2004); Bhati, Roman, and Chalfin (2008); and Wilder Research calculations.*

Note: *All values are reported in 2007 dollars.*

Increased disposable income

The estimated value of one year of full-time employment is based on the highest demand occupations in “Occupations in Demand” for the Southeast region of Minnesota which require only “short-term on-the-job training” (MN DEED, 2008). The estimated average annual wage was reduced to account for taxes using an overall tax rate of 30.8 percent based on the analysis of the Tax Foundation (2008). This includes the effect of federal income taxes, state income taxes, and state and local sales taxes. Additional earnings when employed were estimated using results from Aos et al. (2006) and Goldklang et al. (2003).

The estimate of additional full-time employment was used for participants who went from unemployed to fully employed (30 hours per week or more). The estimate of additional earnings was used for participants who were employed prior to treatment.

This method to value full-time employment probably underestimates income since many participants have higher educational attainment and at least some job experience. However, because most participants have poor recent employment histories, the expected benefit was not increased to reflect employment beyond entry-level (Figure A8).

A8. Monetary value of increased disposable income from increased financial self-sufficiency

Type of benefit or averted cost	Value
1 year of full-time employment	\$17,140
Net disposable income from 1 year of full-time employment	\$11,900
1 year of additional earnings due to treatment	\$1,740
Net disposable income from 1 year of additional earnings	\$1,200

Sources: Goldklang et al. (2003); Aos et al. (2006), Exhibits B.3 and B.4; MN DEED (2008); Tax Foundation (2008); and Wilder Research calculations.

Note: All values are reported in 2007 dollars.

Improved physical and mental health

Ettner et al. (2006) studied the use of hospitals and mental health services (among other things) by participants prior to treatment and post-treatment. Using statistical techniques to remove co-incident factors, this work finds a net decrease of about \$220 per participant per year due to treatment. The current analysis assumes that effect sizes and averted costs would be similar among Minnesota participants.

The greatest portion of mental health costs that occur when there is child abuse or neglect are paid from private funds. Two estimates of potential benefit, both from the work of Lee, Aos, and Miller (2008), are used to monetize these benefits. One is simply the expected present value of the privately-paid lifetime mental health care costs to participants and their children from one case of child abuse and neglect. The other comes from study of evidence-based family drug courts and includes the program effect size. Clearly, the effect size of these programs was not very high. While the family drug court model is quite different from either the DFO or Anoka ETP program, it provides a benchmark for estimation (Figure A9).

A9. Monetary value of improved physical and mental health

Type of benefit or averted cost	Value
1 year of reduced hospital nights and reduced inpatient and outpatient mental health services ¹	\$220
1 case of child abuse and neglect – victim private mental health costs ²	\$34,200
Reduced lifetime costs to participants and non-taxpayers from averted child abuse and neglect due to drug court program ³	\$1,100

Sources: Lee, Aos, and Miller (2008), Exhibit 3 and Exhibit B.1; Ettner et al. (2006), Table 2; and Wilder Research calculations.

Notes: All values are reported in 2007 dollars.

¹ Expected average annual reduction per treatment participant – includes effect size.

² Expected present value of the lifetime costs of one case.

³ Expected present value of the lifetime cost reduction per treatment participant – includes effect size.

Decreased “unpaid” emergency medical care

It is hard to estimate the burden on emergency medical facilities due to drug abuse. This burden is due, in part, to the immediate consequences of drug abuse, such as physical accidents and overdoses. However, emergency costs can also occur when delayed medical care leads to more severe health problems. When participants lack insurance coverage, this cost burden falls on taxpayers and private hospitals.

Ettner et al. (2006) estimated the saved emergency room visits among treatment participants in California. These values were updated to reflect 2007 dollars and the estimate below assumes the effect size and cost saved would be similar in Minnesota (Figure A10).

A10. Monetary value of decreased “unpaid” emergency medical care

Type of benefit or averted cost	Value
1 year of reduced emergency room visits ¹	\$140

Sources: Ettner et al. (2006) and Wilder Research calculations.

Notes: All values are reported in 2007 dollars.

¹ Expected average annual reduction due to treatment – includes effect size.

Benefits not monetized

School success is an area of potential benefit that was not included in these monetary estimates. Larson (2006) and Larson and Jeffreys (2006) explored the high school graduation consequences of teen involvement with child protective services in Minnesota, and Day and Newburger (2002) estimates of the present value of the difference in lifetime earnings between high school graduates and non-graduates (Figure A11). These results were not used, since neither program collected information about the effect of drug abuse treatment on future school success of children of participants, such as days of school missed or school moves. However, this could be an area of substantial benefit.

