The National Rural Alcohol and Drug Abuse Network Awards for Excellence 2004

Submitted and Award-Winning Papers

TAP 28

Technical Assistance Publication Series

THE NATIONAL RURAL ALCOHOL AND DRUG ABUSE NETWORK AWARDS FOR EXCELLENCE 2004

Submitted and Award-Winning Papers

Technical Assistance Publication (TAP) Series

28

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
Center for Substance Abuse Treatment

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Acknowledgments

The content of this document was prepared for the Substance Abuse and Mental Health Services Administration (SAMHSA) by the American Institutes for Research (AIR) under contract number 270-00-6400, task order number 270-00-6403, with SAMHSA, U.S. Department of Health and Human Services (HHS). Hal Krause served as the Government Task Order Officer. The publication was formatted and prepared for publication by JBS International, Inc., under the Knowledge Application Program (KAP) contract number 270-04-7049 with SAMHSA, HHS. Christina Currier served as the Center for Substance Abuse Treatment Government Project Officer (GPO). Andrea Kopstein, Ph.D., M.P.H., served as the Deputy GPO.

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Citation

Cite individual paper and contributing author(s) as follows: Author list (Last name, First name). "Paper Title." In *The National Rural Alcohol and Drug Abuse Network Awards for Excellence 2004, Submitted and Award-Winning Papers*. Technical Assistance Publication (TAP) number 28. HHS Publication No. (SMA) 12-4183. Rockville, MD: Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment, 2006.

Originating Office

Division of State and Community Assistance, Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration, 1 Choke Cherry Road, Rockville, MD 20857.

HHS Publication No. (SMA) 12-4183
First printed 2006
Revised 2010 and 2012

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Foreword

The Center for Substance Abuse Treatment (CSAT) of the Substance Abuse and Mental Health Services Administration funded the Seventh Annual *Call for Papers/Awards for Excellence* 2004 competition hosted by the National Rural Alcohol and Drug Abuse Network (NRADAN). The Awards for Excellence program was initiated by the late Larry Monson, co-founder of NRADAN, who sought to recognize effective and innovative models of treatment and prevention services for rural populations. The Awards for Excellence publication seeks to promote and showcase research addressing the unique and special challenges of providing treatment services to individuals in rural and frontier areas who abuse substances and their families.

In response to the CSAT/NRADAN request for papers announcement, seven papers were submitted and subsequently reviewed by a panel of six experts on rural/frontier substance abuse treatment services and research. The top three papers were selected based on high panel ratings of award criteria, including (1) focus on salient issues identified in the Call for Papers (e.g., effective multiple agency rural partnerships; lower cost modalities that increase access), (2) innovative or responsive program approach, (3) potential for application and replication, and (4) clarity of writing and exposition.

The first, second, and third place papers were recognized at the Twentieth Annual National Rural Institute on Alcohol and Drug Abuse (NRIADA) held in Menomonie, Wisconsin, in June 2004. The winning authors presented highlights of their papers during a special session, and CSAT presented nominal cash awards, certificates, and award plaques to each researcher or research team at the Opening Plenary Session on June 14, 2004. This document contains the award-winning papers, as well as the other submitted papers.

The first place paper, "Creating and Sustaining an Adult Drug Court: Avoiding Burial in Grant's Tomb," describes the effectiveness of a self-funded drug court in Tulare County, California; lessons learned; and disadvantages and advantages of the self-funded approach.

The second place paper, "Empower for Recovery: An Innovative Approach To Assist Sustained Recovery in Rural Iowa," describes the effectiveness of a strength- and home-based substance abuse treatment and recovery support program in rural Iowa, as well as the challenges, problems, and solutions related to program implementation.

The third place paper, "Delivering a Maternal Substance Abuse Intervention Program Along the Rural Route," describes the development and effectiveness of an indicated-level substance abuse prevention program for lower income mothers living in rural Vermont, as well as the lessons learned and recommendations for improving implementation.

The other four submitted papers address demographic and treatment outcomes of individuals who abuse methamphetamine, faith-based and community reentry services, people in rural and very rural areas who use drugs, and an electronic version of the Addiction Severity Index (ASI).

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Creating and Sustaining an Adult Drug Court: Avoiding Burial in Grant's Tomb*

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Area of focus: Rural drug court and/or criminal justice programs that have demonstrated effectiveness in reducing recidivism and increased positive outcomes in key areas of life/personal adjustment.

Abstract

Drug Courts are effective at reducing criminal recidivism and motivating addicted people to embrace the recovery process. State and Federal grants have enabled jurisdictions to create and operate Drug Courts, which have been effective in reducing drug use and crime. However, when the grants expire, some Drug Courts close while others struggle to obtain funds for ongoing operation. The Tulare County, California, Adult Drug Court was created without grant funds and continues its operation without programmatic government support by using existing resources and requiring that participants pay the cost of treatment. Although this seemed implausible at the outset, experience has demonstrated that addicted people can and will pay the cost of their own treatment and graduate successfully from a Drug Court program.

The Court encourages success with rewards and imposes penalties only as necessary. Rewards are either donated by private individuals or groups or purchased at very little cost; these incentives are largely symbolic in nature but very effective. Centralized drug testing that is paid for by the participants has been implemented for uniformity and for consistent application to the entire population. Modifications were made to increase the efficacy of the program without additional cost to taxpayers. A 3-year outcome study showed that fewer than 5 percent of graduates were convicted of new drug offenses.

*This paper is written from Judge Roper's perspective, and much of the information presented is not in research or record but represents the judge's opinion based on personal experience. Statements that are not supported in the research literature, or otherwise documented, are referred to as conclusions or actions of "the Court," which refers to the Honorable Judge Roper and his Tulare County Adult Drug Court.

Self-funding a Drug Court program requires basic, no-frills treatment; wraparound services that could otherwise benefit participants may be absent. Other disadvantages include reduced training, no home visits, and dependence on treatment personnel to perform case management. These drawbacks are offset by public support for a self-sustaining program and freedom from worry about sources of future funding. Participants show a high degree of investment in their recovery. Any jurisdiction, no matter how poorly funded, can establish and operate an effective self-funded Drug Court.

Introduction

The success and benefits of a specialized court process for nonviolent, drug-addicted offenders are well documented and widely known. Numerous studies (Belenko, 2001; Hora, Schma, & Rosenthal, 1999; Lessenger, Lessenger, & Lessenger, 1999) have shown that when such offenders are incarcerated after conviction, recidivism is the norm rather than the exception. According to a U.S. Department of Justice study, in 1983 50.47 percent of drug offenders were rearrested for a new offense within 3 years of release from custody. By 1994 that number had grown to 66.7 percent (Langan & Levin, 2002, p. 11). As drug arrests and convictions increased more than 10 times between 1980 and 1996, penal facilities have exceeded maximum-designed capacity. (See figures 1 and 2.) Continuing budget constraints have made construction of new jails and prisons difficult, while the advisability of constructing them has been actively debated. An increasingly strong voice contends that the policy of incarcerating addicted people is not only unacceptably costly but is also poor social policy (see **http://www.ncadd.org** and **http://www.drugfree.org/join-together**). Otherwise nonviolent addicts may be housed with violent antisocial offenders who teach the addicts other criminal behaviors.

As the cost of incarceration has increased and the cost of new construction of penal facilities becomes prohibitive in this time of budget cutting, corrections officials have tried other methods of punishment, including home arrest, electronic monitoring, day reporting, and work release. Judges have also made unsupervised referrals to

Figure 1. California Inmate Data From California Department of Corrections, 2002

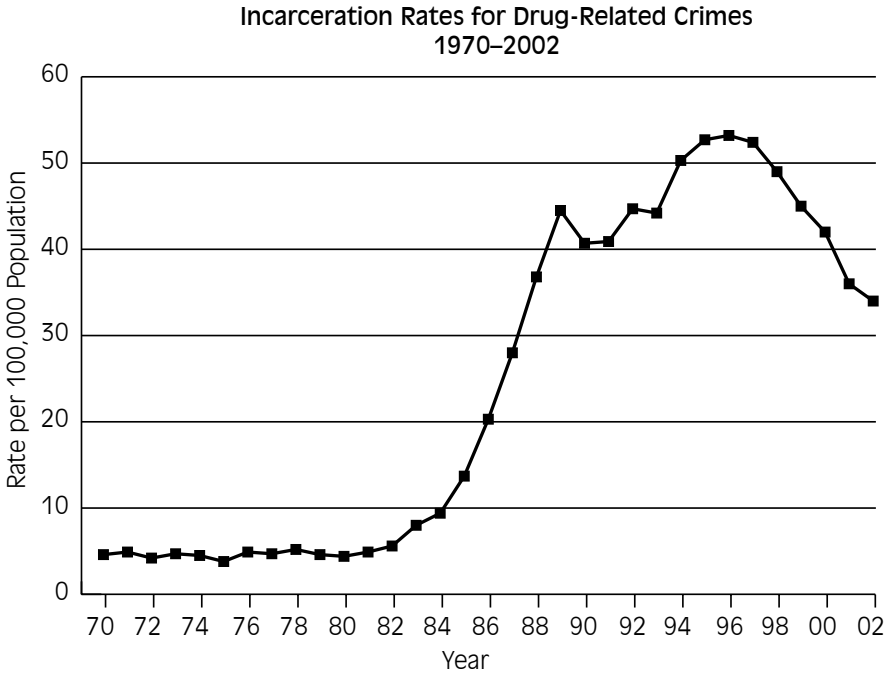
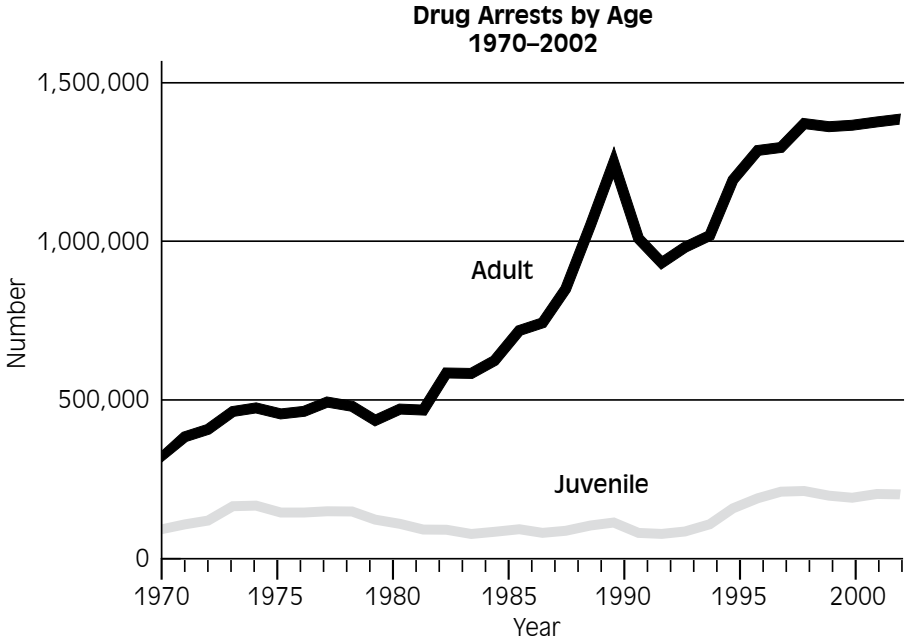


Figure 2. National Data From FBI Uniform Crime Reports, 2003



addiction treatment facilities. Although these actions marginally relieve the pressure on penal facilities, their value in either punishing or rehabilitating offenders is questionable to the Court. When all else fails, prisoners are simply released long before they complete their sentences. It is unacceptable to the Court to sentence a repeat offender to a year in custody only to have the convicted person released after 3 months and rearrested shortly thereafter on new charges. Such early releases send the message that there is no clear consequence for undesirable behavior and in fact may reinforce the very behavior that society attempts to extinguish by incarceration. This revolving door undermines the integrity of and public confidence in the criminal justice system.

Addiction treatment courts, commonly called Drug Courts, were created in 1989 in Dade County, Florida, as an alternative to pronouncing unenforceable sentences of incarceration and with the goal of sending defendants to effective addiction treatment. The success of the early Drug Courts led to their rapid spread across the country. By November 2003, 1,093 Drug Courts were operational, including specialized courts for juveniles and tribal members, and 414 were in planning stages (American University, 2003). Other Family or Dependency Drug Courts have been created for parents who have neglected or abused their children, resulting in the children being detained by child protection agencies. When drug use by the parents is the root of the problem, there may be insufficient evidence to justify the filing of criminal charges, but the drug use should be addressed or the abuse and neglect will likely continue. Family Drug Courts allow the court to address the addiction so that the children can ultimately be returned to a stable, drug-free home.

Although specific methods vary, all Drug Courts use the same basic approach. Offenders with drug addictions are identified by themselves, by law enforcement, or by the court and assessed by qualified counselors for amenability to treatment. Instead of being sent to jail or prison, they are referred to treatment programs and closely supervised by court personnel. Offenders may be referred to treatment prior to entering a plea, or they may be sent to treatment as a term or probation after pleading guilty. They are tested for drug use frequently, and sanctions are imposed for deviating from

the treatment prescribed. The judge is a critical part of the process, and most Drug Courts require participants to return to court frequently to report on their progress. In addition to negative sanctions for violations, positive rewards are bestowed for milestones of progress. Treatment providers, probation officers, county addiction personnel, or specialized Drug Court caseworkers closely supervise the participants. Drug Courts are regular courts that adopt the caseloads and methodologies of addiction treatment.

Although the success of Drug Courts has been remarkable (American University, 2003; Belenko, 2001), the cost of implementing them is always a challenge. Placing offenders in treatment programs saves the cost of incarceration, but the treatment cost, usually a fraction of that for jail or prison, still must be paid. For example, in California it costs approximately $26,000 to incarcerate one person for 1 year in the State prison system, whereas the cost of a year in a county jail varies between $12,500 and $40,000 (California Department of Alcohol and Drug Programs & the Judicial Council of California, 2002, p. 15). Effective addiction treatment can cost as little as $3,000 for 1 year. In addition, testing and supervision are critical elements of a Drug Court, and each incurs a significant cost.

The cost of starting a Drug Court can be considerable, and courts commonly apply for State or Federal grants to cover costs. The U.S. Department of Justice awards competitive grants, providing up to $300,000 to reimburse costs for startup, implementation, or enhancement within the first 3 years of operation of a Drug Court. Some State agencies have provided grants to assist in implementing or enhancing Drug Court operations. For example, in 1995, Oklahoma established the first State-operated Drug Court in the Nation, blending both State and Federal funding and incorporating ASAM (American Society of Addiction Medicine) standards into statute. Once their grants expire, many Drug Courts are threatened with closure because replacement funds are often not available. Some courts have actually closed when grant funds ran out. Other jurisdictions wish to create a Drug Court but are unable to qualify for a grant or lack the resources to write a competitive application. The experience of the Tulare County, California, Superior Court demonstrates that a successful Drug Court can be created and sustained without external government funding. More than a year after the Drug Court had been in operation, the county did receive a Federal grant. However, the long-term sustainability of the Drug Court was not ensured in the grant structure. The principles discussed in this paper allowed the Drug Court to remain in operation.

Program Origins

Tulare County is located in the San Joaquin Valley in the center of California and is rural in character. It is routinely the first or second most productive agricultural county in the Nation; in 2001, Tulare secured the number-one position as the leading county in the Nation and reached $3.49 billion in agricultural value (California Department of Food and Agriculture, 2002, p. 4). Much of the agriculture is dependent on migrant farm workers, most of whom live at a subsistence level of income. Many residents live in poverty, with 23.9 percent of the population and 18.8 percent of families below the poverty line. Out of the total number of people living in poverty, 32.6 percent are under the age of 18 and 10.5 percent are 65 or older, leading to significant social problems that tax county government (Tulare County, California, 2000; California Department of Finance, 2004). Rates for teenage pregnancy are 77.2 per 1,000 teens and are the highest in the State (California Department of Health Services, 2004, p. 51), and 8.6 percent of residents receive public aid (U.S. Census Bureau, 2000). Unemployment hovers around 20 percent at times,

especially during economic downturns or agricultural events, such as freezes that harm the crops and decrease the need for agricultural workers. In March 2004, the unemployment rate was 18.5 percent, compared to 6.7 percent for California and 6 percent for the Nation (California Employment Development Department, 2004).

The court noticed that, beginning about 1990, Tulare County experienced a rapid increase in arrests for drug offenses, principally due to the influx of methamphetamine (meth) into the county. Methamphetamine, which has numerous street names including "speed" and "crank," is an illicit stimulant that is highly addictive. It is relatively easy to manufacture locally with readily available chemicals, as opposed to cocaine and heroin, which require importation of substances usually grown outside the country. With an investment of $5,000, meth dealers can quickly turn a profit of up to $100,000, according to addicts in the Drug Court. The addictive properties of methamphetamine rapidly ensnared people of all ages throughout the county. The courts sentenced these drug offenders, many of whom were seriously addicted to methamphetamine, to jail in increasing numbers. As inmate populations grew, the jail facilities were unable to accommodate them all, and prisoners were released early from their sentences. More serious offenders who had been sent to the State prison were returned to Tulare County on parole, pursuant to State law.

It is well known that many drug offenders are arrested for new drug-related charges within 3 years of release from jail or prison; the California arrest rate for Drug Court graduates after 2 years is 85 percent less than their arrest rate for the 2 years prior to entering the Drug Court (California Department of Alcohol and Drug Programs & the Judicial Council of California, 2002, p. 14). As judges became aware that the same people were returning to court time after time, it also became obvious that the standard practice of incarcerating addicts was a poor use of public funds. A high-level meeting was held in 1995 involving law enforcement, judiciary, county government, and mental health officials. A judge and officials from a neighboring county presented the concept of a Drug Court and provided convincing testimonials of the success of the Drug Court in their county. Many who attended the meeting were excited about the concept, and a series of further planning meetings was held in which there were mixed support and opposition for establishing a Drug Court. Although there was a high level of support from the court, the probation department, local treatment providers, and the mental health department, the general feeling was that no funds were available with which to implement a Drug Court.

It was the perspective of the court that no additional judicial resources would be required, since the defendants would be either involved in the Drug Court or proceeding through the normal criminal justice process. If only a few defendants opted for Drug Court by pleading guilty without proceeding to jury trials, a great deal of court time would be saved, not to mention the reduction in recidivism and renewal of lives as promised by the experience of the neighboring county. A probation officer was assigned to each division of the court, and these probation officers were willing to take on the additional burden of administering the Drug Court.

A major obstacle was funding treatment. Although the Tulare County Alcohol and Other Drug Program administrators expressed support for the concept, they indicated that they had no funds to contribute to the provision of treatment. Despite the fact that four alcohol-rehabilitation programs existed, providers said there was very little expertise in treatment for non-alcohol drug addiction in the county. The owner of the local program for driving-under-the-influence-of-alcohol offenders was involved in the Drug Court planning

sessions and proposed that participants be sent to this program, with some modifications made, and pay the cost of their treatment. At first this seemed unrealistic, as many people in the county with untreated addiction are destitute. The argument was that, if addicts are paying up to $200 per day for drugs, they could afford to pay $50 per week for treatment. The difficulty with this concept was that they were stealing, prostituting, or selling drugs to finance their drug use, all of which behaviors the court wanted to eradicate rather than encourage. However, another treatment provider, himself in recovery, indicated that such behaviors are inconsistent with the process of recovery and that addicts would not steal, sell drugs, or prostitute to pay for recovery. Another judge from a neighboring county with experience in a Drug Court laughed out loud when presented with that idea, saying, "Addicts are not going to waste their money from stealing on treatment!"

With no other resources to draw upon, the Court was faced with the harsh reality of either starting the program by requiring participants to pay for their own treatment or not having a Drug Court at all. Given those options, it seemed preferable to at least experiment with self-funded treatment rather than abandon the concept entirely. So with some judicial skepticism, the Drug Court began.

Potential participants were identified by the judges and referred to the probation officer for an interview in which the program was explained and background information about the defendant was obtained. If the probation officer determined that the defendant was interested in changing his or her life, would embrace recovery, and could pay the cost of treatment, the defendant was offered the Drug Court. A set of formal terms of probation was signed that constituted an agreement to comply with Drug Court requirements. The defendant was then referred back to the judge and was formally sentenced into the Drug Court.

The Court initially referred almost every participant to an outpatient program. The very few who were deemed to be unable to benefit from outpatient treatment were referred to existing residential programs. Those who could not refrain from drug use after several weeks of outpatient treatment were also referred to residential treatment. Because of long waiting lists, those referred to residential treatment were frequently required to wait in jail for several months until a bed became available at the residential facility. Experience and court records showed, however, that more than 90 percent of participants who graduated were able to succeed with outpatient treatment alone.