A11. Monetary value of increased school success

Type of benefit or averted cost	Value
Overall graduations rate of Minnesota teens	80%
Graduation rate of Minnesota teens with contact with CPS within 30 months of senior year	47%
Difference in expected lifetime earnings between high school graduates and non-graduates	\$248,000

Sources: Larson and Jeffreys (2006); Larson (2006); Day and Newburger (2002); Lee, Aos, and Miller (2008), Exhibit 3; and Wilder Research calculations.

Note: All values are reported in 2007 dollars.

No attempt was made to monetize the intangible benefits to participants or their families due to improved quality of life or increased self-esteem. There is anecdotal evidence from participants and program personnel that these benefits may be quite large. But neither program has well-developed evidence that would allow for quantifying this type of benefit and research in this area does not yet support a well-accepted monetary valuation of it either.

Estimated benefits

The benefit estimates for the DFO Meth Program and Anoka ETP were developed by synthesizing the monetized benefits above and using estimates of prospective effect sizes from the literature on other programs. These estimates are used to calculate net benefits and benefit-cost ratios. Because these are prospective estimates and reliable information on the actual long-term effect sizes is not available, low and high levels of prospective benefits are calculated based on available effect sizes in published reports and discounted preliminary measures of effects. This yields a range estimate, rather than a point estimate, and more accurately reflects the uncertainty involved in these calculations.

There are systematic differences between the two programs that were taken into account in these estimates. For example, all DFO participants had criminal justice involvement, and were therefore all included in calculations to estimate benefits resulting from fewer further offenses, reduced corrections costs, and fewer incidents involving further victimizations. Overall, the prospective benefits in these areas are higher than the benefits for Anoka ETP because fewer Anoka participants had prior or current criminal justice involvement. Similarly, most DFO participants do not have custody of minor children. This has impact on social assistance costs, child welfare costs, and the private costs of child abuse and neglect. Overall, the prospective benefits in these areas are higher for Anoka ETP participants.

Taxpayer benefits

The prospective taxpayer benefits due to the DFO program are estimated to range from \$5,721 to \$14,370 per participant (Figure A12), and the benefits per participant from the Anoka program to be between \$8,452 and \$16,887 (Figure A13).

A12. Estimated benefits to taxpayers from the DFO combined program

Benefit type	Low estimate¹	High estimate¹
Reduced criminal justice system costs	\$2,223	\$2,552
Reduced corrections system costs	\$0	\$4,229
Reduced social assistance costs	\$1,975	\$3,950
Reduced child protection costs	\$336	\$1,161
Increased taxes paid	\$1,187	\$2,477
Total taxpayer benefits	\$5,721	\$14,370

Source: Wilder Research calculations.

Note: All values are reported in 2007 dollars.

A13. Estimated benefits to taxpayers from the Anoka ETP

Benefit type	Low estimate	High estimate
Reduced criminal justice system costs	\$1,446	\$1,660
Reduced corrections system costs	\$0	\$1,170
Reduced social assistance costs	\$3,598	\$4,342
Reduced child protection costs	\$1,913	\$6,614
Increased taxes paid	\$1,495	\$3,101
Total taxpayer benefits	\$8,452	\$16,887

Source: Wilder Research calculations.

Note: All values are reported in 2007 dollars.

Details of the calculations used to develop these estimates are described below:

- **Reduced criminal justice costs.** Estimated reductions in re-arrest rates for treatment participants are based on the work of the Washington State Institute for Public Policy, which reports reductions in re-arrest rates ranging between 10.8 and 12.4 percent. The associated criminal justice costs were weighted using the distribution of the types of offenses participants had been convicted of in the past. Whereas all DFO participants were involved in the criminal justice system prior to treatment, less than three-quarters (71%) of Anoka participants had prior criminal involvement. The estimate assumes those without a criminal history prior to treatment would not become involved in the criminal justice system in the future.
- **Reduced correction system costs.** Based on discussions with corrections administrators, an estimated 13 percent of participants who went into either program would have gone on to prison if not for the program. The high estimate includes this percentage, while zero is used for the low estimate. The estimated savings are comparable with estimates of \$1,392 by Finigan, Carey, and Cox (2007) for a drug court population and \$827 by Ettner et al. (2006) for a general treatment-eligible population.
- **Reduced social assistance costs.** Data on social assistance use was not readily available for DFO participants, so a proxy, the difference in employment rates between intake and discharge, was used and discounted by 50 percent. To the extent that participants do become employed full time, they will likely no longer be eligible for much of the assistance they were before. Also, since most of Minnesota's social assistance is provided to families, the estimate assumes that only participants with families would have been eligible for these services before treatment. As a result, the benefits from reduced social assistance costs for DFO participants were estimated in a range between \$1,975 and \$3,950.

For Anoka ETP, the difference between intake and discharge frequency of use of the Minnesota Family Investment Program (MFIP) and Displaced Worker Program (DWP), indicated a decrease in the use of social assistance. For the low estimate, the difference for all participants was discounted by 20 percent. For the high estimate, the difference for those who successfully completed the program was discounted by 50 percent. Based on the estimated cost of MFIP plus DWP over two years, a range of benefits from \$1,830 to \$2,570 was estimated. Similarly, the difference in the use of medical assistance between intake and discharge was used to derive a benefit of \$2,186 over two years. Food stamp usage increased overall between intake and discharge when all participants were included. This increase enters the estimate as a negative benefit to taxpayers of -\$416, based on average food stamp issuance cost of

\$4,680 for two years. There was not enough data available regarding changes in MN Care usage or MN Child Care Assistance. The estimate assumes that participants would continue to use these programs as they had, so there would be no benefit. The total result is an estimated benefit of \$3,598 to \$4,342. The results from both programs are comparable to an estimated \$3,000 benefit by Wickizer et al. (2006) for reduced general assistance medical costs only.

- **Reduced child protection costs.** The cost of child protection services can be very high, ranging from investigation to permanent out-of-home child placement, but the extent to which future re-involvement is averted by successful program completion is uncertain. Preliminary outcomes are encouraging – all but one of the cases involving Anoka ETP participants who completed successfully to date have been resolved without permanent out-of-home placement. Reflecting the preliminary nature of these results, the calculations assume that the likelihood of out-of-home placement for an existing case is reduced by 5 percent at the low end and 20 percent at the high end. Similarly, the likelihood of future re-involvement leading to an investigation is assumed to be reduced by 10 percent at the low end and 20 percent at the high end for those successfully completing the program. No benefit is assumed for those not successfully completing. For the Anoka ETP program, these assumptions translate to \$1,913 to \$6,614 in average benefits per participant.

According to DFO program data, just under half (48%) of participants have families, and 37 percent of the DFO participants with children are involved with child protective services. Using these data along with the same relative effectiveness estimates used with Anoka ETP and the monetization data already described, estimated benefits from reduced child protection costs are \$336 to \$1,161.

- **Increased taxes paid.** Estimated benefits from increased taxes paid is based on an estimate of increased employment and wages (discounted by 50% for the high estimate, and discounted again by 50% for the low estimate to reflect uncertainty about continued employment) together with an overall tax rate from the Tax Foundation of 30.8 percent. Data from MN DEED using the occupations most in demand requiring only “short-term on-the-job training” were used to estimate earnings from new full time employment. The findings of Aos, Mayfield, Miller, and Yen (2006) were used to estimate increased wages for those who remain employed throughout treatment. Overall, the average increase in taxes paid is estimated to be in a range of \$1,187 to \$2,477 per DFO participant and \$1,495 to \$3,101 for each Anoka ETP participant.

Estimated benefits to society

Total benefits to society include taxpayer benefits and benefits to all other members of society. However, calculating the total benefits to society is not as simple as taking the sum of benefits to everyone. The benefits to society outside of taxpayers is first calculated. Then, to avoid double counting, the overlap of positive and negative benefits due to reduced social assistance to participants is removed. The resulting total social benefits, including taxpayer benefits, are estimated to range from \$10,918 to \$22,145 per DFO participant (Figure A14), and \$12,398 to \$29,203 per Anoka ETP participant (Figure A15).

A14. Estimated benefits to society from the DFO combined program

Benefit type	Low estimate	High estimate
Reduced victim costs due to fewer further offenses	\$3,491	\$4,244
Increased disposable income	\$2,666	\$5,566
Improved physical and mental health	\$739	\$1,639
Decreased "unpaid" emergency medical care	\$277	\$277
Subtotal social benefits	\$7,173	\$11,725
Total taxpayer benefits	\$5,721	\$14,370
Less overlap of social and taxpayer benefits¹	\$(1,975)	\$(3,950)
Total social benefits	\$10,918	\$22,145

Source: Wilder Research calculations

Notes: ¹ The savings to taxpayers from lower social assistance use by participants is also a loss to participants. To take this into account, we need to reduce the overall social benefit by this amount.

All results are reported in 2007 dollars.