The original design consisted of a 1-year program divided into three phases. Phase 1 treatment provided two 90-minute group sessions, 1 hour of individual counseling, and attendance at two 12-step self-help meetings each week. Participants came to court every week and showed proof of attending 12-step meetings on a card provided by the treatment provider and signed by the secretary of the 12-step group. The counselors assigned to the participants filled out a simple, one-page form reporting their progress for the week. This form was provided to the Court the day before a participant's scheduled hearing and placed in the participant's file by the court clerk.

Prior to each Drug Court session, the treatment providers met with the judge and probation officer to discuss every participant and appropriate responses to deviations from treatment. Prosecutors and defense attorneys were invited to attend, but because of understaffing and their opinion that supervision of the participants was the province of the court and probation, the district attorney and public defender chose not to attend. During the weekly Drug Court session, each participant was called up

individually to discuss progress, make changes to the treatment program, and receive a reward for good behavior or a sanction for undesirable behavior. The counselors conducted drug testing as they felt necessary.

Phase 1 lasted a minimum of 2 months. Advancement to phase 2 required at least 30 days clean and sober and substantial compliance with all treatment requirements. The only change in phase 2 was a 2-week interval between court appearances. This phase lasted 3 months.

Advancement to phase 3 reduced individual counseling sessions to every other week, with 1 month between court appearances. At the end of the 7 months of phase 3, if the participants had been clean and sober for at least 180 days, they were graduated out of the Drug Court. They remained on probation but were encouraged to apply for early termination of probation pursuant to the normal statutory scheme for all criminal cases.

Participants always had the option of voluntarily leaving the Drug Court and accepting the court sentence that would have been imposed had they initially decided not to participate in the Drug Court. They were not sentenced with greater terms of incarceration because they attempted to go through treatment. Even those who were terminated from the program were given the same sentence that they would have received without trying the Drug Court. Very few were terminated involuntarily, as the goal of the Drug Court was to keep the participants engaged in treatment as long as they were making progress. This was a subjective decision that was made by the judge after input from the treatment program and the probation officer. More frequently, participants voluntarily asked to be sent to jail or prison because they were unwilling or unable to continue to pay the cost of treatment or to abide by the program's strict requirements. In the Court's experience, about one-quarter of those beginning the Drug Court were terminated prior to successful graduation.

Subsequent Refinements and Lessons Learned

Although there was very little prior experience with drug addiction treatment in the county, the Drug Court in Tulare County proved immediately effective in reducing drug use and motivating people to accept and embrace recovery. Experience quickly taught that many changes were necessary to improve outcomes. Because the treatment was based on the classic 12-step model, mandatory attendance was increased to five meetings per week until the participant acquired a sponsor and then attendance was reduced to four meetings per week for the duration of the program. More emphasis was placed on completion of the 12-step process, and participants were expected to know the meaning of each step. Phase 1 was increased to 13 weeks, phase 2 remained at 13 weeks, and phase 3 was reduced to 26 weeks.

Additional treatment providers have approached the Drug Court, wanting to be involved. Initially, all were accepted until it became apparent to the Court that some programs were substandard, so standards were adopted that all participating treatment programs must meet. They must have certified treatment counselors, and although most programs are certified by the State, some faith-based programs participate that have chosen not to be certified and regulated by the State. The Court and probation department watch these programs and procedures closely.

Inconsistencies in drug testing were a concern, and different programs tested at different frequencies. There were also allegations that some counselors were not observing the collection of samples. In addition, different laboratories provided

reports in varying formats that proved difficult to decipher in a court review. Differing cutoff levels among laboratories meant that participants were treated unequally after using drugs. To overcome this disparity, a protocol was developed and a solicitation was issued for proposals from testing agencies. One testing agency was selected, and now all participants are sent to a central testing location.

For drug testing, each participant is assigned to a group based upon the phase of treatment. Every morning, each participant is expected to call the testing agency before 9 a.m. and listen to a recorded message that indicates which groups are to be tested that day. The short message lasts less than 30 seconds, so it requires only a very brief call. If their group number is announced, participants must report to the testing facility and leave a urine sample before 5 p.m. that same day. The hope is that participants will begin each day focusing on what is required for recovery that day.

Originally various sanctions were imposed for missed tests, and according to the testing agency, up to 10 percent of participants failed to test on designated testing days. A wide range of reasons was given for missing tests, from death of relatives to malfunctioning vehicles to work requirements. Because testing is such a critical part of Drug Court supervision, the severe sanction of incarceration was finally imposed for missing each test, and compliance increased dramatically. It is explained to all participants that a positive test is viewed as a clinical issue indicating that some increased treatment should be used. Failure to test is treated as a behavioral issue, because it prevents the treatment provider from knowing whether the participant is responding to treatment. At present, less than 1 percent of participants fail to test when scheduled. The Drug Court judge has joked openly that sending people to jail for missing tests has tremendously improved the health of the participants' relatives and their vehicles.

In addition, it is important to note that the Court views lying about drug use as a behavior issue. In cases in which a client does not pass a drug test, it is the act of attempting to mislead the counselor and/or the court about recent substance use that precipitates consequences, not the positive drug test itself.

A standard sanction list was adopted as a minimum response to deviations from treatment. These minimum sanctions are the general rule, with some agreed upward departure imposed for aggravated violations. The list has been modified somewhat over time. The philosophy of the Drug Court has been that behavioral issues are penalized, whereas abstinence and drug use are considered treatment issues. Sanctions are intended to encourage compliance rather than to punish participants. Importantly, sanctions are imposed as soon as possible to relate the sanction to the undesirable behavior. (See the list of progressive sanctions in table 1.)

It quickly became apparent to the Court that most participants responded more favorably to rewards than to negative sanctions, and the Court adopted the goal of helping participants feel better about themselves when they left court than when they came in. Verbal accolades were given freely, and small steps were recognized. For example, the courtroom audience was encouraged to applaud for milestones of sobriety, such as 30, 60, 90, or 180 days. As a humorous interlude, one participant was presented with a toy beach ball upon moving from phase 1 to phase 2. Everyone laughed, but when the next participant was advanced, he asked, "Where is my beach ball?" It became the standard protocol to award participants small "trinkets" for milestones, most of which were obtained without cost. For example, court personnel donate miniature bottles of shampoo or lotion and bars of soap from hotel stays, and these are presented to recognize periods of sobriety. Pens, pencils, key chains, and similar useful

Table 1. Tulare County Adult Drug Court

Tulare County Adult Drug Court Minimum Sanctions		
1. Missing 12-Step Meetings	First time:	Make up meetings
	Second time:	Sit in jury box, make up meetings
	Third time:	Spend night in jail, make up meetings
	Fourth time:	Spend weekend in jail, make up meetings
2. Missing Test or Taking Unauthorized Medication	First time:	Spend night in jail, may move back a phase. If in aftercare, 1-month extension
	Second time:	Spend weekend in jail, move back a phase
	Third time:	Spend week in jail, move back to phase 1
	Fourth time:	Spend 2 weeks in jail, move back to phase 1
3. Missing Counseling	Pay for missed session, extension of 1 week to move to next phase	
4. Adulteration of Test	30 days in jail, possible expulsion	
5. Falsification of Signature	First time:	14 days in jail
	Second time:	30 days in jail, move back a phase
	Third time:	60 days in jail, move back to phase 1, likely expulsion
6. Missing Aftercare Meeting	Extend aftercare 1 month	

items that are picked up on vacation trips are given freely to recognize improvement.

As the success of the Drug Court has become apparent, other donations have been received and used as rewards. A nonprofit foundation was created with a board of local community leaders who support the concept of recovery rather than incarceration. Although donations are not actively solicited, the foundation has a balance of about $5,000. A business owner who employs a participant in a key position has donated $500 to purchase key rings with a Drug Court logo and the message "Recovery is a process that lasts a lifetime." These are awarded to participants moving into phase 2. The testing agency has donated mugs with a special Drug Court logo; these are presented to participants moving into phase 3. Rotary Clubs have donated T-shirts with a logo to those graduating from the program. Some graduates donate to the foundation, giving $5 to $100 for each year of sobriety.

The Court noted that a significant number of recent graduates experienced relapse, and counselors indicated from interviews that many graduates felt a sense of abandonment when involvement in the program ended suddenly. To remedy this, a 6-month "aftercare" phase was added. Following graduation, participants attend one aftercare group every other week, continue testing on the same schedule, attend four 12-step meetings every week, and come to court after 3 and 6 months, after which they qualify for completion. The additional 6 months of involvement reduced relapse and allowed a more gradual severance from the Drug Court—a cushioned release rather than a hard drop.

As a further reward to the graduates, an annual graduation ceremony has been held. Prominent figures in recovery have been keynote speakers, including musicians David Crosby and Dallas Taylor and actors Larry Hagman, Mackenzie Phillips, and Todd Bridges. As evidenced by a full house, more than 1,600 people attend the annual graduations, which are emotional events for participants, family members, and interested members of the community. Dignitaries, including law enforcement officials, prosecutors, legislators, city council members, and mayors, routinely attend and shake the hands of the graduates.

The initial plan was to accept no more than 50 people into the Drug Court and then evaluate success. Because the program's positive effect was so immediately apparent to the Court, the population of the Drug Court quickly rose above 50. Because participants pay their own treatment costs, each additional participant only slightly increases the burden on the system, principally in time needed to review their cases. Larger populations actually improve the efficiency of the program because of economies of scale. For example, larger numbers help keep the cost of drug testing low, as fixed costs for the testing agency are spread among more clients. The treatment providers are able to add more counselors as needed to accommodate greater client bases. It has worked so well that currently more than 500 people participate in the Tulare County Adult Drug Court.

To have a significant impact on the county's drug problem, the Drug Court tries to direct as many people as possible into treatment. A system was developed whereby the prosecutors screen every offender based on agreed criteria, and a summary sheet is filed with the criminal complaint indicating whether the offender is eligible to participate in the Drug Court. If eligible, the offender is offered this option at the first pretrial conference, thereby encouraging an early settlement of the case and avoiding additional court hearings.

The concept that was implemented with skepticism—that people can and will pay for the cost of their addiction treatment—has flourished and enabled hundreds of people every year to avoid incarceration, embrace recovery, and return to a normal lifestyle. To date, there is no evidence that any participant has committed theft, drug sales, or prostitution to pay for treatment.

Outcomes

Anecdotal evidence indicated that the Tulare County Adult Drug Court was a huge success. To verify this, a physician and a psychologist teamed up to do an analytical study of the results of the first 3 years of operations (Lessenger, Lessenger, & Lessenger, 1999). Everyone considered for placement in the Drug Court was tracked from the entrance interview to the close of the study period. Studied subjects were divided into four groups for research purposes, depending on their involvement in the program: those who were considered for the Drug Court but found unsuitable, those who were found suitable and offered the Drug Court but declined to participate, those who began participating in the Drug Court but either voluntarily left to do custody time or were terminated involuntarily, and those who successfully graduated from the Drug Court.

As shown in table 2, 5 percent of the graduates were convicted of new drug charges during the course of the 3-year study period, compared to nearly 41 percent of those who were rejected for admission into the Drug Court and 27 percent of those who were found suitable but declined. In interpreting these figures it is important to note that those who graduated were at liberty the entire 3-year period (except for some short-term incarcerations, never more than a few days, as sanctions). Those who were rejected or who declined spent all or a large part of the 3-year period in custody, where they were much less likely to be arrested for new drug charges.

Table 2. Criminal Recidivism Outcomes: Post-Drug Court in Tulare County, California

Outcome	Rejected N=111 Persons*	Declined N=74 Persons*	Terminated N=122 Persons*	Graduated N=142 Persons*
	Number (Percent)	Number (Percent)	Number (Percent)	Number (Percent)
Nondrug Convictions	27 (22.2)	15 (20.0)	21 (16.5)	4 (2.8)
Drug Convictions:	47 (40.7)	20 (27.0)	27 (21.5)	8 (5.0)
— Possession	31 (27.9)	12 (16.2)	16 (13.2)	2 (1.4)
— Under Influence	14 (12.6)	8 (10.8)	9 (7.4)	4 (2.8)
— Transport	2 (1.8)	0 (00.0)	1 (0.7)	0 (0.0)
— Sales	2 (1.8)	0 (00.0)	3 (2.4)	0 (0.0)
— Paraphernalia	6 (5.4)	2 (2.7)	3 (2.4)	2 (1.4)
County Jail	42 (37.8)	24 (32.4)	30 (24.7)	5 (3.5)
State Prison	22 (19.8)	7 (9.5)	10 (8.2)	2 (1.4)
Driver License Suspension	94 (84.7)	50 (67.6)	75 (61.9)	9 (6.4)

From Lessenger, J. E., Lessenger, L. H., & Lessenger, E. W. (1999). *An outcome analysis of Drug Court in Tulare County, California* (p. 30). Porterville, CA: Unpublished report.
*Numbers do not match population totals and percentages may not total 100 due to multiple offenses/arrests by the same person.

As funds are not available to conduct a followup study, there is no current information about outcomes after 7 years of operation. It is the sense of the Drug Court team (composed of the judge, probation officers, and treatment providers) that this trend has continued but that recidivism of the graduates has probably doubled to about 10 percent, which is consistent with other studies of Drug Courts around the Nation. In California, two of three parolees are rearrested before parole is completed, within 18 months of release (Warren, 2003). The stark difference between a 10-percent recidivism rate for Drug Court graduates and a high recidivism rate for incarcerated offenders demonstrates the need for more Drug Courts.

Although adequate data to establish a direct connection do not exist, it is interesting to note that incarceration rates for drug offenses began a sharp drop about 1997, as shown previously in figure 1. This is about the same time that Drug Courts began to be well established in this country. It appears to the authors that Drug Courts have had a strikingly salutary effect on the drug problem.

Disadvantages of the Self-Funded Approach

Publicly funded Drug Courts have the advantage of much greater supervision of participants. These courts are frequently able to hire coordinators and case managers who see the participants frequently and make home visits to ensure that they are in full compliance. These courts also enjoy the full participation of prosecutors and defense attorneys, who add valuable perspectives to the Drug Court team. The self-funded approach, as that of Tulare County, requires treatment providers to do much of the case management, along with the probation officers. In jurisdictions in which a probation officer is not available to dedicate to the Drug Court, treatment providers would be required to perform all case management functions.

The greatest disadvantage of the self-funded approach is that many defendants who would otherwise be eligible to participate and are desirous of doing so are excluded because they cannot bear the cost of treatment. Many participants in the Tulare County Adult Drug Court are personally unable to pay for treatment initially but have relatives or other supporters who are willing to advance the cost of treatment for some period of time, noting to the Court that it is money well spent due to the high level of supervision provided by the court, which forcefully encourages compliance. Many family members who said they have abandoned hope for their relatives with addictions are willing to pay treatment costs for several months because they know that if participants do not comply with requirements, they will be immediately corrected. If these relatives return to drug use, the relapse will be dealt with swiftly before they can return to a full drug-using life. The Court expects this support from others to end within a few months of entry into the Drug Court because participants are required to obtain employment and become self-supporting.

Lack of funding prevents an ongoing study of the outcomes and hinders Drug Court administrators from substantiating its success for policymakers who might otherwise be willing to contribute public funds. This setback is partly offset by the annual Drug Court graduation ceremony that celebrates the productive return to society of those who have graduated during the past year. At the ceremony, photographs of the participants at arrest are displayed next to current photographs, visually and powerfully showing the changes made by participation in the Drug Court. As related by policymakers to the judge, publicity from these graduations has made it clear that the Drug Court is a valuable asset to the county's criminal justice programs.

Treatment is necessarily no-frills and basic, kept as inexpensive as possible. All counselors are State-certified and supervised by those licensed to do so, but they need ongoing training. Inexpensive education and training can be found at local community colleges that offer human services degrees with an emphasis on addiction treatment and through involvement in State continuing education programs. The counseling provided to participants in the Tulare County Adult Drug Court is worth far more toward recovery than the minimal costs they pay.

The lack of public funding also means that the Drug Court team is responsible for payment of ongoing training that is specific to Drug Courts. For example, membership in the National Association of Drug Court Professionals requires substantial annual dues, and the cost of attending its annual training conference is considerable. Expenses can be offset somewhat by State associations that also provide training and by other training opportunities. For example, the National Rural Institute on Alcohol and Drug Abuse at the University of Wisconsin offers annual training for Drug Courts, subsidized by the Office of National Drug Control Policy and the U.S. Department of Justice. Participants can receive scholarships to this training, including the full cost of travel, lodging, and tuition.

Advantages of the Self-Funded Approach

Despite the disadvantages previously discussed, the self-funded approach offers many advantages. Chief among them is the freedom from concern about locating the next funding source. The economic downturn following the September 11, 2001, tragedy caused some Drug Courts to close for lack of funding. Other Drug Court coordinators have had to scramble and spend many hours searching and applying for grants, thereby diverting them from their intended purpose of coordinating the Drug Court. Under the self-funded approach,

economic downturns that result in government budget cuts will not affect the operation of the Drug Court. The judge and administrators know from where the next dollars will emanate. The self-funded Drug Court team is free to operate its court considering local needs and circumstances. The court can adapt quickly to local changes, trends, and resources. There are no reports and forms that must be submitted to grant providers or those whose political agenda does not include Drug Courts. The most significant, overriding advantage of the self-funded approach is that it allows any jurisdiction, no matter how poorly funded, to have a Drug Court.

The public in Tulare County is highly supportive of the self-funded approach. The Drug Court is not a government program that uses more taxpayer dollars squeezed from already strapped budgets. The Drug Court judge and other team members can proudly speak about the efficacy of the program, all without additional cost to taxpayers. Service clubs and other civic groups are very supportive after speeches in which the judge relates that those who violated the law in the first place are paying for their own treatment. A study by the California Department of Alcohol and Drug Programs and the Judicial Council of California completed in March 2002 showed that California Drug Courts saved taxpayers more than $43,400,000—more than $200,000 for every 100 participants. These savings are enhanced when the cost of treatment is borne by the participants; resources can then be provided for other services (p. 15).

Many wraparound services, such as medical care, employment training, vocational and educational counseling, housing, parenting classes, and childcare can be provided from existing government programs. Alert team members can make arrangements with such programs to give special attention to Drug Court participants. For example, the Adult School and Adult Literacy Programs in Tulare County found that the Drug Court participants are highly motivated to succeed because, barring disability, completion of their education is a requirement of participation in the Drug Court. If they do not follow through on commitments to these programs, they face expulsion from the Drug Court and incarceration. With appropriate waivers, periodic reports can inform the judge of progress, and any necessary corrective measures can be applied to put the participants back on the right track.

Finally, the Court's experience has shown that participants value something according to their investment to obtain it. The Tulare County Adult Drug Court emphasizes to the graduates that they can be proud of the fact that they paid for their treatment and are responsible for their own success in achieving recovery. Graduates leave with an unprecedented feeling of pride in their accomplishments. Many say they have never done anything deserving of positive public recognition. For example, one man in his 30s stood silently for more than a minute, looking at his certificate after graduating, then looked up with tears in his eyes and said, "This is the first thing I have ever accomplished." Most have lengthy criminal records and suffer feelings of worthlessness upon entry into the Drug Court. This lack of self-esteem contributes to the cycle of helplessness and hopelessness that spirals into ongoing and increasing drug use. Instilling a sense of pride in accomplishment, bolstered by paying for treatment, is a key element in participants' future sobriety. Graduates leave knowing that their sobriety came dearly purchased, and they guard it closely.

Conclusions

It might well be said that those who live by the grant will die by the grant. Whereas grants can be a useful tool in creating a Drug Court, it is shortsighted to create a project without planning for sustainability

after the grant expires. To avoid having a successful project entombed by the expiration of grant funds, sustainability must be considered from the inception of Drug Court planning. Startup grants can provide much needed resources to get a Drug Court off the ground; planning for reliance on existing resources, rather than using grant funds to create new ones, will ensure ongoing operation of a Drug Court.

Although Drug Courts funded with public resources can offer participants more expansive treatment and supportive wraparound services, there are tangible advantages to creating a self-supporting Drug Court. Basic treatment services can be provided at a reasonable cost to most eligible defendants, and those who graduate are highly motivated because of the substantial commitment they have made toward their own recovery. When economies fluctuate, there is stability in the program, and all resources can be directed toward providing quality services directly to the participants instead of concentrating on raising funds. Private community resources and public–private partnerships can enhance the program through voluntary donations and provision of many additional services for the Drug Court.

Because participants come to court for regular reviews, the judge and probation officer can ascertain whether participants are complying with requirements to pursue education and employment goals. Those who successfully complete the Drug Court leave knowing that they have contributed the lion's share toward their own recovery, and they tend to value it more highly than those to whom it was provided gratis. More than 1,000 people have graduated from the Tulare County Adult Drug Court in the past 7 years, at very little cost to the taxpayers, and a great majority has avoided further convictions for drug offenses. For Tulare County, the choice of whether to have a Drug Court is clear. Any jurisdiction can create and sustain a self-supporting Drug Court with a little ingenuity, creativity, and the political will to make it succeed.