A15. Estimated benefits to society from the Anoka ETP

Benefit type	Low estimate	High estimate
Reduced victim costs due to fewer further offenses	\$1,761	\$2,141
Increased disposable income	\$3,359	\$6,966
Improved physical and mental health	\$2,148	\$7,274
Decreased "unpaid" emergency medical care	\$277	\$277
Subtotal social benefits	\$7,545	\$16,658
Total taxpayer benefits	\$8,452	\$16,887
Less overlap of social and taxpayer benefits¹	\$(3,598)	\$(4,342)
Total social benefits	\$12,398	\$29,203

Source: *Wilder Research calculations*

Notes: ¹ *The savings to taxpayers from lower social assistance use by participants is also a loss to participants. To take this into account, we need to reduce the overall social benefit by this amount.*

All results are reported in 2007 dollars.

Specific results in the literature and assumptions used to calculate these prospective benefits are described below:

- **Reduced victim costs.** To estimate the reduction in victims from fewer further offenses, the estimate described above for reduced further arrests by type of offense was used. Then these results were modified to calculate the average number of incidents per arrest using data collected in the Sourcebook of Criminal Justice Statistics (2007) on the likelihood of report of an incident and the likelihood of arrest given a report. Data reported in Bhati, Roman, and Chalfin (2008) were used for drug crimes, as these are not reported in the Sourcebook. The results of these calculations were 3.9 incidents of violent offenses per arrest, 14 incidents of property offenses per arrest, and 200 incidents of drug offenses per arrest. Using the average estimates of victim costs by type of offense reported above, the reduced victim costs due to fewer further offenses range from \$3,491 to \$4,244 for DFO participants and \$1,761 to \$2,141 for Anoka ETP participants.
- **Increased disposable income.** As described in the estimate for increased taxes paid, the potential increase in disposable income was estimated based on the likelihood of returning to full-time employment (for those unemployed at intake) and the increase in wages for those who remain employed. The estimated increase in taxes paid was deducted from this amount to estimate increased disposable income, \$2,666 to \$5,566

for DFO participants and \$3,359 to \$6,966 for Anoka ETP participants. No attempt to estimate the value added to the employer, beyond wages paid, was made.

- **Improved physical and mental health.** The estimated benefits from increased physical and mental health of participants, are based on calculations from Ettner et al. (2006) of reduced hospital stays and inpatient and outpatient mental health visits, updated to 2007 dollars and assumed to last two years.

There may also be a benefit to families of participants since the reduced likelihood of re-involvement with child protection may reflect reduced further child abuse and neglect, reducing future private mental health costs. The same uncertainty about the likelihood of re-involvement is also in the uncertainty about these reduced costs, while the monetization is based on the present value of lifetime loss estimated by Lee, Aos, and Miller (2008).

Due mostly to the uncertainty about averted future mental health costs, the benefits from improved physical and mental health are estimated to be between \$739 and \$1,639 per DFO participant and \$2,148 and \$7,274 per Anoka ETP participant.

- **Decreased emergency health care.** The estimated benefit of reduced, uncompensated emergency room visits, \$277 for DFO and Anoka ETP, was based on calculations from Ettner et al. (2006), updated to reflect 2007 dollars, and anticipated to last only two years.

Outcomes data needed for full analysis

Because of limitations of the data, mainly arising from the short time the Anoka and DFO programs have been in existence, it was not possible to complete a full benefit-cost analysis. While a full benefit-cost analysis is not necessary for every program, data organization and collection ahead of time will make the analysis easier, more accurate, and less costly. With this in mind, important types of outcome data and potential sources needed to complete a full benefit-cost analysis were identified for each area of benefits (Figures A16, A17).

A16. Benefits to taxpayers, possible measures, and potential data sources

Benefit to taxpayers	Possible measures	Potential data sources
Reduced criminal justice system costs	Number of arrests, convictions by offense type	MN DOC databases
Reduced corrections system costs	Length of actual prison term or estimate based on type of charge convicted	MN DOC databases
Reduced social assistance costs	Number of MFIP and DWS cases Length of time on MFIP Payments received Number of MNCare participants Number of Medicaid participants	MN DHS databases
Reduced child welfare costs	Number of reports investigated Number of out-of-home placements	County child protection
Increased taxes paid	Number of weeks worked Wage data by quarter Tax rates by income level	MN DEED MN Department of Revenue

A17. Benefits to society, possible measures, and potential data sources

Benefits to society at large	Possible measures	Potential data sources
Reduced victim costs due to fewer further offenses	Number of arrests by offense type (Estimated crime incidents without report or arrest by offense type.)	MN DOC database
Increased disposable income	Number of weeks worked Wage data by quarter Tax rates by income level	MN DEED database MN Department of Revenue
Improved physical and mental health	Physical health status Mental health status Quality of life indicators	self-report
Decreased "unpaid" emergency medical care	Number of trips to urgent care and ER	self-report
Increased school success	Number of missed school days Number of children held back in school Number of school moves within a school year Number of children graduating	MDE records self-report

The crucial idea is to try to measure the effect of treatment, or the “effect size.” Data gathered to measure effect size vary by the type of benefit; for example, it is important to know how much additional income participants had in a period after treatment than before, or how many fewer arrests.