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Empower for Recovery: An Innovative Approach To Assist Sustained Recovery in Rural Iowa

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Area of focus: Rural strength- and home-based substance abuse treatment and recovery support program.

Abstract

Empower for Recovery is a targeted treatment approach that has demonstrated both its effectiveness and successful outcomes with rural/frontier substance abusers, their families, and significant others. This home-based program provides early intervention utilizing DiClemente and Prochaska's stages of change. The program emphasizes pretreatment, posttreatment, case management, and family services to families in whom substance abuse has been identified as a possible problem. Those in rural areas face unique challenges in obtaining and maintaining sobriety. They face issues such as geographical distance from services including Alcoholics Anonymous, Al-Anon, and Ala-Teen. Transportation can be an obstacle to obtaining and maintaining sobriety. Families often have very few resources for obtaining support and education surrounding substance abuse. Other issues, such as financial pressure, domestic violence, and Department of Human Service involvement, can overwhelm a family. Providing a comprehensive strength-based approach that empowers individuals in the families' home results in positive outcomes. According to reported 1-year postdischarge outcomes, 80 percent of substance abusers maintain sobriety with this in-home program.

Introduction

Rural Iowa. The words create the image of rolling cornfields and an idyllic lifestyle. However, a different picture is hidden behind that image—methamphetamine labs and substance abuse. The image of an idyllic lifestyle disguises the misery caused by substance abuse. Treating those caught up in the web of substance abuse is challenging, especially in rural areas. Those who seek help encounter many barriers. Treatment facilities can be as much as 100 miles away, with no public transportation available. Losing a driver's license or having financial difficulties can make participating in treatment difficult if not impossible. Services to assist families of persons involved in substance abuse are also very limited. Even common support

systems such as Al-Anon and Ala-Teen are few and far between. Most communities have Alcoholics Anonymous (AA) groups, but they usually meet only once a week.

The challenges of achieving and maintaining sobriety are daunting. Community and Family Resources (CFR), a State-funded treatment agency located in rural Iowa, began to look for creative ways to overcome some of these barriers in their catchment area.

At the same time, recognizing that solutions to problems are best decided at a local level, State legislators created a statewide Empowerment Board. This board provides funding for local empowerment areas to use creative methods to address stated needs in their communities. The target population served by these funds is families with children up through age 5 as well as pregnant women. The goal is to provide a safe and stable family environment so children can develop in an appropriate manner and be prepared for school.

In 1999, the rural counties of Hamilton, Humboldt, and Wright were declared a local empowerment area. The counties cover 1,592 square miles and have a combined population of 40,782, or 25.6 people per square mile. The largest population center has 8,176 residents.

In the local empowerment area, substance abuse—especially methamphetamine use—was identified as a significant problem that needed an additional creative approach to produce better treatment outcomes. A new goal was set through creative planning and discussion by a multitude of community providers, the local empowerment group, and the executive director of the Empowerment Board, Ann Stewart. This new goal of the local Empowerment Board was to provide in-home services for families of substance abusers as well as those who abuse substances. The executive director of CFR, John Hostetler, and therapist Deb Rohlfs designed the details of the program services. These services would not be treatment specific but would assist in case management, premotivational services, posttreatment followup and support, and services to the family. These services would be provided in the client's home, making it easier for the family to access the services. This program would work in collaboration with other in-home programs that provide services to families.

After the first year, the local Department of Human Services (DHS) also chose to participate in the program. By providing funding from the Promoting Safe and Stable Families Program, services were expanded to include children older than age 5. This expansion assisted families in achieving reunification when children had been removed from the home because of substance abuse.

Purpose

The purpose of the Empower for Recovery Program is to assist families in which substance abuse has been identified as a risk factor for the children in the home. Substance abuse in a home can create chaos and instability. Many studies have shown that children raised in homes where substance abuse occurs suffer from neglect and abuse at a higher rate than in the non-substance-using population (Semidei et al., 2001). When families are living in chaos related to substance abuse, helping their children with developmental activities is not a priority. The children are at risk of falling behind developmentally. According to Semidei et al. (2001), children raised in homes where substance abuse is a problem are at greater risk of experiencing adjustment disorders, behavioral problems, conduct disorders, and Attention Deficit Disorder. When the children enter school, these problems may continue, possibly for the rest of their lives.

To help the children, the family must receive help with the substance abuse

issues. This program does not specifically identify the person who is abusing substances as the "client." Instead, the program considers the whole family as being in need of assistance. Through this process, it is hoped that the person who is abusing substances will come to a point of seeking help and choosing to live an abstinent life style.

Methods

A strength-based approach was chosen as the most effective. All families have strengths, but often they do not recognize or use those strengths to make changes. By first looking at their strengths, the family could start to use both the resources they had and their natural support systems to start to make changes. The counselor could then help them identify what was not working and help the family to discover better ways to achieve the change. The counselor would also act as a case manager to help the family access resources they still needed to become more successful. This assistance would include helping the substance abuser to identify and find the appropriate level of substance abuse service.

This program also incorporated two theories—stages of change (Connors et al., 2001) and motivational interviewing (Miller & Rollnick, 2002). Families involved with this program are at all points of the stages of change model. Some are just starting to explore the possibility of changing, whereas others have made a commitment to change and need ongoing support. The concept of change as a process (Connors et al., 2001) can be very helpful in working with families. Many people relapse during their process of change; hope is encouraged when relapse is explained with the stages of change model. People see that a relapse does not necessarily constitute failure but can be used as a tool to examine what was not working and what changes must occur. The stages of change can also help the family understand the process people go through when trying to change behaviors. Families can also use the stages of change model as they try to change any enabling behaviors they may have.

Motivational interviewing also works well in the context of this program. Part of the premise of motivational interviewing involves joining with the clients where *they* are (Miller & Rollnick, 2002). Joining with the family, instead of dictating what needs to occur, empowers the family to find a way to make changes that make sense to them.

Subjects

Involvement in this program requires a problem with substance abuse within the family system. Referrals come from many agencies, primarily the County's Public Health agencies and the DHS. If agencies are working with a family, and substance abuse is suspected, the family can be referred to the program. Treatment facilities also make referrals when their clients are preparing for discharge.

The Empower for Recovery Program began early in 2000. Referrals have continued to increase steadily over the past 4 years. Since the program's inception, 61 families have received services. During screening, nine of the families were in crisis situations and were referred to more appropriate services. Thirty families have completed the program, dropped out, or were referred elsewhere.

Screening Tools

After families were referred to the program, a screening tool created by the empowerment coordinator was used to assess the family's needs. If a person admitted having a substance abuse problem, a regular evaluation was completed to determine the level of treatment needed. An appropriate referral was made for any other areas of need the screening tool identified.

Program Description

Every family is unique and thus has unique needs. Empower for Recovery was developed with maximum flexibility to meet each family where they are and to assist them in achieving their goals. The main components of the program are intertwined and often overlap. As described below, the program has five main parts: (1) pretreatment, (2) posttreatment, (3) case management, (4) family issues, and (5) collaboration.

Pretreatment

When some families are referred to the program, the family member who is abusing substances is not ready to admit having a problem. In the stages of change model, this situation would be identified as a precontemplation stage. Some characteristics of this stage include defensiveness, resistance to the suggestion of a problem, lack of commitment to treatment, avoidance of steps to change behavior, and feeling coerced (Connors et al., 2001).

The rest of the family may be angry and frustrated with the substance abuser. Often, a great deal of friction exists. In this situation, the needs of all family members must be addressed. The substance abuser is offered the opportunity to explore his or her substance abuse and is given permission to feel free to examine his or her ambivalence about stopping. According to Miller and Rollnick (2002), exploring ambivalence is crucial in the process of change. By allowing this exploration, resistance is lowered. When confrontation is used, the person often becomes more resistant; he or she does not want to be told what to do. The family is allowed to explore the benefits of the substance abuse as well as the cost to the family. This exploration often allows the family to make choices that will work for them.

The family is given an opportunity to express its feelings. Family members often have conflicting feelings regarding substance abusers and their continuing substance use. They may fear for the health and safety of the abuser; they may feel anger, disappointment, and conflicting degrees of love and hate. They have not always had the opportunity to express these feelings, even to themselves. Family members are educated regarding substance abuse and addiction. They also learn about enabling, family systems, and the family dynamics often found where substance abuse is a problem. Family members develop their own plan to take care of themselves, and they learn ways to stop enabling the user. The stages of change are also explained to the family. They explore these stages in regard to changes the family might experience due to the absence of substance abuse. They also examine changes they might experience individually. Once again, the family members decide what changes they are willing to make. The program focuses on the client and his or her decisions, not what the counselor feels is the best choice for the family. Referrals to Al-Anon and other similar self-help programs are given. Unfortunately, such programs are not available in many rural areas, so online groups may be listed as an option.

Sometimes the substance abuser chooses to continue substance abuse. In keeping with the goals of this program, which include a safe and stable environment for the children, family members decide whether they can live with the ongoing substance abuse or whether they need to leave. If they choose to leave, case management services are available to assist. If the family chooses to stay, services are available to develop safety plans. It is hoped the families will, at the least, change their reactions to the substance abusers. At times, this change will also force the substance abuser to decide what is most important—family or substance use.

External factors—usually involvement from DHS—may make the user feel that he or she is being forced to participate in the program. When a family is at this point, it is important for program personnel to join with them. This concept comes from motivational interviewing theory (Miller & Rollnick, 2002). It is important to let the family know the counselor is willing to start where the family members are and listen to what they want as goals. Their first goal may be getting DHS out of their life. If so, the counselor can discuss what would have to happen to accomplish this goal. Although they may have to address several issues, substance abuse is certainly one of them. Many substance abusers are not sure they want to quit at this point. As program counselors, we discuss with them their ambivalence. They must come to their own conclusion that they want to quit. We then can develop goals to help them accomplish this. Substance abusers seem less resistant to stopping the use of drugs and alcohol if stopping is only part of the overall plan to make the changes DHS is requesting. If substance abusers feel that the substance abuse is the most important issue, resistance seems to become greater. Once again, the substance abuser is given the choice to stop or not. However, the substance abuser must also be willing to accept the consequences of continuing use. If the person chooses to quit, he or she is given assistance to gain entrance into an appropriate program. Referrals to AA or Narcotics Anonymous (NA) are also given.

If substance abusers are to enter residential treatment, issues often arise surrounding making arrangements for their families. The Empower for Recovery Program works with families who have children. If the children are still living in the home, arrangements must be made for their care if the primary caretaker goes through treatment. Some programs are available for women who want to bring their children into treatment with them, but these programs do not work for all families. For some families, a relative or friend must be found who will be willing to care for the children. If the person seeking treatment is holding a job, arrangements also must be made at work. In addition, financial obligations must be covered while a person is in treatment. Sometimes, substance abusers—especially those who are single parents—can feel overwhelmed with all this preparation. Single parents often have less support and feel all of the responsibility. For the counselor, a fine line exists between doing too much for the client and helping the client make the arrangements. Without some assistance, however, some substance abusers will have a difficult time following through with entering residential treatment.

If the children have been removed from the home already, entering residential treatment can be less complicated. However, visitation can become problematic, especially if the children live a long way from the treatment facility. The substance abuser cannot leave residential treatment to visit the children, and both the DHS and foster parents are often reluctant to allow the children to visit the treatment center. At the same time, it is important for clients to have visitation to promote successful reunification of the family. The Empower for Recovery counselor is instrumental in coordinating family visitation and encouraging future reunification.

Posttreatment

This program also provides posttreatment services. As the person nears discharge, the primary treatment counselor, the client, and the Empower for Recovery in-home counselor will sit down and discuss the discharge plan. Some of this discussion will become incorporated in the goals the client sets for the Empower for Recovery Program. When a person leaves treatment and goes home, more stress often occurs within the family. The family has worked around the addiction for such a long period

of time that suddenly not having the addiction present can create a difficult transition period. Families usually need assistance in working through this transition period. Substance abusers typically become frustrated when family members do not believe they will change. Family members, on the other hand, do not know why they should suddenly believe someone who has consistently lied to them. The substance abuser, however, leaves treatment and wants to go back into the family and start taking back responsibilities that had been ignored.

These responsibilities may include paying the bills and making decisions that affect the family. The spouse might be resentful about this change. The spouse may have handled all the responsibilities in the past and is now not sure about trusting the recovering person. Disciplining children also may be difficult, as children have learned how to manipulate the substance-abusing parent. The substance abuser also may have difficulties in returning to work and facing issues left behind when entering treatment. Attendance at AA/NA meetings may also cause conflict. The family sometimes resents the time spent at the meetings and feels the meetings are not so necessary. The family may see only that the substance abuser is taking time and financial resources to drive to meetings.

All these stresses can become overwhelming and contribute to relapse. The client might still be in outpatient or aftercare treatment, but the counselors in this program find that the person in recovery often does not share these issues. The counselor often does not have much access to the family members who are not in recovery, so it is difficult for the counselor to address issues with the couple or other family members.

For couples who are both in recovery, especially those who completed treatment at the same time, even more issues arise. These couples must rebuild their relationship. Often, they have not known each other as sober persons, and they must learn different ways to communicate, have fun, and spend time together. These issues are often brought up when the counselor is in their home, where these couples seem more relaxed and more open to discuss the issues.

Many other issues surround the posttreatment period. Poverty frequently is seen in the population served by the Empower for Recovery Program. Even in those families with employed adults, low wages make it difficult for the family to have a balanced budget. Their substance abuse may have interfered with education and job performance (Karoll & Poertner, 2002). Many single parents, especially, have been on welfare for a period of time. The recent 5-year limit on welfare is starting to affect some persons. Many lack medical insurance. Available and affordable childcare is difficult to find. Many former substance abusers have difficulty finding transportation. They do not have a reliable vehicle, they do not have a license, they cannot afford insurance, and public transportation is very limited. All these difficulties pose challenges to their finding employment, because they are often limited to small towns that have few available positions (Karoll & Poertner, 2002). The Empower for Recovery Program can assist clients in examining these issues and resolving the problems. For example, some programs offer short-term assistance, but families are often not aware of these programs; therefore, referrals can be very helpful.

Many of the women have been involved in abusive relationships. Surviving in these relationships is often more important to them than maintaining sobriety. The women feel trapped due to economic situations (Dore & Doris, 1998). Again, referrals made by the Empower for Recovery counselor can be beneficial.

Frequently, a history of child abuse, both physical and sexual, has occurred and results in ongoing mental health issues.

Persons in recovery often have not had positive models for parenting and therefore lack parenting skills (Karoll & Poertner, 2002). When DHS becomes involved and either removes their children or adjudicates their children as Children in Need of Assistance, women may become overwhelmed and find it difficult to maintain sobriety. Part of the Empower for Recovery Program is assisting these families, as discussed in the next component of the program—case management.

Case Management

A study conducted by Dore & Doris (1998) suggests that achieving and maintaining sobriety requires extensive support over a long period of time. Part of the problem in a rural area is finding that type of support. Groups in most communities can offer support, though sporadic and limited, for maintaining sobriety. However, issues other than not drinking or using occur, such as those mentioned in the previous section (poverty, DHS involvement, court involvement, insurance, transportation, and parenting). Usually, the persons' families have struggled with these issues for years. While persons were abusing substances, they tended not to worry about paying bills, found illegal ways to support themselves, or ignored the problems. Other family members were left to try to deal with these issues on their own. Now that the persons in recovery are trying to develop a sober lifestyle, they tend to feel overwhelmed by all the issues they are facing. The case management component of the Empower for Recovery Program assists families in this area.

One goal of the program is family financial independence. The family must work through this process and often needs assistance in reaching that goal. Some families have used every resource they could find in their area and thus have exhausted any further assistance. These families need help in learning how to develop a budget and to find ways to make enough money to follow the budget. They may need to learn living skills, such as learning to cook instead of depending on fast food. They may need to learn how to shop more effectively. They may need to look at getting job training or more education to obtain better paying employment. Some people do not have sufficient skills to maintain employment. For instance, they may not have learned good communication skills or may have difficulty in managing their emotions. After the persons return to the home setting, these issues become more evident than they were during treatment. Not addressing these issues can lead to failure in employment and/or personal relationships. Any failure at this point in their recovery can lead to relapse. These issues can be addressed best in the home situation. Referrals can be made to provide more assistance with areas in which a person lacks skills. At times, just offering support is helpful for the family.

Families who are struggling financially can be referred to appropriate agencies. Not all families are aware of all the programs for which they qualify. These programs can assist the family to become financially stable and move forward.

Parenting is another issue that commonly is important early in recovery. Many families in the Empower for Recovery Program are involved with DHS. But even in the families without DHS involvement, difficulties often arise in parenting while sober. By providing services in the home, a program can address parenting issues in the family's normal setting and normal circumstances. Referrals can also be made to collaborating agencies that provide parenting programs in the home.

The Empower for Recovery Program often discovers mental illness within the family. Mental health services are limited in the rural area and can be difficult for the families to obtain. Many families do not know where to start looking for help. Paying for medications may also be difficult.

Case management services assist in finding resources that enable families to receive the care they need. It is important for the Empower for Recovery counselor to have a background in mental health. The counselors involved in the CFR Empower for Recovery Program have a master's degree in mental health services and are Certified Substance Abuse Counselors.

Health insurance is another important issue. Many families do not have health insurance and are not aware of the programs that offer low rates for children. Referrals can also be made to some free clinics. The Empower for Recovery counselor can assist clients in finding appropriate health care for the family.

Transportation issues can hinder a family's recovery. If families do not have access to transportation, they cannot attend outpatient services. They often have a difficult time making appointments with DHS, housing assistance, and other agencies. These services may be as much as 40 miles away. Families may have difficulty in finding someone who has 3–4 hours to spend bringing the family to the appointment, waiting, and coming back. Through the Empower for Recovery counselor, persons can receive assistance with transportation or find other transportation resources through local volunteer agencies. The families are often unable to access these resources directly because an agency must make referrals.

Families learning new ways of coping in the early stages of recovery often find themselves in crisis. These crises can usually be dealt with during a phone call. All families are given a phone number for such crisis situations. At times, families will need to schedule an extra appointment to deal with a crisis.

A wide variety of other issues are brought up by families. By having the program services provided in the home and readily available, referrals can be made quickly, and assistance is readily available.

Family Issues

Family issues can be difficult for those in recovery. Family members are often left out of the treatment process. The Empower for Recovery Program has found that other members of the family often are angry and frustrated. Providing services in the home provides an opportunity for dealing with these family issues. Issues surrounding family roles and the unspoken rules often found in the homes of substance abusers are discussed and resolved. Family members can gain an understanding of their enabling behaviors and learn ways to offer healthy support.

Older children often have much built-up anger, both toward the substance abuser for continuing to use and toward the other parent for staying in the situation. For example, one teen had been referred to the Empower for Recovery Program because of the poor choices she was making. As she started to improve, she expressed her anger toward her father for his continued promises to stop using and his continued return to drugs and alcohol. She reported being tired of "being the parent" in her family and wanted to be a "normal" teenager. She was also angry at her mother for refusing to leave her father and start a new life. Finally, she was placed in foster care at her request.

Another component of the family-centered services is Family Team Conferencing. This concept was adapted from the model used by The Child Welfare Policy and Practice Group (Vincent, 2003). First, the Family Team concept is explained to the client. They can then choose whether to participate. If they chose to use a Family Team Conference, they decide who their support system includes—usually family members, friends, and service providers. If DHS is

involved, they are also included. Those persons identified by the client are notified and invited to a meeting. During this time, family strengths are identified. Those invited can bring up concerns they have regarding the substance abuse and related issues. The entire group then develops a plan to assist the family in reaching the family's goals and identifies who will provide what assistance. Safety plans are developed in case of relapse. This approach has proved to be extremely helpful. Those invited tend to become more involved because they have participated in developing the plan. The client also feels more of a sense of ownership.

Collaboration

A very important component of the Empower for Recovery Program is collaboration with other agencies. To ensure non-duplicated services and provide coordinated case management, a strong collaborative network has been developed. This collaboration eliminates fragmented services and ensures that all programs provided to the family are working toward the same goal. Developing a strong, collaborative, well-working relationship with other agencies is a process that takes time, patience, and persistence when starting a program like Empower for Recovery.

To provide helpful collaboration, meetings are often set with the family and all providers involved with the family. This is a more informal, smaller version of the Family Team Meeting. Releases of information are signed, allowing service agencies involved with the family to share information. The family is asked to share its goals. Any problems with the goal are discussed at this time. The family is asked what assistance it will need to achieve its goals. The providers then make suggestions on ways they believe they could help. A plan is created that identifies which providers will do what. The meeting also helps the providers speak with each other when working with families they all serve. Review meetings are set up on a regular basis so that movement toward the goals can be examined and any changes can be made. As a very strong component of the Empower for Recovery Program, collaboration not only helps address substance abuse issues but helps the family deal with underlying issues that might contribute to relapse. Involving service agencies in an integrated approach provides families with the tools needed for successful recovery.

Discharge

Discharge planning begins after any initial crisis period has passed. Often, if the referral is made during a crisis episode, this crisis must be resolved first. The family and the counselor discuss what goals the family would like to set. They also discuss what the family would look like when services are discontinued. This goal is reviewed periodically.

Dependency on the counselor is always a risk in this program. The counselor must be aware of interactions with the family and encourage autonomy. If a counselor notices dependency starting to develop, it is appropriate to discuss it with the family and incorporate a goal of family autonomy. Weekly review of the cases by a supervisor and/or peer counselor will help the therapist to remain objective and focused on the mission of the program.

Counselor Safety

When counselors go to a family's home, the counselor's safety is always in question. In the Empower for Recovery Program, this aspect is addressed by training the counselors. Basic training for safety includes a variety of approaches, such as safety information from other providers and referral sources. Also, having specific training in mental health and substance abuse makes the counselor more aware of common

characteristics of those who use specific drugs and individuals who may be under the influence. This training helps the counselor identify when not to stay and provide services. As in all situations, "gut instincts" are good indicators of what to do or not to do. Every counselor in the program has total control of engagement and disengagement as well as modifying interactive approaches.

This program also has very few first contacts in which the counselor does not have information from another agency. Almost all clients have been referred. Releases are obtained, and the family's situation is discussed with the referral agency. Any safety issues are brought up at that time. Each counselor also carries a cell phone at all times. Any time a counselor feels uncomfortable or unsafe, he or she can leave the situation.

Challenges, Problems, and Solutions

One of the biggest challenges in developing Empower for Recovery was establishing collaborative relationships. According to the original grant, the Empower for Recovery Program was to work with the Hopes/Building Families Programs in all three counties. Public Health nurses carry out these programs with families with children who are prenatal through age 5. The nurses work with the children's health issues as well as with child development and appropriate parenting skills. The initial collaborative efforts were awkward and challenging. No agency was sure how this process should work or how the Empower for Recovery Program would fit in with current programs. The programs Public Health was working with were also somewhat new. They were not sure how to present the Empower for Recovery Program to their clients. Persons in all agencies spent time getting to know each other, developing a common language, and being open to trying some new approaches. Cross-trainings helped to create a common language and approaches. As the program developed, the helpfulness of the collaboration became apparent. Families achieved better outcomes in a shorter amount of time. Although the Public Health nurses had some knowledge of substance abuse, and the staff of Empower for Recovery understood child development, by using our strengths and trusting the other agency to work from its strengths, the work with the family was both more effective and easier for the staff. As the collaboration between Public Health and Empower for Recovery developed, other agencies began to be drawn in to the collaborative process (such as advocates against domestic violence, social workers from DHS, school counselors, and persons from other agencies providing family-centered services). During the past 4 years, the agencies involved in collaborative processes have gained overall strength and become more effective in providing services.

Another challenge Empower for Recovery encountered was the expense of the program. Providing in-home services over a large geographical area has proved to be expensive. Much time is spent driving. However, when comparing the expense of a family's completing the program versus the long-term cost to the community of continued substance abuse, the cost does not seem so high. For example, helping a young, pregnant woman abstain during her pregnancy reduces her chances of having a child with Fetal Alcohol Syndrome (FAS). A child born with FAS can cost a county more than $3 million over a lifetime (Fetal Alcohol Syndrome, 2003). The program may also save the cost of foster care—approximately $900 per month in Iowa (Doug Koons, personal communication, January 2001). In addition, substance abusers who are in recovery are not reentering the legal system. Because these are long-term costs, they are often overlooked. In fact, persons who are in recovery are usually employed and contributing by paying taxes.

Outcomes of the Program

Families who participated in the program were involved for an average period of 6 months to 1 year. The program has tracked several specific outcomes, including maintained sobriety, measured at 6 months and at 1 year; founded charges of child abuse after entry into the program; and an increase in community involvement.

Thirty families have been discharged from the program. Of these families, nine were crisis situations and received services only two to three times. During these visits, the family situation was evaluated, and more appropriate sources of assistance were found. Six families dropped out of the program. Fifteen families have completed the program. At the end of 1-year postdischarge, eight substance abusers have maintained sobriety. One has reached 6 months. Four families have left the substance abuser, because the substance abuser has refused to stop using at this time; thus, the children are now in a safer situation. Two substance abusers have relapsed, but they have accessed services sooner than during previous relapses.

Case Study

Amy

Amy was a methamphetamine user who was failing in treatment due to continued use. She had had several previous treatment episodes. She was currently living with her husband, their common child (a 3-year-old son), her 18-year-old child from a previous marriage, and his two children from a previous marriage. Animals accessed the home through holes. The couple had debts of approximately $60,000. Amy's husband was manufacturing meth in the garage, although she denied knowing where he was manufacturing the drug. A history of domestic violence included several threats on her life. Amy also suffered from depression but was not being treated.

Amy was referred to the Empower for Recovery Program. When the Empower for Recovery counselor visited the home, she found the water and electricity had been disconnected. Amy had stopped opening the mail 3 months earlier, because she did not want to deal with any more bills. Therefore, the family had not received their food stamps and had not completed paperwork to receive any further assistance.

With assistance from the counselor, the local Domestic Violence Center, and Public Health, Amy was able to leave her husband. She felt this was the only way to maintain her sobriety, as he was not willing to stop using or manufacturing methamphetamines, nor was he willing to meet with the Empower for Recovery counselor. Amy obtained suitable housing, has been drug free for more than 2 years, and has completed some vocational technical education. She is employed and has followed through with treatment for her depression. Amy also paid off her share of their debt after the divorce.

Recommendations

This program began as part of an innovative program through the local Empowerment Board. At first, it was not known exactly how this program would fit with the other programs in existence. Through the work of Deb Rohlfs, this program has been refined and developed over the past 4 years. It would be beneficial to perform a formal research project on this program at this time.

Other screening tools are currently being examined to provide even better screenings and referrals. Motivational interviewing is a large component of the program's approach. However, at this time no formal tools are used to assess the clients' motivation. Addition of such a tool might prove advantageous. Exploring the use of mental health screening tools also might be useful.

The program has demonstrated some promising outcomes. Further study and refinement of the program might provide a more helpful approach in working with rural and frontier substance abusers.

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Delivering a Maternal Substance Abuse Intervention Program Along the Rural Route

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Area of focus: Rural mothers/women and alcohol and other drugs.

Abstract

We sought to design and deliver an indicated-level substance abuse prevention program for lower income mothers living in rural Vermont. The Rocking Horse program employed best practices for working with rural mothers, used sensitive outreach, and built the program in the community. This 10-week psychoeducation group modality, led by a maternal/child specialist and a licensed substance abuse treatment professional, provided education about the risks of alcohol and illegal drugs for women's health during pregnancy, and for young children living in substance-abusing families. Health education was delivered in a highly supportive format that emphasized building personal competencies. The short-term results suggest that this program is increasing knowledge of the harms caused by substance abuse and bolstering personal capacity to move away from this behavior.

Introduction

According to the National Household Survey on Drug Abuse (Substance Abuse and Mental Health Services Administration, 2002), the estimated rates of problem drinking and illegal drug use for women are climbing, and rural women are included in these trends (Rural Women's Work Group, 2000). Yet getting rural mothers the help they need to move away from this harm is challenging because they often hesitate to admit problems (Boyd, 1998). For many, revealing heavy drinking and drug use in the family may bring threats from close family members (Booth & McLaughlin, 2000); carry community disapproval toward them for behavior unbecoming a mother (Ettlinger, 2000); and capture attention from child welfare authorities. The limited availability of treatment services (Fortney & Boothe, 2001), the hurdles barring access to the programs, and the need for childcare and transportation (Bushey, 1997) further discourage them from seeking help early. For poor and nearly poor rural mothers involved with substance abuse firsthand

or secondhand, the rural poverty hardships they face may loom larger in their lives than the destructive nature of substance abuse. All too often, cultural norms, access barriers, and personal issues keep these women from getting help until they are in crisis. These observations, and the absence of prevention-level programs for this population, prompted a Vermont group of maternal/child professionals and substance abuse specialists to develop an alcohol and other drugs (AOD) intervention that might keep low-income mothers out of harm's way.

The Rocking Horse (RH) program attempts to intervene with these at-risk mothers before their circumstances escalate into a treatment crisis. The program was designed as an indicated-level prevention effort to interrupt the progression of risk. During the past 2 years, this Vermont program has served an estimated 225 lower income rural mothers who are at risk of substance abuse. Our evaluation suggests that this program is helping mothers build knowledge and skills to repair the personal and family harm that results from problem drinking and illegal drug use.

Getting Started: Designing the Rocking Horse Program

The RH program realizes that substance abuse is a part of our world and strives to reduce its tragic effects on maternal health by intervening early, both to decrease the vulnerability to this health threat and to increase the capacity to move away from this risky behavior. The program believes that changing risky behaviors depends on strengthening knowledge and skills through a caring approach that respects the women's culture and their traditions. The program also recognizes the harms from alcohol and illegal drug use that are specific to women's experiences (Ramlow, White, & Watson, 1997). Central to the program's framework are the concepts found in effective prevention efforts. Effective prevention at the individual level is based on building mastery, self-worth, and life skills and establishing rewarding relationships (Schinke, Brounstein, & Gardner, 2002).

Four main principles guided program development. First, the RH program recognizes that these mothers are nested in a background where sets of social and cultural factors may place them at risk for substance use. RH helps them recognize risk factors and provides strategies to reduce the harm. Second, RH also understands that substance abuse has grave consequences during pregnancy, and parental substance abuse places young children at risk. The program provides education on the serious outcomes of substance abuse during pregnancy and teaches skills to bolster safe and nurturing care of the young child. Third, the program realizes that these mothers face hardship, and their support networks may not be dependable. RH underscores substance abuse as a major factor in destabilizing personal development, family strength, and reliable friendships. The program model highlights setting goals, making decisions, managing stress, and recognizing healthy, rewarding relationships. Fourth, the RH program recognizes that these mothers are cautious and guarded for many reasons. Reaching and engaging these women call for using culturally matched approaches and sensitive outreach and lowering the barriers to access.

Delivering and Managing the Program

The RH program is a group modality that follows a 10-week curriculum. The content of the weekly groups has four major domains. Guided discussion explores substance abuse and women's health, substance abuse and relationships, substance abuse and young children, and substance abuse and life troubles. A maternal/child specialist and a licensed substance abuse treatment professional lead the weekly

groups. These leaders are women who live and work in the same rural communities and have a deep understanding of the culture and lives of the women they serve. The groups are conducted in nonagency community settings, and onsite childcare and transportation are provided. A particular feature of this program is providing the mothers with a small incentive at each weekly meeting. These small gifts recognize that being a mother is hard work and reward their efforts to solve problems. Additionally, special emphasis is placed on making the climate inviting and caring. The setting is private and comfortable, and snacks are provided for the mothers and their children.

The group process is sensitive to the culture of the mothers. Group leaders are mindful of the intergenerational patterns of substance abuse in families; often, healthy role models are lacking. The leaders function as teachers, mentors, and role models. They are very supportive and encourage the women to support one another in rewarding ways. Relational approaches and thoughtfulness are the key processes in group interaction. The groups close each meeting with a ritual that emphasizes self-care.

The mainstay of the RH program is its community aspect. It is not seated in any agency, nor is it part of an outpatient or residential substance abuse treatment program. Professionals from the network of programs that serve the local population collaborate to deliver the program. Multidisciplinary community teams of maternal/child, substance abuse, early childhood, mental health, and child protection workers, as well as family visitors, manage the program in their community. The group leaders who coordinate the groups receive supervisory and administrative oversight. The supervisory level maintains program integrity and gathers feedback from the field to refine the program. The administrative level concentrates on program accountability.

Program Evaluation Methods

The RH program was piloted for 3 years (1997, 1998, and 1999) in rural Vermont locations and served an estimated 60 women. The observational data from pilot groups in two communities suggested that the program was both reaching and engaging an at-risk group of younger mothers. The group leaders' findings suggested that the women were responsive, their attitudes were changing, and their binge drinking patterns decreased. In 2000, RH groups were implemented across the State, and an objective, measurable, evaluation component was developed.

Three methods are used to evaluate the program. The women complete a preparticipation and postparticipation survey and add narrative comments, and the leaders also complete a focused questionnaire. The preprogram and postprogram surveys are self-administered at the first and last group sessions. Each survey uses forced choice questions that are scored on a Likert scale. The 23 items are measures from the Center for Substance Abuse Prevention Core Measures Initiative (1999). These measures look for shifts in perception of handling stress, managing parenting, self-esteem, and establishing supportive relationships. The measures seek changes in perception about the risks of alcohol, tobacco, and illegal drugs in relation to women's health and pregnancy as well as their effects on young children. The tool gathers demographic data from the mothers and asks questions about their personal alcohol consumption and illegal drug use and that of their partner(s).

The leaders complete a log that records the number of women served and notes the time needed for program management. This log also records the number of women referred for treatment services. The postprogram survey that leaders complete elicits leaders' impressions about conducting the program, observations of the women attending, and comments about both the program's strengths and areas for improvement.

Results from Year 1 and Year 2

The data were analyzed using a t-test for matched pairs of preprogram and postprogram surveys. The following results are based on 124 completed sets of questionnaires (from a total of 167 surveys returned from the field) for groups conducted in 14 towns across the State in 2001 and 2002. Missing data reflect incomplete forms and unmatched surveys. The data suggest that 29 percent of the women do not complete the 10-week program, and more than one-third are repeating the program.

The demographic data show that the majority of the women are 22–35 years old, and two-thirds are single parents. Sixty-eight percent had their first baby during their teenage years; half of these women had not completed a high school education. More than 80 percent of the women had children under age 5, and 36 were pregnant. More than 60 percent of the mothers were not working and receiving Temporary Assistance for Needy Families benefits. About 25 percent of the women reported heavy drinking, and 40 percent reported that their partners were heavy drinkers. Almost 80 percent of the women stated that they had used illegal drugs in the past.

Data from year 1 and year 2 suggest several significant changes: a shift in perception of handling stress more effectively ($p = .008$), increased perception of risk from alcohol for women's health and during pregnancy ($p = .01$), increased perception of strong interpersonal support ($p = .003$), and an increased perception of self-worth ($p = .01$). Although not statistically significant, the data also suggest an increased perception of parenting skills and an increased understanding of substance abuse behavior patterns. The results show a reported 9 percent decline in their own binge-drinking behavior. The women's narrative comments are consistent across the 2 years with four major perceptions: The women report a very strong positive opinion of the group experience; they cite the importance of having a trusted space where they can talk about the effects of alcohol and drugs on their lives; they state that they have built new ways to manage their lives and feel more capable taking care of their babies and children; and they want to see this program continue because it is "worthwhile."

The leaders reported that they observed uninterrupted attendance; the women dressed up to come to the group; the group was referred to as "class"; dropping out was influenced more by the partner than by the attendee; the women often commented on being afraid to talk about AOD for fear of retribution; and the women had a startling lack of knowledge about sexually transmitted infections. The leaders suggested that 10 group meetings were not enough and recommended that the program be extended. The leaders also commented that this program was serving as an entry point for bridging many of the mothers into other services. The group leaders reported personal satisfaction in conducting these groups. They expressed alarm, however, about the norm of heavy drinking among these younger mothers and their great vulnerability to the mounting presence of drugs in the rural towns.

Despite the data suggesting that this program is having positive results, the findings must be viewed with caution. The evaluation design is empirically weak with only a preprogram and postprogram survey of the attending women. The results may be biased because the women are alerted to the postprogram survey questions by taking the initial questionnaire. No control of confounding variables was attempted. Additionally, missing data may have affected the results.

Discussion

Although the evaluation process has weaknesses, we nonetheless believe that the RH

program is leaving an imprint. The program is reaching and engaging a population that is at increased risk for substance abuse. The findings from this prevention effort suggest that the program is effectively delivering health education about the risks of substance abuse and helping the mothers increase their awareness about how AOD jeopardizes themselves, their pregnancies, and their young children. The women in the program also appear to be building coping skills and gaining self-confidence to manage their lives. The experience of genuine support also seems to help them identify healthy, rewarding relationships.

The group leaders and other professionals involved with the program view the program as greatly needed by this population of mothers. Until this program was launched, prevention efforts were absent. The treatment network stepped in when the women were in crisis—a demanding and often unfriendly entry point for treatment. The community teams note that early intervention may have interrupted a crisis situation for some of the mothers; for others, the program sparked recognition that they needed treatment. The community teams commented positively on their personal satisfaction in delivering this program. As well, the community teams have found that the structure of the program (not nested within an agency) has promoted shared ownership among the service providers.

Program Lessons Learned and Recommendations

We set out to address a profound maternal health risk for a population that usually keeps this risk well hidden. We discovered that "country mothers" are at risk of AOD and in need of prevention programming. We also learned that matching approaches to the intended population is an important key to engage people in helper programs. We believe that the strength and followthrough in the RH program rests with the collaborative efforts of the community teams. This program was based on grassroots participation of the many providers who work with these mothers. As this program was developed and discussed, these professionals came forward to head up implementation in their communities. It is clear that involving others from the beginning is a critical part of a program's success.

All programs need to be evaluated, and the methods and processes of the evaluation must be sound and objective. We have come to realize that field evaluation processes must be stringent. During the past 2 years, approximately 48 groups have been conducted in 14 communities by 11 teams of group leaders. Data accuracy problems have prompted a more structured and monitored data gathering process. Additionally, a strong evaluation design is needed to better determine the effectiveness of a program. Presently, we are moving ahead with a stronger experimental design that will include a comparison group and measure results of the comparison group against results of the intervention group. Without such a comparison, program outcomes are questioned.

Summary

Poor and nearly poor rural mothers face a collection of health threats. We encourage all professionals who work with these women not to overlook the possible presence of substance abuse in their lives. During the past 2 years we have found that we are drawing to the attention of the service system the issues of substance abuse among this population. The program is gaining recognition, and the referrals are growing.

Is the RH program making a difference? The short-term outcomes support the conclusion that we are engaging our intended population and helping these mothers increase their knowledge of AOD abuse and build skills to move away from AOD.

Equally important, the program is highlighting, at both program and system levels in our State, the presence of substance abuse for this group.

Finally, our findings support the need for both substance abuse treatment programs for rural mothers and further research into the strategies that will provide effective interventions for this population. We advance the notion that all efforts, from prevention to treatment, recognize that AOD is interwoven in the life fabric of these women. Therefore, addressing this problem must include attention to all the background influences that place these women at risk. Additionally, initiatives must recognize the strengths that these women possess as well as their attachments to their families. We also suggest that incorporating treatment programs into various community provider teams may create a spirit of engagement and promote shared ownership. These collaborations are often the key to a program's sustainability and growth.

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Socio-Demographic Profiles and Treatment Outcomes of Methamphetamine Abusers in Rural and Urban Areas

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Area of focus: Socio-demographic characteristics of methamphetamine abusers in rural and urban areas.

Abstract

This study compares methamphetamine abusers in rural and urban areas, specifically their socio-demographic characteristics, actual use behavior, and drug use and nondrug treatment outcomes. Data are derived from a larger dataset that is part of the Treatment Outcomes and Performance Pilot Studies Enhancement Inter-State Study. This larger study measured functioning or behavior of substance abuse treatment clients at admission, discharge, and posttreatment (6 months postdischarge or 9 months postadmission).

Both urban and rural methamphetamine abusers were predominately white and male. In urban areas, however, nonwhite methamphetamine abusers were more racially and ethnically diverse. More methamphetamine abusers sought treatment in urban areas, and these clients were more likely to be homeless. The average age of methamphetamine abusers was lower in rural areas, and these clients also had significantly more dependent children living with them. Posttreatment data showed that both rural and urban methamphetamine abusers saw significant decrease in number of arrests and significant improvement in employment status (full-time and part-time), independent living, and abstinence from methamphetamine use over the past 30 days. This study brings to light the shift in socio-demographic characteristics of methamphetamine abusers (e.g., from only white, blue-collar males) and also highlights the increase of methamphetamine use in rural areas. Prevention and treatment initiatives need to focus on these changes to better target the groups who need these services.

Introduction

Methamphetamine is an odorless, white crystalline powder—a powerfully addictive stimulant that can be snorted, smoked, injected, or taken orally. It dramatically affects the central nervous system, and long-term abuse can lead to aggression, violence, memory loss, psychotic behavior, and cardiac damage (NIDA, 2000; Volkow et al., 2001a; Volkow et al., 2001b). Because it can be synthesized using relatively inexpensive over-the-counter ingredients, methamphetamine can be made and subsequently distributed easily (NIDA, 2002).