Much of the data already collected on intake and discharge forms is directly useful. Experience from other programs shows that arrest and conviction history, history of previous involvement with child protection services, previous treatment experience, age, and method of substance abuse can have an impact on treatment effectiveness. Therefore, the data already being collected provide a good basis for evaluating the immediate effects of treatment.

For measuring intermediate and long-term effects and to measure the persistence of benefits over time, follow-up data are required. In addition, for purposes of statistically estimating treatment effects, a comparison group is almost essential. Since it is important to separate the effect of treatment from the effects of other events and economic and demographic variables, the number of people in the participant group and in the comparison group needs to be large enough for valid statistical inference.

The process of gathering consent, gaining access to databases collected for other purposes, and matching the records in those databases to the participants in treatment and in comparison groups requires significant time and energy. One alternative is to survey people directly. This “self-reported” data has been shown in other cases to have biases from incomplete memories and reluctance to report embarrassing experiences. Where self-reporting is feasible and less expensive, work can be done to estimate the biases involved and correct for them somewhat. For some types of data, for example, quality of life, self-report may be the best source or the only available source.

On the other hand, while it can be a sensitive area for participants, accurate data on episodes of child protection investigations, out-of-home placements, family re-unifications, and closed cases for a period prior to treatment and a period after discharge are crucial for estimating reduced child protection costs. Reliable data probably depend on gaining consent and matching participants with records in county and state records.

Almost all of the intermediate and long-term outcome data collection options identified in this section above are not being collected by either program at this time. For the most part, this is due to lack of elapsed time since treatment – neither of these programs have a very large sample of graduates a year or more removed from treatment discharge. Other data gathering issues also need to be addressed, such as collecting individual-level cost data without putting added burdens on program and administrative staff. These are discussed in the recommendations section of the main report.

Finally, a cautionary note on measuring the effects of treatment comes from Finigan, Carey, and Cox (2007). Actual program outcomes have been shown to vary considerably, even from year to year in the same program and even for successful programs. The table below (Figure A18) shows 10 years of data on mean re-arrests of drug court treatment cohorts and control group cohorts. Notice that during the early years of the program and again in the middle of this span of data, there are years when no significant difference was measured. Had only these cohorts been used, the program's performance on this measure would have been poor. Yet, in the longer view, this program has been quite successful. So accurate assessment requires repeated measurement of outcomes and no single result should be regarded as definitive.

A18. Table from Finigan (2007): Mean number of re-arrests in the 5-year period from petition hearing year

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Comparison	5.3	5.8	4.9	5.0	5.2	5.5	6.3	7.9	6.8	5.4
Drug court participants	5.3	4.7	3.4	4.1	4.2	5.2	4.5	4.4	5.4	3.4
% Improvement	0%	18%	31%	18%	19%	5%	28%	45%	21%	37%
Significance	NS	NS	sig	sig	sig	NS	NS	sig	Sig	sig
N	317	903	828	742	1100	981	1212	1220	1335	722

Source: Finigan, Carey, & Cox (2007), p. 30

Key informant interview questions

1. What is your role in the operation of the (ETP/DFO) program? Do you work directly with participants?
2. How would you describe the program's philosophy on methamphetamine treatment?
3. From your professional perspective, what do you think are the most important elements of the (ETP/DFO) program and why?
4. In what ways are these elements similar to or different from the elements of treatment for other drugs beyond methamphetamine?
5. How is your organization/county division involved in (ETP/DFO)?
6. What are some of the ways that different sectors have worked together to ensure their policies are consistent with treatment goals?

7. Are there any cross-sector policy or practice mismatches that you are currently working on resolving to better support treatment goals?
8. What “tips for success” can you give me for cross-sectoral communications and the distribution of authority and responsibility in a collaborative program?
9. What are some of your “lessons learned” about the really important things that the different sectors have to completely agree on?
10. What are some of the real benefits of the program, not just to the people that reach sobriety, but to the county, the state, and society as a whole?