In the 1950s, in the United States, methamphetamine was manufactured legally as tablets for medical use. However, nonmedical use spread among college students, truck drivers, and athletes. In the 1960s, with the introduction of injectable methamphetamine, this pattern changed and in 1970, the Controlled Substances Act severely restricted the legal production of injectable methamphetamine. Methamphetamine often goes by such street names (slang) as "crank," "chalk," "meth," "speed," "crystal," "ice," "sparkle," "clear," and "peanut butter" (ONDCP, 2001; NIDA, 2002).

Methamphetamine abuse has been the dominant drug problem in the San Diego, California, area for a long time (NIDA, 2002). However, methamphetamine abuse has now spread across the United States, no longer concentrated in California. It has spread to other sections of the West and Southwest, and Midwest portions of the country. Methamphetamine abuse has also spread from urban to rural areas, and the users themselves are no longer purely white, male, blue-collar workers (NIDA, 2002). The National Institute on Drug Abuse's Community Epidemiology Work Group reported in June 2001 that treatment admissions showed that methamphetamine was the leading drug of abuse among treatment clients in the San Diego area and Hawaii, which differs from treatment admissions in areas in most Midwestern and Eastern States, for example, Minneapolis-St. Paul and St. Louis, where methamphetamine abuse accounted for about 3 percent of total admissions, and Baltimore, where no stimulant-related admissions were reported for the first half of 2000 (NIDA, 2002). In 1999, 15 of the 50 States and the District of Columbia reported that 6 to 25 percent of the total substance abuse clients admitted for treatment identified methamphetamine as the primary substance of abuse. Of the 15 States, 7 were Midwestern States with admission rates between 6 and 16 percent (SAMHSA, 2001). The number of methamphetamine laboratory seizures in California reported to the Drug Enforcement Administration in 1997 increased to 1,273 from 879 in 1996. During that time period a significantly higher number of methamphetamine laboratories were also seized in the Midwestern States of Arkansas, Kansas, Missouri, and Oklahoma (California Border Alliance Group, 1998). This trend reflects the widespread proliferation of methamphetamine manufacture, trafficking, and use across the West and Midwestern States.

The shift in methamphetamine abuse from California to other sections of the country and the change in the demographic profile of the methamphetamine abuser are further supported by the results provided in this paper. Treatment samples from across the country provide clear evidence of the geographical spread pattern of methamphetamine abusers in the country. Treatment data from a representative sample of treatment centers from 19 States collected under the Treatment Outcomes and Performance Pilot Studies Enhancement (TOPPS II) Inter-State Study provide direct evidence of a general pattern of diffusion of this drug from its West Coast origin to Midwestern and Southern States (see table 1). Whereas methamphetamine abuse is highest in the West and Southwest, it is conspicuously absent or insignificant in East Coast States. Prevalence of methamphetamine abuse in

Table 1. Sample Rates of Clients Seeking Treatment for Any Methamphetamine Use (Primary, Secondary, or Tertiary Presenting Problem) in 19 TOPPS II States

States	Percentage of Treatment Clients Reporting Methamphetamine Use (Primary, Secondary, or Tertiary Problem) (n)	States	Percentage of Treatment Clients Reporting Methamphetamine Use (Primary, Secondary, or Tertiary Problem) (n)
California	48.8 (13,381)	New Hampshire	2.8 (389)
Utah	43.3 (667)	Massachusetts	1.6 (442)
Arkansas	34.2 (1,206)	Illinois	1.2 (1,569)
Oklahoma	24.5 (1,144)	Virginia	1.0 (955)
Arizona	24.4 (512)	New York	0.6 (855)
Washington	22.9 (14,977)	Rhode Island	0.8 (353)
Iowa	17.3 (400)	Connecticut	0.8 (385)
Missouri	15.4 (475)	Maryland	0.4 (10,090)
Texas	10.3 (892)	New Jersey	0.3 (1,002)
Kentucky	7.1 (604)		

the Midwestern and Southern States also signals the spread of the abuse into rural communities.

Purpose

As indicated above, the abuse of methamphetamine is not limited to urban areas only; it has spread to rural communities as well. Because very little systematic research has been done to document the abuse of this drug within rural populations, this study attempts to fill this knowledge gap by focusing on the socio-demographic characteristics of rural methamphetamine abusers who entered a substance abuse rehabilitation program. The study also describes the actual use behavior of treatment clients and their drug use and nondrug treatment outcomes. The study compares these results to characteristics of urban methamphetamine abusers. Specifically, the study addresses the following exploratory research questions:

- Do socio-demographic characteristics of methamphetamine abusers in rural areas differ significantly from those of methamphetamine abusers in urban areas?
- Do the two user groups vary in frequency of use and the route of administration of the drug?
- Is there a significant difference in the drug treatment outcomes (abstinence from using methamphetamine) and nondrug treatment outcomes (posttreatment employment status, criminal justice involvement, and living arrangement) of the two user groups?

Methods

Program and the Research Description

This study is part of a larger study (TOPPS II Inter-State Study) conducted under a cooperative agreement grant funded by the U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration in September 1998 with 19 States (see table 1 for a complete list of TOPPS II participating

States). A major purpose of the TOPPS II Inter-State Study was to develop an integrated picture of substance abuse treatment effectiveness in the participating States. To achieve this purpose, a prerequisite was to define common measures of client status and substance abuse treatment effectiveness and apply them to the data collected by participating States. The Inter-State Study used a single-group quasi-experimental pretest–posttest design with measures at three defined time periods. By measuring functioning or behavior at admission, discharge, and posttreatment (6 months postdischarge or 9 months postadmission), the design allowed consideration of posttreatment changes and their temporal stability. Sixteen States collected primary data, while three States extracted records of comparable data elements for the same time period from their existing Management Information System (MIS).

Sampling Strategies

The 16 Primary Data States (PDS) employed a two-stage sampling design to collect the data for the study. At stage one, the States selected a sample of treatment providers that constituted a good representation of the four modalities: intensive outpatient/standard outpatient, inpatient/residential rehabilitation, methadone, and other (such as case management, community living, continuing care, and extended care). Then, at stage two, the States sampled the clients receiving treatment from the selected treatment providers.

The States provided data that correspond to the standardized TOPPS II 31-item core dataset. Repeated measures were taken for most of the items at postdischarge followup from a sample of adult (18 years or older) clients. Data were collected by treatment center staff at admission and discharge. The 9-month postadmission followup data were collected by independent research organizations hired by the TOPPS II States. Data were sent to the TOPPS II Technical Assistance Center for the Inter-State Study analysis. The PDS provided a sample of 24,087 clients. Posttreatment followup completion rates ranged from a low of 17.1 percent to a high of 92.38 percent, with an average of 62.15 percent. A limited number of the core data items were collected at discharge. The Secondary Data States provided records for 38,187 clients from their MISs. These States were able to extract from their interagency databases a limited number of core dataset items pertaining to posttreatment outcomes. The two sources generated a total of 62,274 cases. The study protocols of participating States were reviewed and approved by an Institutional Review Board.

A subset of the larger dataset was used for this study. This study is based on a total of 17,588 samples submitted by 142 treatment providers from 7 States (Arkansas, California, Iowa, Kentucky, Missouri, New York, and Utah). Samples from the seven States were used in this study because they had either the most methamphetamine users or provided the larger proportion of rural clients. Approximately 7 percent of the samples (n=1,182) were clients receiving services from providers in rural settings.

Variables of Interest

Variables used in this study are a subset from the larger TOPPS II Inter-State Study. Variables were selected based on their predictive value as well as substantive value. The importance of these variables has been very well documented by previous studies in the substance abuse field (McLellan, Belding, McKay, Zanis, & Alterman, 1997; Hubbard, Mardsen, Rachal, Harwood, Cavanaugh, & Ginzburg, 1989; Hubbard, Craddock, Flynn, Anderson, & Etheridge, 1997; Aglin & Hser, 1990; Hubbard, 1992; McLellan, Woody, Metzger, McKay, Durrell, Alterman, & O'Brien, 1996; Mirin, Gosset, & Grob, 1991; Ball & Ross, 1991; D'Aunno

& Vaughn, 1992; McLellan, Alterman, Cacciola, Metzger, & O'Brien, 1992; Ahmed, Yusuf, Hussain, Cacciola, Foltz, McKay, & Weiss, 2003).

Three types of variables were included in this study—a set of socio-demographic variables, methamphetamine use-related variables, and methamphetamine treatment outcomes variables. The socio-demographic variables included gender, age (18–20, 21–29, 30–39, and 40 or older), race (American Indian/Alaska Native, Asian, African American, Native Hawaiian/Pacific Islander, white, Hispanic, other, and multiracial), marital status (married/remarried/widowed, separated/divorced, and never married/single/cohabitating), employment status (full-time [30 hours or more per week], part-time, not working but looking for a job, and not in the labor force), education (< high school, high school degree, and some college or college degree), dependent children (no children, one child, and two or more children), and living arrangement (homeless, living with someone as a dependent, and living independently).

There were three methamphetamine use-related variables: age at first use of methamphetamine (<11, 11–17, 18–20, 21–34, 35–44, and 45+), frequency of methamphetamine use (no use in the past month, 1–3 times in the past month, 1–2 times per week, 3–6 times per week, and daily), and the route of administration (oral, smoking, inhalation, injection [IV/Intramuscular], and other).

Methamphetamine treatment outcomes variables included treatment completion status, rate of change in use behavior from admission to 9 months postadmission (frequency of use variable at the three time periods used), rate of change in arrest rate from admission to 9 months postadmission, rate of change in employment from admission to 9 months postadmission, and rate of change in living arrangement from admission to 9 months postadmission.

Methamphetamine was one of the 18 specified drugs for which a client at intake was asked to provide frequency of use, age at first use, and route of administration. The response regarding frequency of use of a particular drug helped the counselor or data collector determine whether that drug use was a primary, secondary, or tertiary drug problem. In this study, all three types of drug problems were included in the analysis.

Designation of Rural and Urban Areas

A provider is designated as rural if the county in which it is located has a population of fewer than 50,000; otherwise it is designated as urban. The population size of counties is based on 2000 Census information. Because a majority of clients reside in the area in which they are receiving treatment, they are accordingly described as rural or urban clients. Kentucky, Arkansas, California, Iowa, and Utah contributed most of the sample of rural clients in the study. Approximately 7 percent (n=1,182) of the study sample was rural clients.

Data Analyses and Statistical Procedures

As mentioned previously, a subset of a larger dataset was selected for the purpose of this study. Descriptive analysis was used to obtain the frequencies and percentages. The chi-square significance test was used to test for statistical significance of two categorical variables (e.g., gender of methamphetamine abuser by rural-urban setting). The independent t-test was also used to test for significant differences in continuous variables (e.g., age). Finally, McNemar's chi-square test for a 2 x 2 contingency table was used to test for the significance of the differences of repeated measures (e.g., use or abstinence at admission versus use or abstinence at followup).

Socio-Demographic Characteristics of Rural and Urban Clients

Descriptions of the socio-demographic characteristics of the rural and urban clients in the sample follow.

Gender

In both rural and urban locations, treatment clients were predominantly male. However, there were proportionately more male rural clients (68 percent) than urban clients (59 percent).

Race and Ethnicity

The majority of the clients were white, with 56 percent receiving treatment in an urban setting and 85 percent in a rural setting. Some other rural racial groups abusing methamphetamine were African Americans (3 percent), Hispanics (2 percent), and American Indians (2 percent). The proportion of Hispanics and African Americans was much higher in the urban sample—15 percent and 18 percent, respectively. In both settings, a significant proportion identified themselves as multiracial—3 percent in rural areas and 5 percent in urban areas. In the urban sample, 20 percent listed their ethnic origin as Hispanic or Latino, compared to 5 percent in the rural sample. Ninety-six percent of the clients who were multiracial were of Hispanic origin.

Age at Admission

There was a small but statistically significant difference in the average ages of rural and urban clients in the sample. The average age of rural clients was 33 years, whereas the average age of urban clients was 35 years. The median ages were 34 and 38 years, respectively.

Education

In both settings, 34 percent of the clients had no high school education. The percentage of clients with high school degrees was slightly higher in the rural areas—47 percent versus 44 percent. This distribution indicates that the majority of the clients had a high school or college education.

Employment Status

The employment rate was higher among rural clients. In the rural sample, more than 43 percent of the clients were employed either full time or part time, compared to 35 percent in the urban sample. Consequently, far fewer rural clients reported not being in the labor force—29 percent versus 40 percent for rural and urban clients, respectively. However, the unemployment (looking for job) rate was slightly higher among rural clients (28 percent versus 25 percent).

Marital Status

The proportion of married, remarried, or widowed clients was higher in the rural sample (27 percent versus 21 percent). The majority of the clients had either never married or were separated/divorced. Although the divorced rate was higher among rural clients (26 percent), the prevalence of never married/single status was much higher among urban clients, with 46 percent compared to 36 percent in the rural areas. Rural clients had a higher percentage of cohabitation (2 percent) than urban clients (less than 1 percent).

Number of Dependent Children

The number of dependent children (no child or one or more children) was virtually the same for the rural and urban clients (41 percent with no children, 21 percent with one child, and 37 percent with two or more children).

Living Arrangement

Homelessness among the clients was more prevalent in the urban areas. Only 3 percent of the rural clients were homeless, compared to 15 percent of the urban clients. When the homelessness category is merged with those living as dependents, the percentage of clients at risk of being homeless (i.e., homeless and dependent) increases to 33 percent among urban clients, compared to 19 percent among rural clients.

Major Findings

Socio-Demographic Characteristics of Methamphetamine Users in Rural and Urban Areas

The study sample revealed differences in the prevalence rates of methamphetamine abuse among rural and urban clients. For example, in the urban sample, more than 43 percent reported that they were in treatment for using methamphetamine (primary, secondary, or tertiary drug problem), as compared to 28 percent in the rural sample. This difference was statistically significant.

No significant difference was observed in the number of male and female methamphetamine abusers in the two settings. In each case, a little more than half of the users were male.

The average age of rural methamphetamine abusers was slightly lower than that of urban users—30 years compared to 33 years. This difference was statistically significant.

More than 90 percent of the rural methamphetamine abusers were white. Hispanics (3 percent) and American Indians (3 percent), however, were also using the drug. There were virtually no African American users in the rural areas in the sample. On the urban side, although the majority of urban clients were white, the rate was much lower than in rural areas—only 67 percent white. The urban sample included 17 percent Hispanics, 4 percent African Americans, 3 percent American Indians, and 3 percent Asians. The racial mix of urban abusers was more diverse than that of rural abusers (see table 2).

The marital status of rural and urban methamphetamine abusers did not vary significantly. Approximately 20–22 percent were married/remarried/widowed, 34–36 percent were separated/divorced, and 42–47 percent were never married/single or cohabitating.

Users did vary significantly in the number of dependent children living with them. Thirty to thirty-six percent of rural and urban abusers did not have any children living with them. Twenty to twenty-three percent had one child living with them. Half of the rural clients, compared to 42 percent of the urban clients, had two or more children living with them.

Homelessness among methamphetamine abusers was much more prevalent among urban clients than among rural clients. In rural settings, 5 percent of the methamphetamine abusers were homeless, compared to 15 percent in urban settings. Users in a dependent living status, however, were more likely to be rural clients. One-quarter of the rural clients reported a dependent living arrangement, compared to 19 percent of the urban clients. In both settings, the majority of the users were living independently: 71 percent for rural and 66 percent for urban. When controlling for gender, female methamphetamine users (55 percent) were more likely to be homeless or at risk of being homeless than male users (39 percent). The pattern for urban areas was similar, with a slightly lower rate than that in rural areas.

Roughly one-third of the clients in both rural and urban areas were employed: 34 percent of the rural clients and 28 percent

Table 2. Socio-Demographic Characteristics of Rural and Urban Methamphetamine Abusers and Nonabusers

Socio-Demographic Characteristics	Location			
	Rural		Urban	
	Not a Methamphetamine Abuser % (n)	Methamphetamine Abuser % (n)	Not a Methamphetamine Abuser % (n)	Methamphetamine Abuser % (n)
Race				
American Indian/ Alaska Native	56 (14)	44 (11)	50 (176)	50 (178)
Asian	100 (2)	0 (0)	45 (162)	55 (196)
African American	99 (80)	1 (1)	91 (2,735)	9 (268)
Native Hawaiian/ Pacific Islander	100 (2)	0 (0)	39 (28)	61 (43)
White	70 (700)	30 (296)	48 (4,356)	52 (4,748)
Hispanic	45 (9)	55 (11)	54 (1,308)	46 (1,105)
Other	80 (4)	20 (1)	51 (100)	49 (97)
Multiracial	80 (32)	20 (8)	50 (427)	50 (430)
Marital Status				
Married/Remarried/ Widowed	77 (242)	23 (74)	61 (2,070)	39 (1,325)
Separated/Divorced	70 (283)	30 (120)	56 (3,013)	44 (2,376)
Never Married/Single/ Cohabitating	68 (299)	32 (140)	55 (4,108)	45 (3,324)
Employment Status				
Employed Full Time	81 (295)	19 (69)	60 (2,325)	40 (1,521)
Employed Part Time	71 (98)	28 (39)	57 (1,068)	43 (820)
Unemployed, Looking for a Job	65 (213)	35 (115)	52 (2,088)	48 (1,959)
Not in Labor Force	67 (221)	33 (111)	58 (3,826)	42 (2,776)
Dependent Children				
No Children	79 (364)	21 (98)	64 (4,302)	36 (2,431)
One Child	73 (177)	27 (65)	53 (1,849)	47 (1,624)
Two or More Children	62 (260)	38 (160)	50 (3,027)	50 (2,983)
Living Arrangement				
Homeless	56 (19)	44 (15)	57 (1,372)	43 (1,023)
Dependent	57 (105)	43 (80)	54 (1,516)	46 (1,317)
Independent	75 (682)	25 (231)	57 (6,201)	43 (4,628)
Education				
Less than High School (<12 Years)	71 (286)	29 (115)	53 (2,979)	47 (2,601)
High School Degree (12 Years)	70 (387)	30 (165)	53 (3,774)	47 (3,334)
Some College or Higher Degree	74 (160)	26 (55)	69 (2,497)	31 (1,132)
Age Categories				
18–20	65 (76)	35 (41)	53 (500)	47 (435)
21–29	66 (229)	34 (120)	44 (1,804)	56 (2,266)
30–39	68 (272)	31 (125)	52 (3,041)	48 (2,826)
40+	84 (268)	16 (50)	72 (3,980)	28 (1,551)

of the urban clients reported being unemployed or looking for a job. One-third of the rural clients were not in the labor force, compared to 39 percent of the urban clients. The differences are statistically significant.

Methamphetamine users in rural and urban areas did not differ significantly in their educational status. Approximately 34–37 percent had no high school education, 47–49 percent had a high school degree, and 16 percent had some college or a higher degree.

Drug Use and Nondrug Outcomes in Rural and Urban Areas

The rate of completion of treatment was slightly lower among rural clients (37 percent) than among urban clients (39 percent). In rural areas, the percentage of clients not completing treatment due to incarceration was slightly higher (6 percent versus 3 percent in urban areas). The rate of clients leaving treatment against professional advice, however, is higher in the urban settings (43 percent versus 39 percent in rural settings).

There was no significant difference in the average age at first use of methamphetamine between rural and urban clients—20 years (see table 3).

Although smoking methamphetamine was the most common route of administration for both rural and urban clients, urban clients (51 percent) used it more often than the rural clients (37 percent). The percentage of users inhaling the drug was slightly higher among rural clients (29 percent) than among urban clients (26 percent). Similarly, the percentage of users injecting

Table 3. Age at First Use, Frequency of Use, and Route of Administration for Rural and Urban Methamphetamine Abusers

Use-Related Variables	Rural % (n)	Urban % (n)
Age at First Use		
<11	1 (4)	1 (73)
11–17	47 (153)	43 (3,001)
18–20	20 (67)	21 (1,443)
21–34	27 (90)	30 (2,116)
35–44	4 (14)	5 (373)
45+	0.3 (1)	0.2 (12)
Frequency of Use		
No use in past month	58 (193)	59 (4,188)
1–3 times in past month	19 (64)	16 (1,142)
1–2 times per week	8 (25)	8 (544)
3–6 times per week	7 (24)	9 (615)
Daily	8 (28)	8 (581)
Route of Administration		
Oral	7 (22)	4 (275)
Smoking	37 (118)	51 (3,619)
Inhalation	29 (97)	26 (1,797)
Injection (IV/intramuscular)	28 (91)	18 (1,289)
Other	0.9 (3)	1 (77)

methamphetamine was higher among rural clients (28 percent) than among urban clients (18 percent). Also a higher percentage of rural clients (7 percent) than urban clients (4 percent) were taking the drug orally.

The frequency of use among rural and urban clients was almost identical. Approximately 60 percent of both rural and urban clients reported at intake no use of methamphetamine in the 30 days prior to admission. It may be noted that no use in the past 30 days could be attributed to several factors, including living in a controlled environment (e.g., jail), a treatment provider's requirement of no use for a certain amount of time before treatment could begin, or other external pressures (e.g., monitoring by the criminal justice system through probation or parole). Of those who reported using the drug at the time of admission, 16–19 percent were using it 1 to 3 times per month, 8 percent were using it 1 to 2 times per week, 7–9 percent were using it 3 to 6 times per week, and 8 percent were using it on a daily basis.

Treatment outcomes for methamphetamine abuse in both rural and urban settings were virtually identical. In both locations, 92–93 percent of the treatment clients reported abstinence from methamphetamine abuse for the past 30 days at the posttreatment (9 months postadmission) followup (see table 4).

The three nondrug outcomes measured were arrest records, living arrangements, and employment. In rural settings, at admission 53 percent of the clients reported having been arrested in the past 6 months. At posttreatment followup this percentage was 22 percent. In urban settings, at admission 40 percent of the clients reported having been arrested during the past 6 months, and at followup the rate was 16 percent.

At admission 22 percent of the rural methamphetamine treatment clients were either homeless or at risk of being homeless. At followup, this figure dropped to 17 percent. In urban settings the percentage of homeless or at risk of being homeless clients was

Table 4. Drug Use and Nondrug Treatment Outcomes of Rural and Urban Clients

	Rural % (n)		Urban % (n)	
	At Admission	At Followup	At Admission	At Followup
Frequency of Use				
No Use in Past Month	60 (59)	93 (92)	56 (644)	92 (1,073)
1–7 Times/Week	40 (40)	7 (7)	44 (517)	8 (88)
Arrest Incidence				
No Arrest	47 (71)	78 (118)	60 (915)	84 (1,283)
Arrested	53 (81)	22 (34)	40 (612)	16 (245)
Employment Status				
Not Employed	69 (150)	36 (55)	66 (1,000)	44 (699)
Employed	31 (47)	64 (97)	33 (524)	56 (855)
Living Arrangement				
Homeless	22 (34)	17 (26)	30 (452)	24 (352)
Independent	77 (116)	83 (124)	70 (1,046)	76 (1,146)

30 percent at admission. At followup the figure had dropped to 24 percent.

In urban settings, the full-time and part-time employment status of clients increased from 33 percent to 56 percent from admission to followup. The employment rate among rural treatment clients increased from 31 percent at admission to 64 percent at followup.

Conclusion and Discussion

Judging from the use behavior of treatment clients, methamphetamine is very much an urban phenomenon. Almost half of the treatment clients in the urban setting presented methamphetamine as their primary, secondary, or tertiary problem. The use of methamphetamine among rural populations, however, has become very common too. In some States (California and Utah), almost half of the drug users are methamphetamine abusers. One of the major reasons cited for the spread of methamphetamine in the rural areas and deserts is the ease with which it can be manufactured there (because the telltale odors of the production process are less likely to be detected). Mobile labs in campers and vans have been reported on some major highway routes. In addition to increased manufacture of methamphetamine in rural settings, there is increased usage of methamphetamine by rural populations, as this study has shown.

The socio-demographic profile reveals that methamphetamine abusers in rural settings are younger than their urban counterparts. Although rural methamphetamine abusers have similar educational background, marital status, and gender distribution when compared to urban methamphetamine abusers, they do vary significantly in their racial makeup, family size, and employment status. Whereas smoking is the most common route of administration for both groups, rural methamphetamine abusers are more likely to be injecting or inhaling the drugs. Regarding treatment outcomes, rural clients have a slightly higher probability of involvement with criminal justice and have a higher treatment dropout rate. With regard to the rate of posttreatment abstinence from using methamphetamine, the treatment outcomes were the same for the two groups. In general, the nondrug treatment outcomes (employment status, arrest rate, and living arrangements) showed significant positive results for both groups. However, the rate of change varied by location: the decrease of arrest incidents in the past 6 months was much higher in the rural areas, the decline of homelessness was slightly higher in the rural areas, and the recovery from unemployment at posttreatment is much slower in the rural areas.

This study has potential limitations that may require the results to be interpreted with some caution. The designation of rural or urban status was assigned poststudy based on the location of the treatment center. There is a possibility that this assignment might lead to some misspecification of the clients' residential status. Although the overall size for the rural sample was adequate, some estimates of rates may be biased due to small cell size for certain categories. Also, the treatment outcomes of clients should be used with caution. The attrition rate of samples at 9 months post-admission was rather high, leading one to wonder what type of bias may have been introduced in the sample due to the absence of input from nonrespondents.

An important treatment implication of the findings of this study is the association of treatment completion with positive outcomes. As has been documented in the larger TOPPS II study, treatment completion was associated at followup not only with abstinence, but also with employment and independent living. Treatment completion appears to be a reasonable overarching treatment goal that providers can help clients achieve. The study has shown that

the rate of dropout from treatment is higher for rural clients. This implies that unless treatment providers can help decrease the dropout rate of rural clients, treatment outcomes such as abstinence, employment, and independent living will be negatively impacted. Because treatment completion is important, it may be helpful to focus on enhancing motivation or other strategies of treatment engagement to support the likelihood of both treatment completion and abstinence. Abstinence prior to admission was related to treatment completion and to abstinence at discharge and followup. Specifically, clients who achieved a period of abstinence (30 days in this case) prior to entering a substance abuse rehabilitation program were more likely to complete treatment and maintain abstinence. This suggests that initial abstinence for whatever reason, such as recent time spent in a controlled environment or internal or external pressures (e.g., monitoring by the criminal justice system through probation or parole), provides the clinician with an opportunity to support and build on positive behavioral change that already has been initiated.

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An Environmental Scan of Faith-Based and Community Reentry Services in Johnson County, Iowa

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Area of focus: Community corrections, substance abuse treatment providers and faith-based organizations supporting reentry clients.

Abstract

Although the numbers are often ignored, each year nearly 500,000 people are released from incarceration in the United States and this number continues to grow. During 2001, one in four probationers failed in the community because of a drug law violation, and another 18 percent failed due to a charge of driving while intoxicated. Many offenders also are estranged from family, jobs, and other social support systems. Rural communities are burdened uniquely because lack of transportation and childcare challenge accessibility to resources located in larger communities. Individuals are left to their own means and must seek whatever services they can find within their local rural communities.

Establishing connections with a crime- and substance abuse-free community is critical to success. Faith-based organizations are frequently a point of contact for rural adults and families experiencing problems. Faith-based organizations have unique strengths in providing services and assistance to those in most need. However, little is known about the kinds of services and the tremendous amount of support they provide.

Three groups were identified to provide information regarding community outreach in Johnson County, Iowa: community corrections; substance abuse treatment providers; and 13 faith-based organizations, each having a unique mission to serve those in need. Face-to-face interviews and focus groups assessed the services in Johnson County that might be beneficial to reentry clients either coming home to communities or relocating to new ones.

Faith-based organizations provide both a wide variety of direct practical services and the opportunity to establish a sense of community belonging. Both corrections and substance abuse treatment representatives reported that faith-based communities might benefit from training concerning reentry clients. Improved communication among these groups would improve the faith-based communities' capacity to deal with reentering adults. Training, support, and a small infrastructure would vastly increase groups' capacity to provide benefits to larger numbers of reentering individuals.

Introduction

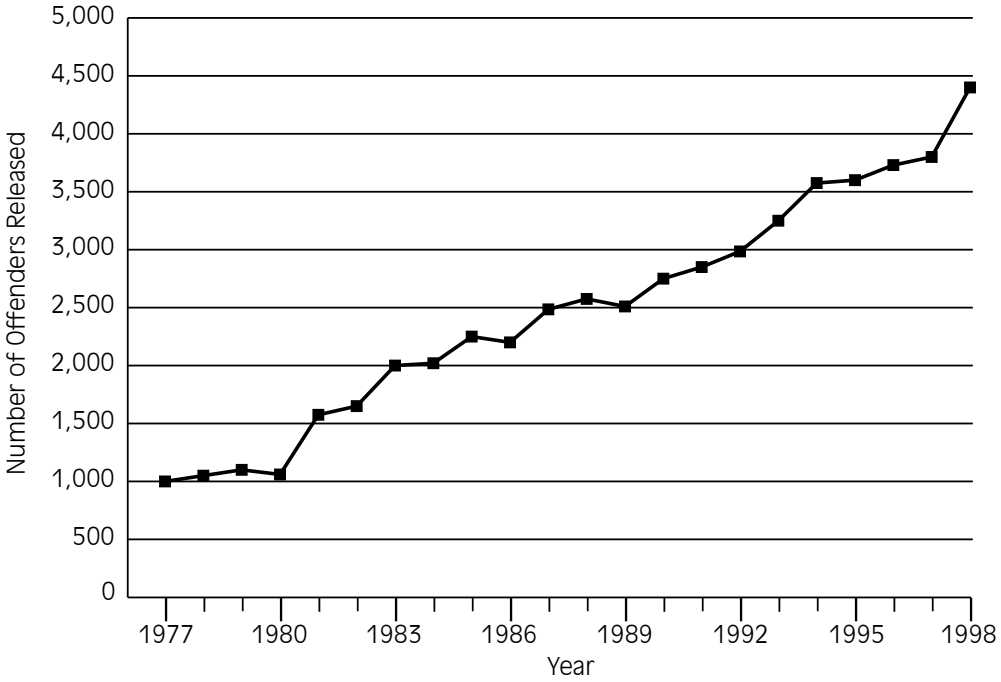
Over the past 2 years, the State of Iowa has experienced severe budget cuts. Budget shortfalls directly affect human service agencies across the State. Rural communities experience the greatest effect of the cuts, because many human services in these small towns are eliminated. Barriers to accessibility to services in larger communities are lack of transportation and lack of childcare. Individuals are left to their own means and must seek services within their communities. A common belief is that faith-based organizations are frequently the first point of contact for rural people and families experiencing problems. Faith-based organizations have a long history of reaching and aiding individuals and families in need, and these organizations often fill service gaps in public support.

Special population segments—such as ex-offenders or individuals leaving substance abuse treatment who are attempting to reenter their communities—require support and safety mechanisms to facilitate reintegration. Little attention and few resources have been given to assist systematically and comprehensively with the successful reentry transition for people released from incarceration. Faith-based and community-based organizations have unique strengths in providing services and assistance to those most in need. They have a strong understanding of the needs of a community; however, we know little about the kinds of services and the tremendous amount of support they provide.

Nationally, more than one half million (561,020) sentenced prisoners were released from State or Federal correctional institutions in 1998 (Bureau of Justice Statistics, 2000). Nearly one half of all released offenders fail to reenter the community successfully, and they return to prison within 3 years (Langan & Levin, 2002). Increasing an offender's chance to integrate successfully back into the community would have substantial and widespread benefits.

In Iowa, 4,342 reentered the community in 1998. As shown in figure 1, the number of released prisoners has grown steadily over the last two decades (Bureau of Justice Statistics, 2000). In 2001, Iowa's prison population reached 8,116, along with 26,670 offenders who were being supervised by Community Corrections. In 2001, 5,250 left prison and reentered the community (Harrison & Karberg, 2003). Each month, more than 400 offenders enter Iowa's prison system and more than 400 leave for reentry. The Iowa Department of Corrections plans to increase its use of community corrections; thus even more offenders will be struggling to integrate into the community (Iowa Department of Corrections, 2002).

Figure 1. Number of Sentenced Prisoners Released From State or Federal Jurisdiction: Iowa 1977–1998



Most reentering offenders face many barriers to successful integration. A large number of people in prison (Mumola, 1999) and on probation (Mumola & Bonczar, 1998) have a history of drug and alcohol abuse and dependence. During 2001, one in four probationers failed in the community because of a drug law violation, and another 18 percent failed due to a charge for driving while intoxicated (Glaze, 2002). Many offenders are also estranged from family, jobs, and other social support systems. The above factors make integration into the community difficult. Connections with a crime- and substance abuse-free community are critical to their success. Faith-based communities offer just such a combination.

Faith-based communities also offer other services to individuals and groups. These range from free lunch programs, to smaller, less formal services, spiritual counseling, and use of the organization's property to host Alcoholics Anonymous meetings. Additionally, these organizations offer opportunities to integrate into a community and a social support network. Given the variety of such possible services, the need for multiple supports for reentering offenders, and the lack of information about such offerings, we decided to initiate an environmental scan of these types of activities in Johnson County. We also were interested in how faith-based organizations would react to government grant support for their efforts. In addition, we contacted community corrections (probation and parole) officers and a local substance abuse treatment and prevention agency for their views and perceptions of client needs and their relations, and we examined their current relationships with local faith-based organizations.

Method

The Consortium identified three target groups with a potential to provide information regarding community outreach in this area:

(1) Sixth Judicial Correctional Services, Coralville, Iowa, is the Johnson County community-based organization

providing correctional supervision for probation and parole clients reentering the community.

(2) The Mid-East Council on Chemical Abuse (MECCA) in Iowa City is the local community-based organization that provides treatment and prevention services to adults, children, and families in Johnson County. MECCA's input is valuable because the majority of its residential clients are correctional clients as well. Such an agency can provide information about faith-based connections that are currently available and assist in assessing the needs of clients reentering the community.

(3) Johnson County faith-based organizations have developed their own unique outreach missions, and several organizations are part of an interchurch coalition that addresses larger issues on a countywide basis.

The Consortium developed a template for a semistructured interview process to gather specific information concerning corrections, substance abuse prevention and treatment, and faith-based organizations. Phone calls, face-to-face interviews, and focus groups were conducted to collect assessment data regarding the services in Johnson County that might be beneficial to reentry clients either coming home to communities or relocating to new ones.

The Consortium conducted a 1-hour focus group with five staff members from the Sixth Judicial District parole/probation unit. The group included administrators, supervisors, parole/probation officers, and counselors. A 1-hour face-to-face interview with the Director of Services at the Sixth Judicial District also was completed. The 1-hour focus group session with six members of the MECCA staff included counselors, case managers, clinical supervisors, and residential support technicians.

Efforts to survey faith-based organizations in Johnson County in regard to their outreach and community service work were initiated by contacting a convenience sample of 15 rural and urban organizations. The organizations approached were diverse in size and included Christian, Jewish, and Muslim faiths. The phone contact invited participation in a 45-minute interview with Consortium representatives. The Consortium staff completed 11 face-to-face interviews from April 8 through May 27, 2003.

Results

1. Sixth Judicial District Community Corrections

The administrators, supervisors, parole/probation officers, and counselors from the Sixth Judicial's focus group identified several challenges facing clients as they work to reenter the community after incarceration. Information from the focus group session is summarized below:

The group estimates that 80–85 percent of its probation and parole clients also are working to remain clean and sober while they seek a more supportive community structure. The group noted that clients must work hard to change their associations and their community support in relation to criminal behavior and substance abuse.

Appropriate jobs are much less available than 4 or 5 years ago, and the hourly wage has also decreased. Many clients do not have driving privileges and/or cannot afford vehicles or insurance. Medical services are often unavailable because of unsettled debts from back bills left unpaid, lack of insurance, and inability to pay hospital fees. Unless a crisis situation demands emergency care, mental health waiting lists through local community mental health systems are backlogged 12–16 weeks for assessment/evaluation. Limited beds for detox are a huge problem as relapse occurs. At times, relapsing adults end

up reincarcerated or are sent home with family members who are not skilled in provision of safe care, simply because detoxification services or immediate treatment is not available.

Interview respondents reported that their client assessments include questions about interest in church or other spiritual avenues. When a client expresses an interest in faith-based support, however, correctional staff members often feel they do not have enough information to be of assistance. No formal organizational links exist between faith-based initiatives and corrections, but several staff members, as individuals, have referral ideas for clients interested in faith-based support.

Johnson County has a Circles of Support and Accountability Group which follows a restorative justice model that asks clients who are about to reenter the community to make a commitment to a self-selected support group. This "circle" meets regularly with the individual to hold him or her accountable for remaining crime free, drug free, and alcohol free, as well as to provide support when the individual faces difficult times and challenges. Circles of Support and Accountability programs are in their infancy in Johnson County.

Focus group respondents expressed interest in improving the linkages with faith-based initiatives. They think their clients would respond in a positive way. Community churches and synagogues would be a positive place to begin the long road to establishing or reuniting the individual with a supportive, healthy community.

The parole and probation officers suggested that some assistance would be helpful, such as brochures that list county faith-based initiatives, referral contact information, and a brief description of what it would be like to go to a service. Clients often report hesitation about starting over at a church, wondering what they would need to wear, and having many fears about what others will think "when people find out what they have done and where they have been."

"Going to a new church is a great vulnerability for most of the clients…. It would help me to know I was sending them to a welcoming place."

Respondents also felt that educational assistance would be beneficial for community volunteers who want to serve this reentry population. Often the best of intentions in volunteers can lead to frustration due to lack of understanding about how many obstacles reentry adults face and how addiction recovery plays a significant role in their success. It would be important for the collaboration and communication between faith and mandated services to be open and clear so that Sixth Judicial Services could help volunteers understand what needs to happen from a community corrections perspective. The group felt that, through education, people could truly help and not enable reentry persons to continue to take advantage of a system that is not effectively linked.

Respondents concluded by stressing that sustainability of community support is the answer to success. Band-aid services and professional organizations that assist in early reentry are great for short-term support, but the long hard work of staying free of crime and substances is dependent on how supportive the community is long after the professionals are no longer providing services. To ensure that, years down the road, a reentry client has the support needed to be successful, the service provision for support must come to the neighborhood and not the reverse. Faith-based initiatives could

start small with social meetings that allow people to meet and learn about one another. Faith-based organizations are viewed as an excellent way for clients to begin to make new supportive choices for themselves and as a chance for them to contribute rather than just benefit from outreach services.

2. MECCA Substance Abuse Services

Counselors, case managers, residential support technicians, and clinical supervisors who participated in the focus group reported the following criminal justice involvement for clients receiving services:

	Outpatient Clients	Residential Clients
Probation/Parole Involved	50–60%	40–50%
Criminal Justice Involved, Including DUI	95%	70%

The group was asked to list the greatest obstacles facing recovering reentry adults who are reestablishing themselves in the community. The responses included:

- Clients must establish a new community that supports their new choices to be substance free.
- Johnson County has an affordable housing shortage. A shortage of beds for the homeless and transition shelter beds is also a problem.
- Limited employment options for reentry clients place a tremendous strain on clients. If there is a job, the wage is often not enough to get clients out the financial hole most find themselves in when leaving treatment.
- Clients face transportation barriers in seeking and maintaining employment—they have no driver's license or vehicle.
- Social Security Disability program qualification procedures are too difficult for most clients with co-occurring disorders to move through to get disability status, even though they need it. For example, a client with schizophrenia may have a difficult time following through on a required series of appointments and tasks long enough to qualify for the assistance to receive needed medication.
- Most clients have no insurance.
- Mental health service access is a substantial problem. The waiting time for mental health evaluation referrals from MECCA is 8–10 weeks right now, except for a crisis or emergency.
- Clients have little ability to pay for medications that may be prescribed after the evaluation.
- Clients sometimes do not fit the parameters for assistance and fall through the cracks when attempting to qualify for services.
- Mental health transition resources are very hard to find, and delays in service can lead to relapse.
- Respondents working with adolescent clients expressed frustration with how difficult it is to get schools to see the amount of substance use in schools as well as how difficult reentry to school is for clients.

MECCA employs case managers who work to set up client reentry. Their job is to establish relationships for the client with community resources. Case management success is driven by how effectively a case manager develops relationships and learns about available resources. Case management and client success are also affected by the effectiveness of the relationship between these individuals and how successfully the client's motivation for change is identified.

Respondents reported that physicians often are hard to work with because they do not have the training they need to value the

importance of probing questions to assess addiction in clients. Physicians may dispense addictive medications and/or may switch an antidepressant the client is using and never know that the prescribed medication is not working because of daily alcohol or marijuana use.

Respondents would like community leaders to know that the community still has much to learn about how substance abuse affects every part of an individual's life as well as the cost of substance abuse to society in every layer of social structure.

Spiritual wholeness is part of the education process for clients in treatment as case managers inform clients of the need for physical, mental, emotional, and spiritual health. Discussions are open and nondenominational. MECCA is considering reincorporating a chaplain into the treatment setting, but no funding is available at this time. If a client's particular motivation is toward faith and church options, that client is encouraged to see whether that faith-based organization could be a place where he or she could establish a new community.

Neither MECCA nor faith-based organizations contact one another formally regarding clients. Only an interested client initiates any contact. MECCA is concerned that some faith-based organizations are used by some clients who network with each other to take advantage of free assistance. Although they are grateful that community faith-based services are available to help, respondents thought that volunteers in various organizations need education to better understand substance abuse and how to best offer help to clients. All respondents agreed that both the potential for a new community and support for the needed life changes could naturally emerge from an enhanced network between agencies providing treatment services and local faith-based activities.

3. Faith-Based Organizations

Eleven ministerial, rabbinical, and administrative respondents who participated in the individual face-to-face interviews represented both rural and urban settings in Johnson County. The range of 40–650 members provided information on small churches getting started and renting worship space as well as large congregations that have been established in Johnson County for decades. Smaller organizations were mostly dependent on the member volunteers for service and mission offerings, while larger churches had associate ministers and support staff working to provide services to the congregation and the general community. Regardless of size or economics, all agreed that faith-based organizations could easily provide a perfect fit for someone needing to establish new friends, new community ties, and new support for their reentry into a life free of substance abuse and criminal activity. Although only three interviews described specific activities or missions geared to reentry concerns, all were certain that the regular program offerings for their memberships would equally serve any population, regardless of situation. The basis of their service is to provide for anyone in need. As one respondent said, "Everyone is looking for a place to belong. In one sense, we are a big anonymous support group. There is no requirement to reveal your history at our door in order to come in and be welcome."

Particular activities and endeavors that would assist an adult looking for a new start include the following listed by the organizations interviewed:

- Study groups
- Weekly services
- Choir and music ministry
- Social justice and peace groups

- Mentoring youth
- Moms' groups
- Men's groups
- Bible or scripture study groups
- Sports leagues
- Spiritual retreats
- Journey-in-faith groups
- Basic faith education classes

Respondents reported offering or supporting a variety of outreach and service provisions that are available to clients in need, including:

- Rental assistance
- Emergency housing support
- Food and clothing banks
- Transportation assistance
- Conflict resolution education
- Free lunch programs
- Free medical clinics
- Yard work assistance
- Elderly assistance projects
- College student services/counseling
- Daycare for those who cannot afford it
- Open and affirming support for the gay, bisexual, lesbian, and transgender communities
- Circles of Support and Accountability groups
- Various 12-Step meetings

All respondents recognized the existence of adults struggling with substance abuse issues within their memberships, whether the adults are concerned family and friends or congregation members. Three of the faith-based organizations have active programs to assist recovery clients in spiritual growth. They provide the support needed to understand how an affirming spiritual faith can enhance and enrich an individual's desire to remain in recovery. Those respondents suggested that education regarding substance abuse, addiction treatment processes, and correctional procedures would be helpful to volunteers who are working with this particular population.

All respondents reported general satisfaction with Johnson County's referral network. All believed they had sufficient access to find resources to help anyone who came to them with a particular need, substance abuse included. Most respondents have developed an extensive informal system for making referrals. For instance, if someone requested a referral for substance abuse treatment, a minister might ask another member of the congregation who, the minister knew, had received treatment.

According to those interviewed, no formal organizational contacts currently exist between MECCA, Sixth Judicial Services, and faith-based organizations. Respondents interviewed generally agreed that such networking would improve the opportunities for adults who are reentering the community and express interest in connecting or reconnecting to a faith-based group. One respondent strongly suggested that treatment agencies improve their process of releases. Agencies need to make sure that clients receiving treatment, who are active in a church and request such help, are allowed to pursue the consents and releases of information necessary to have clergy involved and active in their treatment transition. Several respondents indicated that misperceptions regarding the separation of church and State have created barriers to working together.

Almost unanimously, Johnson County faith-based organizations want the community to know that they are open, accepting, more welcoming, and less judgmental than their counterparts of 20–30 years ago.

The respondents were asked to comment on Federal support for faith-based initiatives that serve those in most need. Most respondents reported curiosity, but they had little confidence that the Government would be able to offer funding without compliance and accountability issues so rigid that the money could not be accepted. Varied comments and concerns included:

- We need staffing money to continue what we already do.
- We don't need to start something new here; we have plenty going on; we simply need better financial support.
- Our faith community has grave concerns that competition for funding would disrupt an already successful collaborative effort.
- Society should provide a baseline of care regardless of faith, and our current administration is shirking that responsibility and putting it on us.
- If the government would effectively fund the mandated programs for children, the disabled, the mentally ill, and those addicted, we could do our spiritual work with no funding needed.
- Some expressed concerns that the funding provisions would be for Christians only.
- This type of funding is viewed as just one more costly layer of bureaucracy.
- Some are concerned about "coercion to convert before service provision."
- More money should be channeled to families, peace efforts, and not the military war machine.
- Give the money to those who have a good service track record, and let them continue or expand what they are doing.
- Federal money would restrict and deny our religious freedom rights as well as our work with substance-abusing adults. Some consider addiction a spiritual issue that can be solved by accepting and following Christ.
- Some doubt that the government could give money without demanding an impossible return.
- Outreach is service—what we do, how we live—not a reason to apply for money or count how many and whom we serve.
- A longstanding antichurch bias has changed the United States from a nation based on "freedom of religion" to a nation based on "freedom from religion."

Summary and Recommendations

Faith-based organizations in Johnson County provide a wide variety of services to the community. Some services are direct giving (e.g., housing assistance, yard work assistance, clothing, food, and transportation), either by the organization or by smaller groups of people within the community. Other services are less direct but offer support to the community, such as housing Alcoholics Anonymous meetings and supporting free lunch programs and medical clinics. The service provision also varies widely, ranging from a formalized free lunch program to individual members working together to assist an individual. The informal nature of many services makes it difficult to determine the exact numbers of individuals served, how often, or how many services are provided.

Both the correctional staff and the substance abuse treatment staff felt that faith-based communities need some education to deal with the reentry population. Several topics mentioned would protect both the faith-based community and the person seeking integration from potentially unrealistic expectations. For example, substance abuse treatment professionals and

the probation/parole officers did not want the faith-based community to burn out or have a sense of failure when an individual relapsed to substance abuse, particularly because substance abuse is a chronic disease with a continual chance of relapse.

Improved communication among the Department of Corrections, substance abuse treatment providers, and the faith-based community would improve the faith-based community's capacity to deal with reentering people. Because much of the faith-based community's referral network is based on informal knowledge and word of mouth, individualized and personal contacts would likely be the most effective and self-sustaining.

This project provides a first look at the role faith-based organizations play in assisting people reentering the community. We suspect that these organizations play a much greater role than our introductory scan suggests, because the informal nature of their assistance is not well documented. Given the opportunity, these communities could do even more to enhance people's chances for successful reintegration and to reduce recidivism. Training, support, and even a small infrastructure would vastly increase these organizations' capacity to provide these benefits to a larger group of reentering individuals.

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Substance Abuse Among Rural and Very Rural Drug Users at Treatment Entry*

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Area of focus: Rural and very rural drug users' demographics and drug use patterns.

Abstract

Historically, researchers and policymakers concerned with the problems of substance abuse have focused their attention almost exclusively on urban America. However, this focus now includes the special needs of rural areas. In the past, rural areas were more sheltered from the problems of mainstream America, but now mass communication has decreased the isolation of rural areas. This study examines *rural and very rural drug users*. The distinction between *rural* and *very rural* is discussed in this paper, acknowledging that there are different definitions. This paper classified *rural* areas as those with populations between 2,500 and 19,999 people and *very rural* areas as those with populations fewer than 2,500 people. Topics include: (1) demographic and other selected background characteristics of *rural* and *very rural* drug users admitted to substance abuse treatment, (2) lifetime drug use patterns, (3) current drug use, (4) age of first drug use, (5) recognition of drug abuse as a problem, and (6) correlates of drug use behavior to identify potential predisposing factors. It was hypothesized that drug users from *very rural* areas would be more sheltered and that the severity of their involvement with drug use would be less than that of drug users from *rural* areas. Between November 15, 1999, and January 31, 2001, face-to-face interviews were conducted in three geographic regions of Kentucky (N = 604): in Eastern Kentucky (n = 206) and in South Central Kentucky (n = 165)—both frequently considered rural (N = 371)—and in Western Kentucky (N = 233)—which is considered more urban. More than one half (57

*This project was supported by the Center for Substance Abuse Treatment and Substance Abuse and Mental Health Services Administration Cooperative Agreement, Grant number: 6 UR1 TI11613-01-1

percent) of the participants were admitted to outpatient treatment. The majority of participants were male (75 percent), were white (94 percent), had no religious preference (51 percent), and had been referred to by the criminal justice system (64 percent); 55 percent had a prior history of substance abuse treatment. Findings indicate that being from very rural areas may be somewhat protective, with lower current drug use and older age at drug use initiation. While alcohol remains the most used substance in terms of lifetime and current use, cocaine use was three times higher in *rural* areas than in *very rural* areas. Implications are discussed and recommendations are presented for substance abuse treatment providers and policymakers.

Introduction

Historically, researchers and policymakers who were concerned with substance abuse problems focused their attention almost exclusively on urban America. More recently, however, this focus shifted to include the special needs of people in rural areas. For example, chronic economic disadvantages in rural areas have been highlighted as one of the main reasons for persons in those areas having increased health risks, which include emotional, behavioral, and substance use problems (Conger & Elder, 1994). In the past, rural areas may have been more sheltered from the problems of mainstream America. Because of mass communication, however, rural areas are no longer isolated.

Evidence is increasing of a symbiotic relationship between urban and rural drug traffickers, as urban drug dealers find new drug markets in rural areas, and rural drug manufacturers sell in urban areas (O'Dea et al., 1997). This symbiosis is also visible in the substance abuse prevalence rates in urban and rural areas. Epidemiological trends show that substance abuse in urban and rural areas of the United States has become similar (Wagenfeld et al., 1994), although the drugs of choice vary somewhat. For example, in earlier studies comparing urban and rural treatment populations, marijuana, amphetamines, and sedatives were the preferred drugs among rural clients, whereas urban clients preferred opiates (Brown et al., 1977; NASADAD, 1991).

The rural environment has changed the fortunes in rural America. Although some rural people are wealthy, most of rural America has experienced devastating economic setbacks in the farming, manufacturing, and mining industries (Conger, 1997) during the past two decades. As a result, the myth of rural America as a stress-free bastion of serenity and health has been dispelled. Indeed, research has shown that rural Americans suffer socioeconomic disadvantages similar to persons living in poor urban neighborhoods (O'Hare & Curry-White, 1992). Furthermore, economic stress is associated with a greater risk for mental disorders and functional impairment in rural as well as urban settings (Brody et al., 1994; Conger et al., 1994; Kessler et al., 1994; McLoyd et al., 1994).

Chronic economic stress has had a long history in many parts of the rural South. Among the manifestations of economic stresses in rural areas is what Davidson (1996) called "America's Rural Ghetto." Characteristically, such areas have the most disadvantaged and elderly proportion of the population—due to the out-migration of the most affluent, educated, and younger rural people—not unlike inner-city urban areas (Wilson, 1996). Whether such rural economic stresses are chronic or recent, economic deprivation is a common characteristic of social environments that increase the risk for substance abuse (Conger, 1997).

In an effort to establish criteria for what they called "the underclass," O'Hare and Curry-White (1992) used census data to

define four common characteristics of this group. They tend to (1) have not completed high school, (2) receive public assistance, (3) be single mothers, or (4) be long-term unemployed males. O'Hare and Curry-White (1992) also found that in 1990, 3.4 percent of inner-city residents could be categorized as underclass, compared to 2.4 percent of rural residents. Only 1.1 percent of urban residents not in the inner-city met the underclass criteria. These findings demonstrate differences within urban populations. If these kinds of distinctions occur in urban populations, it could be hypothesized that similar distinctions will occur in rural populations. If inner-city and not-inner-city populations are different, then perhaps rural populations can be compared by examining *rural* areas and *very rural* areas.

In 1990, according to the Bureau of the Census (1993), about 62 million Americans (24.8 percent of the total population) lived in rural areas; the other 75.2 percent resided in places defined as urban. Implicit in the above comparison is that the definitions of rural and urban are not entirely clear. For example, the definition of "rural" has been applied to places with populations of less than 20,000 as well as to populations of less than 2,500 (Conger, 1997; Dahmann & Dacquell, 1992; Edwards, 1997; Patton, 1989). Places with 50,000 or more inhabitants are often referred to as urban (Hewitt, 1989; Leukefeld et al., 2002; Ricketts, Johnson-Webb, & Taylor, 1998; Warner & Leukefeld, 2001). According to these definitions, rural areas are areas not considered urban. The problem with this dichotomy is that it leaves a large gray area often not captured when this definition is used for individuals living in areas with populations of more than 2,500 but fewer than 50,000 inhabitants. This omission is important, as rural residents represent about one-fourth of the total U.S. population (Bureau of the Census, 1993) and one-third of the country's poor (Rural Clearinghouse, 1993). About a decade ago, in an effort to be more inclusive of rural populations, Leukefeld and colleagues (1992) applied a very conservative definition to the term rural, which they termed "very rural" (p. 103). In their research on rural drug use, based on the 1985 National Household Survey on Drug Use, "rural" was defined as "unincorporated areas of under 2,500 residents" (p. 103). More recently, Warner and Leukefeld (2001) examined differences in substance use and treatment use among prisoners within rural populations. They defined "rural" as places with a 1990 population of 2,500–49,999 not within an urbanized area; "very rural" was defined as places with populations of less than 2,500 persons outside a census-defined urbanized area (p. 269).

Like the rest of the United States, rural America is multiethnic. Although they are heterogeneous in ethnic composition, rural Americans share common characteristics, such as *individualism* (associated with feelings of self-sufficiency and strong ties to family and clan), *isolation* (associated with limited access to role models for individual and group behavior and meeting community needs), *intense religiosity* (providing rigid norms and the potential for normative conflict), *conservatism* (in a form that is, however, tolerant of bizarre behavior that fits into the community framework), *distrust toward newcomers* (anyone who might challenge their way of life by introducing new ideas or new technologies), and *economic deprivation* (a consequence of labor market trends and technological advances) (Beltrome, 1978). These characteristics represent research barriers in rural areas, and they are common to these populations. In the context of substance abuse, issues such as isolation (as a function of location) and limited employment opportunities (due to accessibility) may contribute to problems, such as mental health problems, as well as increased poverty (Leukefeld et al., 1992). To be more specific, people living in rural areas represent a multitude of ethnic and cultural traditions, ranging from Native Americans to Hmong tribespeople from Southeast Asia in rural Iowa and to

African Americans in the rural South (Conger, 1997). As a function of this diverse background, rural America is characterized by varying histories of discrimination, disadvantage, and cultural practices, which, in turn, can affect attitudes toward the use of illegal substances and alcohol.

Using data from the 1985 National Household Survey on Drug Abuse, Leukefeld and colleagues (1992) pointed out that across all age groups, marijuana and cocaine use in "truly" rural areas was at lower levels than in large metro, small metro, or nonmetro areas. Although they found that rural drug use was extensive and that alcohol use in rural areas was similar to that in urban areas, they indicated rural residents' reported illegal drug use, while lower than their urban counterparts', was at an unacceptable level.

Other studies have examined drug use preferences among urban and rural substance abuse treatment populations. These studies revealed that the drugs of choice for clients in rural treatment programs were marijuana, amphetamines, and sedatives and for urban clients, opiates (Brown et al., 1977; NASADAD, 1991). A recent study by Leukefeld and colleagues (2002) showed that use of marijuana and sedatives was more frequently reported by rural respondents, and use of cocaine by urban respondents. On the basis of these studies, alcohol use was clearly identified as the substance of choice (Leukefeld et al., 1992, 2002).

The current study uses data from drug users entering treatment to contribute to the limited knowledge on rural drug use. Specifically, we compare drug use patterns between *rural* and *very rural* drug users entering substance abuse treatment in Kentucky—a predominantly rural State. Along with providing a more comprehensive understanding of rural drug use in general, differentiating between *rural* and *very rural* clients could have important implications for identifying factors associated with risk for substance abuse as well as with the success of substance abuse treatment programs in rural locations. This study therefore examines: (1) demographic and other selected background characteristics between *rural* and *very rural* drug users admitted to substance abuse treatment, (2) lifetime drug use patterns, (3) current drug use, (4) age of first drug use, (5) whether drug use is recognized as a problem, and (6) correlates of drug use behavior to identify potential predisposing factors. The study's hypothesis is that drug users from *very rural* areas are more sheltered and the severity of involvement with drug use is lower than in drug users from *rural* areas.

Method

Participants for this study were recruited into a Center for Substance Abuse Treatment (CSAT)-sponsored cooperative agreement project titled *Treatment Outcomes and Performance Pilot Studies Enhancement* (TOPPS II). Participants were drug users admitted to publicly funded treatment programs in three regions in Kentucky. Between November 15, 1999, and January 31, 2001, data were collected in face-to-face interviews by trained data collectors using a structured questionnaire. Interviews were held in three geographic regions of Kentucky (N = 604): Eastern Kentucky (n = 206) and South Central Kentucky (n = 165)—both considered rural (N = 371)—and Western Kentucky (N = 233)—which is considered more urban. Although the majority of subjects (N = 199, 85 percent) from the urban programs were admitted to residential treatment, the majority of participants (N = 273, 74 percent) from the rural sites were admitted to outpatient treatment facilities.

The current study includes drug users who were admitted to one of the three participating treatment centers and who agreed to participate in the TOPPS II study.

Eligibility criteria included (1) having been admitted to substance abuse treatment, (2) being at least 18 years of age, (3) not being admitted only for education purposes (e.g., for driving under the influence), and (4) not being admitted only for mental health or mental retardation treatment. Dual diagnosis with substance abuse was an acceptable criterion for eligibility.

Baseline data were collected through face-to-face structured interviews lasting an average of 30 minutes (with a range between 10 and 67 minutes). The Addiction Severity Index (ASI) Lite (modified) was used as the baseline questionnaire. The ASI Lite was modified to meet the needs of the CSAT cooperative agreement. The questionnaire included measures from the ASI (McLellan et al., 1980; McLellan et al., 1992), the TOPPS II Core Data Items, as well as the Treatment Event Data Set Items. In addition to demographic and other relevant background information, data were collected on the following six domains: medical status, employment/support status, alcohol/drug use, legal status, family/social status, and psychiatric status. Demographic locator data, including the city and county that participants considered their "home base," were also obtained to allow for a series of followup interviews after their treatment episodes had ended.

Measures

Rural and Very Rural

The definition of urban and rural is somewhat ambiguous. Although some define *rural* simply as non-metropolitan areas, others define rural as places having a population of fewer than 20,000 people; still others describe as rural areas having fewer than 2,500 people (Bureau of the Census, 1993; Edwards, 1997; Luekefeld et al., 1992; Robertson & Donnermeyer, 1997). Recently, a case has been made for using an urban–rural continuum instead of the rather crude urban–rural dichotomy, which does not seem to capture urban–rural differences adequately (Conger, 1997; Patton, 1989; Hewitt, 1999). A recognized research practice for defining such a continuum is the application of rural–urban continuum codes (Beale & Johnson, 1995; Butler & Beale, 1994). This classification scheme distinguishes metropolitan counties by size and non-metropolitan counties by degree of urbanization and proximity to metro areas. The standardized Office of Management and Budget metro and non-metro categories have been subdivided into four metro and six non-metro categories, resulting in a 10-part county codification (Ricketts et al., 1998). As Leukefeld and colleagues (2002) pointed out, this differentiation has limited utility for practitioners and policymakers. Therefore, the intent of this study was to define further the rural dimension. For this purpose, we applied Beale codes to county of residence, which was identified by participants as their "home base," captured in the question: "What town, county, and State do you consider your home base or permanent residence?"

Because the focus of this study was to examine and describe differences in substance abuse as a function of rurality, the total sample (N = 604) was reduced to those participants with a home county that was classified by the rural–urban continuum codes of Beale and Johnson (1995), ranging from 6 to 9 (N = 478). The selection criteria for the Rural group (N = 310) included home county codes of 6 and 7, representing a population of between 2,500 and 19,999. The selection criteria for the Very Rural group (N = 168) included home county codes of 8 and 9, representing a completely rural population of fewer than 2,500 people in an area. Thus, drug users at substance abuse treatment entry from rural areas (population more than 2,500 but less than 20,000) were compared with those from very rural areas (population less than 2,500).

Sample

Demographic and other relevant background characteristics of the study participants are summarized in table 1. More than one-half of the participants were admitted to outpatient treatment (57 percent). The majority of participants were male (75 percent), were white (94 percent), had no religious preference (51 percent), had been referred to treatment by the criminal justice system (64 percent), and had a history of prior substance abuse treatment (55 percent). Although 54 percent had a high

Table 1. Characteristics of a Rural Population Entering Substance Abuse Treatment

Variables	Rural (n = 310)	Very Rural (n = 168)	Total (N = 478)			
			Percent	df	χ^2 or F	Sig (p)
Program Modality				1	1.534	.216
Residential	45%	39%	43%			
Outpatient	55%	61%	57%			
Average Age (Range 18–74) in Years **Median Age in Years**	**32.69** **32**	**34.60** **33**	**33.36** **32**	**1**	**4.130**	**.043**
Male	75%	77%	75%	1	.302	.583
Race/Ethnicity				**2**	**7.053**	**.029**
White	94%	94%	94%			
Black	5%	2%	4%			
Other	1%	4%	2%			
Religious Preference				2	4.807	.090
Protestant/Catholic	33%	24%	30%			
Other	19%	21%	19%			
None	48%	55%	51%			
Marital Status				2	.308	.857
Married/Remarried	27%	29%	27%			
Widowed, Separated, Divorced	40%	40%	40%			
Never Married	33%	31%	33%			
High School or Above	57%	49%	54%	1	2.178	.140
Not Employed	**57%**	**70%**	**61%**	**1**	**7.722**	**.005**
Average Current Nonemployment Income (Range $0–$10,000) Median	$440 $230	$551 $324	$479 $280	1	1.732	.189
Admission Suggested by Criminal Justice System	65%	63%	64%	1	.102	.750
Had Prior Substance Abuse Treatment	58%	49%	55%	1	2.954	.086
Prescription Medication for Psychological/Emotional Problems: Lifetime	45%	39%	43%	1	1.372	.242
Has Chronic Medical Problems	31%	32%	32%	1	.037	.848

*Items in **bold** are significant at the .05 level.

school education or more, 61 percent were not employed. The median age of the study population was 32 (ranging from age 18 to age 74), and the median current *nonemployment income* was $280 per month (ranging from $0 to $10,000 per month).

Dependent Variables

Because most treatment-seeking models suggest that the severity of the problem is an important outcome predictor (Andersen, 1995; Anderson & Newman, 1973; Hartnoll, 1992), the dependent measures used in this study were the number of years any drugs had been used, drug use in the 30 days prior to treatment entry, the age at which drug use was initiated, and problem recognition.

Lifetime Drug Use

To examine lifetime drug use, we asked participants how many years they had ever used 1 or more of 11 substances and substance categories as well as about how many years they drank alcohol to the point of intoxication (key for intoxication: females = 2 or more drinks, males = 4 or more drinks). Lifetime drug use was assessed asking the question: "In your lifetime, how many years did you use [*specific drug*] at least 3 times a week?" This question was repeated for alcohol, heroin, methadone, other opiates/analgesics, barbiturates, other sedatives/hypnotics/tranquilizers, cocaine/crack, amphetamines, marijuana/hashish/THC, hallucinogens, and inhalants.

Current Drug Use

To examine current drug use, participants were asked about their use of the 11 substances and substance categories listed above during the previous 30 days and whether they had used multiple substances per day, including alcohol. Current drug use was assessed by asking the question: "In the past 30 days, on how many days did you use [*drug*]?"

Age at First Drug Use

To examine the age of drug use initiation, participants were asked: "How old were you when you first used [*drug*]?" This question was repeated for alcohol, opiates, tranquilizers/sedatives, cocaine/crack, stimulants, marijuana, hallucinogens, and inhalants.

Problem Recognition

To examine problem recognition, participants were asked whether they had experienced (1) alcohol and (2) drug problems, whether these problems troubled or bothered them, whether they thought they needed treatment for these problems, and how often had they recently attended self-help groups. Problem recognition was assessed asking the questions: "How many days in the past 30 days have you experienced (1) alcohol, (2) drug problems?"; "How troubled or bothered have you been in the past 30 days by these (1) alcohol, (2) drug problems?" (0 = not at all, 1 = slightly, 2 = moderately, 3 = considerably, 4 = extremely); "How important to you now is treatment for these (1) alcohol, (2) drug problems?" (0 = not at all, 1 = slightly, 2 = moderately, 3 = considerably, 4 = extremely); and "How many days have you attended self-help groups (Alcoholics Anonymous, Narcotics Anonymous, Cocaine Anonymous) in the past 30 days?" The effects of rurality were examined by entering a dummy variable "very rural" (0 = rural, 1 = very rural). Internal consistency reliability for this problem recognition index was good (Cronbach's Alpha = .77).

Other Variables

To gain a better understanding of participants' life circumstances, which may have either protective or facilitating effects on

substance abuse among *rural* and *very rural* drug users, we analyzed variables related to demographic characteristics, economic stresses, substance abuse treatment availability and utilization, health, and criminal justice system involvement. To examine *demographic characteristics*, we included the following variables: *age: median split* (0 = younger than age 32, 1 = age 32 or older); *gender* (0 = female, 1 = male); *race* (0 = white, 1 = black); *religion* (0 = has no religious affiliation, 1 = has religious affiliation); *marital status* (0 = not single, 1 = single, never married); *education* (0 = less than high school, 1 = high school or above). To examine *economic stresses*, we included the following variables: *employment* (0 = not employed, 1 = full- or part-time employed); *nonemployment income*. To examine *substance abuse treatment availability and utilization*, the following variables were included: *treatment modality* (0 = residential, 1 = outpatient); s*ubstance abuse treatment history* (0 = had no prior substance abuse treatment, 1 = had prior substance abuse treatment). To examine *health*, the following variables were included: *chronic medical problems* (0 = no, 1 = yes); *prescribed medications regularly for physical and/or psychological problems: lifetime* (0 = no, 1 = yes). To examine *criminal justice system involvement*, the following variable was included: *admission suggested by criminal justice system* (0 = no, 1 = yes). To identify the effects of being either from *rural* or *very rural* areas, a dummy variable was included (rural = 0, very rural = 1).

Analytic Plan

Differences in demographic and other background characteristics between *rural* and *very rural* drug users were identified by using chi-square analyses for categorical variables and by using analysis of variance (ANOVA) for continuous variables. Ordinary Least Squares regressions were performed to further explore the impact of rurality on (1) substance abuse problem recognition and (2) drug use. Dependent variables were determined by conducting independent *t*-tests on all relevant substance abuse variables and comparing *rural* and *very rural* areas. Those variables which produced significant differences were then entered as dependent variables in the regression model. This was the case for lifetime use of methadone, other opiates, sedatives, cocaine/crack, marijuana, or multiple drugs; treatment for drug abuse; and attendance at self-help groups in the last 30 days.

Results

Demographic Characteristics

Examination of demographic and other background characteristics of participants from *rural* and *very rural* areas showed that participants from both areas were similar in terms of the proportions of program modality, gender, marital status, religious preference, education, admission suggested by the criminal justice system, substance abuse treatment history, taking any prescription medication for psychological/emotional problems, and chronic medical problems. However, African-American subjects were significantly ($p < .05$) more likely to be from *rural* areas (5 percent vs. 2 percent), and those of "other" racial or ethnic background were more likely to be from *very rural* areas (1 percent vs. 4 percent). Also, significantly more subjects who were unemployed were from the *very rural* areas (57 percent vs. 70 percent). On average, subjects from *very rural* areas tended to be significantly older (34.60 years) than those from *rural* areas (32.69 years).

Substance Abuse Among Rural and Very Rural Drug Users

Tables 2 and 3 summarize differences in drug use prevalence—expressed in percent—of lifetime as well as of current (last

Table 2. Lifetime Drug Use: Rural vs. Very Rural

Variables	Rural (n = 310) Percent	Very Rural (n = 168) Percent	Total (N = 478)				
			Percent	df	χ^2	Sig	Fisher's Exact (2-Sided)
Alcohol	81	86	83	1	1.711	.191	
Alcohol to Intoxication	73	78	75	1	1.409	.235	
Heroin	4	2	3	1	1.952	.162	
Methadone	6	2	4	1	3.717	.054	
Other Opiates*	**39**	**27**	**35**	**1**	**6.507**	**.011**	
Barbiturates	9	4	7	1	3.403	.065	
Other Sedatives	30	23	28	1	3.235	.072	
Cocaine/Crack*	**34**	**20**	**29**	**1**	**9.819**	**.002**	
Amphetamines†	23	16	20	1	3.426	.064	
Marijuana*	**61**	**46**	**56**	**1**	**8.922**	**.003**	
Hallucinogens	14	9	12	1	2.496	.114	
Inhalants‡	3	3	3	1	.002	.964	1.000
Multiple Drug Use*	**57**	**42**	**52**	**1**	**9.450**	**.002**	

*Items in **bold** are significant at the .05 level.
†Borderline significance.
‡1 cell (25%) has expected count less than 5. The minimum expected count is 4.92.

30 days before the interview) drug use between *rural* and *very rural* drug areas. Table 2 shows that *very rural* lifetime drug users were significantly less likely to report using other opiates (39 percent vs. 27 percent), cocaine/crack (34 percent vs. 20 percent), marijuana (61 percent vs. 46 percent), and multiple drugs (57 percent vs. 42 percent). Furthermore, very rural lifetime drug users were marginally less likely to report using methadone (6 percent vs. 2 percent), barbiturates (9 percent vs. 4 percent), and amphetamines (23 percent vs. 16 percent).

Table 3 shows that for *current* drug use, participants from *very rural* areas were significantly less likely to be using cocaine/crack (10 percent vs. 3 percent). Although no statistically significant differences were found between the two groups in the use of other types of drugs examined, it is interesting that current use of alcohol, barbiturates, and inhalants was marginally higher in *very rural* areas.

Differences in Age of First Drug Use Among Rural and Very Rural Drug Users

Table 4 shows that participants from very rural areas were older when they first used drugs (except for inhalants). This difference in the age of drug use initiation was significant for those who used tranquilizers or sedatives (rural: age 20.66 vs. very rural: age 22.95) and for those who used cocaine/crack (rural: age 20.63 vs. very rural: age 22.36).

Table 3. Current Drug Use: Rural vs. Very Rural

Variables	Rural (n = 310) Percent	Very Rural (n = 168) Percent	Total (N = 478)				
			Percent	df	χ^2	Sig	Fisher's Exact (2-Sided)
Alcohol	31	35	32	1	.631	.427	
Alcohol to Intoxication	24	27	25	1	.649	.420	
Heroin	0	0	0	–	–	–	
Methadone†	1	.6	1	1	.509	.476	.661
Other Opiates‡	21	14	19	1	3.498	.061	
Barbiturates¶	2	4	3	1	.710	.399	1.000
Other Sedatives	15	12	14	1	.788	.375	
Cocaine/Crack*	**10**	**3**	**7**	**1**	**7.210**	**.007**	
Amphetamines	5	4	5	1	.112	.738	
Marijuana	27	22	25	1	1.142	.285	
Hallucinogens**	.6	.6	.6	1	.004	.947	1.000
Inhalants***	0	.6	.2	1	1.849	.174	.351
Multiple Drug Use	22	19	21	1	.464	.496	

*Items in **bold** are significant at the .05 level.
†2 cells (50%) have expected count less than 5. The minimum expected count is 1.76.
‡Borderline significance.
¶1 cell (25%) has expected count less than 5. The minimum expected count is 4.57.
**2 cells (50%) have expected count less than 5. The minimum expected count is 1.05.
***2 cells (50%) have expected count less than 5. The minimum expected count is 0.35.

Table 4. Age of First Drug Use: Rural vs. Very Rural

Variables	Rural (n = 310) Mean	Very Rural (n = 168) Mean	Total (N = 478)			
			Mean	df	F	Sig
Alcohol	15.34	15.76	15.49	1	1.096	.296
Opiates	22.74	23.36	22.95	1	.340	.560
Tranquilizers, Sedatives*	**20.66**	**22.95**	**21.45**	**1**	**5.647**	**.018**
Cocaine/Crack*	**20.63**	**22.36**	**21.16**	**1**	**4.810**	**.029**
Stimulants	19.78	19.88	19.81	1	.018	.892
Marijuana	15.56	15.98	15.70	1	.938	.333
Hallucinogens	18.46	19.56	18.77	1	2.509	.115
Inhalants	14.50	14.00	14.38	1	.170	.681

*Items in **bold** are significant at the .05 level.

Substance Abuse Problem Recognition Among Rural and Very Rural Drug Users

Table 5 examines substance abuse problem recognition among drug users from *rural* and *very rural* areas. The relationship was significant (β = .520, p<.001) between the number of days participants reported currently having alcohol problems and the degree to which they were troubled by them. The relationship was also significant (β = .641, p<.001) between the number of days participants reported currently having drug problems and the degree to which they were troubled by them. However, the model revealed no significant relationships in the degree participants thought treatment for alcohol or drugs was important, their recent attendance of self-help groups, or rurality. Overall, in terms of recognition of their substance abuse problems, the variation for alcohol (27 percent) and drug (41 percent) problems was explained by the degree to which participants were troubled by them.

Correlates of Substance Abuse Among Rural and Very Rural Drug Users at Treatment Entry

To gain a more comprehensive understanding of the impact of rurality on substance abuse, the variables age, gender, religion, marital status, education, employment, income, substance abuse treatment history, admission by criminal justice system, taking prescription drugs, and having chronic medical problems were included in a model to examine demographic characteristics, economic stresses, substance abuse treatment availability and utilization, health, and criminal justice system involvement. Table 6 shows that, for these *rural* and *very rural* drug users, admission to substance abuse treatment suggested by the criminal justice system (β = –.104, p<.05) and being from very rural areas (β = –.092, p<.05) were negative correlates for any methadone use. Being employed full or part time (β = –.094, p<.05) and admission to substance abuse treatment suggested by the

Table 5. Substance Abuse Problem Recognition Among *Rural* and *Very Rural* Drug Users

Dependent Variables	Had Alcohol Problems (No. of Days Last 30 Days)	Had Drug Problems (No. of Days Last 30 Days)
Independent Variables	Beta	Beta
Troubled by Recent Alcohol Problems*	**.520†**	.077
Troubled by Recent Drug Problems*	.210	**.641†**
Importance of Treatment for Recent Alcohol Problems*	.177	–.096
Importance of Treatment for Recent Drug Problems*	.148	–.192
Recent Attendance at Self-Help Groups (No. of Days in Last 30 Days)	–.040	.217
Very Rural	.067	–.017
Overall Model Statistics		
df	1	1
F	17.078	32.092
Sig	.000	.000
R^2	.271	.411

*Cronbach's Alpha = .7732.
†Items in **bold** are significant at the .001 level.

criminal justice system (β = –.143, p<.01) were negative correlates for any opiate use, while taking prescribed medications regularly for physical and/or psychological problems (β = .128, p<.01) was a positive correlate. Having had any prior substance abuse treatment (β = .117, p<.05) and taking prescribed medications regularly for physical and/or psychological problems (β = .139, p<.01) were positive correlates for any use of sedatives, and being from very rural areas (β = –.094, p<.05) was a negative correlate. Having had any prior substance abuse treatment (β = .186, p<.001) was a positive correlate for any cocaine/crack use, but being from very rural areas (β = –.119, p<.01) was a negative correlate. Being treated as an outpatient (β = –.133, p<.01) was a negative correlate for any marijuana use, and being male (β = .123, p<.01) and having had any prior substance abuse treatment (β = .158, p<.001) were positive correlates. Being treated as an outpatient (β = –.220, p<.001) was a negative correlate for any multiple drug use, while being age 32 or older (β = .109, p<.05), having had any prior substance abuse treatment (β = .158, p<.001), and taking prescribed medications regularly for physical and/or psychological problems β = .096, p<.05) were positive correlates. Being employed full or part time (β = –.106, p<.05), admission to substance abuse treatment suggested by the criminal justice system (β = –.115, p<.01), and being from very rural areas (β = –.114, p<.05) were negative correlates for having been in any treatment for drug abuse, whereas having had prior substance abuse treatment (β = .300, p<.001) and having chronic medical problems (β = .109, p<.05) were positive correlates. Having a religious affiliation (β = .105, p<.05), having had prior substance abuse treatment (β = .146, p<.01), and having chronic medical problems (β = .118, p<.05) were positive correlates for recent attendance at self-help groups. No relationship was found between race/ethnicity, marital status, education, nonemployment income, and any of the examined drug use variables.

Discussion

Study participants from the *very rural* areas were more likely to be older and unemployed. This finding supports other studies (Brody et al., 1994; Conger et al., 1984; Kessler et al., 1994; McLoyd et al., 1994; Wilson, 1996; Wagenfeld & Wagenfeld, 1981) which refer to the effects of economic stresses on rural populations. Overall, however, drug users in this study from *rural* and *very rural* areas are more alike than different in their socio-demographic background. Their demographic characteristics are similar to those described by Davidson (1996) as representing the "new rural ghetto." Davidson maintains that since the farm crisis in the 1980s, many rural areas have been confronted with problems similar to those in inner-city areas. Citing the 1971 work of Bender, Green, and Campbell, he adds that an initial economic crisis, like the farm crisis of the 1980s, sets in motion a process that is influenced by some of the same social forces that affect the inner city. These forces include intergenerational poverty, class-selective migration—out-migration of more prosperous and younger residents, leaving behind aging communities characterized by more concentrated poverty—and an accelerated downward spiral resulting in "ghetto-like" conditions (Davidson, 1996).

In Kentucky, the effect of the farm crisis was magnified because "it came on the heels of the mining crisis" (Warner & Leukefeld, 2001, p. 276). As farming and mining are among the main income sources in rural Kentucky, this study shows some pronounced consequences of these two economic setbacks among persons admitted to substance abuse treatment in *very rural* areas. On average, these participants were older and—as one might expect—their unemployment rate was significantly higher than among participants in *rural* areas.

In the context of overall drug use, the findings from this study are similar to an

Table 6. Ordinary Least Squares Regression Stepwise: Beta Values for Correlates of Substance Abuse in a Sample of *Rural* and *Very Rural* Drug Users Admitted to Substance Abuse Treatment (N = 461)

Variables	Use in Lifetime (Beta values)							Attendance at Self-Help Groups in Last 30 Days (Beta values)
	Methadone	Other Opiate	Sedative	Cocaine/ Crack	Marijuana	Multiple Drugs	Treatment for Drug Abuse	
Outpatient					–.133†	–.220‡		
Age 32 or Older						.109*		
Male					.123†			
Black								
Has a Religious Affiliation								.105*
Single								
High School or Above								
Is Employed Full or Part Time		–.094*					–.106*	
Nonemployment Income								
Admission Suggested by Criminal Justice System	–.104*	–.143†					–.115†	
Had Prior Substance Abuse Treatment			.117*	.186‡	.158‡	.158‡	.300‡	.146†
Takes Prescribed Medications Regularly for Physical and/or Psychological Problems		.128†	.139†			.096*		
Chronic Medical Problems							.109*	.118†
Very Rural	–.092*		–.094*	–.119†			–.114†	
Overall Model Statistics								
df	2	3	3	2	3	4	5	3
F	4.444	9.047	7.787	12.514	11.153	13.650	17.861	9.074
Sig	.012	.000	.000	.000	.000	.000	.000	.000
R^2	.019	.056	.049	.052	.068	.108	.164	.057

*p<.05, p†<.01, p‡<.001

earlier observation by Calahan and colleagues (1969), that drug abuse in *rural* areas is a relatively new problem compared to alcohol use, which is both older and growing. We found that any alcohol use—including use to the point of intoxication—was higher in the *very rural* areas. This finding could be an artifact of social norms—alcohol is a legal substance and readily available, whereas illegal drugs are relatively expensive (Conger, 1997). Illegal drug use in this study was higher in the rural areas. Current barbiturate and inhalant use were exceptions. Drug use in rural areas also reflects age at drug use initiation, with the exception of inhalant use, which was higher in *very rural* areas.

Participants were significantly troubled or bothered by their current alcohol and drug abuse problems. Although the data are not significant, alcohol users were more likely than drug users to view treatment for their recent alcohol and drug problems as important. Alcohol users had attended fewer self-help groups than drug users, neither *rural* nor *very rural* areas were significantly correlated with recent alcohol or drug use.

An examination of correlates of drug use and related issues, such as treatment for drug abuse and recent self-help group attendance, revealed that drug users from *very rural* areas were less likely than those from rural areas to use any methadone, sedatives, and cocaine/crack and were less likely to have received any drug abuse treatment. These negative correlates (see table 2) may be an indication that being from *very rural* areas is somewhat protective for certain drug use. However, the negative relationship between *very rural* and treatment for drug abuse is open and warrants additional research on the availability of treatment programs in *very rural* areas, their accessibility, referrals, and drug users' problem recognition. With respect to substance abuse treatment, users of sedatives, cocaine/crack, marijuana, and multiple drugs were likely to have a substance abuse history with repeated treatment episodes. This history evokes the image of a revolving door and leads to the questions, "How successful are current substance abuse treatment approaches?" and "How can we change the status quo?" Specifically, participants who were employed, referred by the criminal justice system, and came from very rural areas were more likely to have had fewer treatment episodes. Those with chronic medical problems were likely to have had more treatment episodes. Older subjects (32 years or older), those who had a substance abuse treatment history, and those who took prescription drugs regularly were more likely to have used multiple drugs. On the other hand, subjects who were in outpatient treatment were less likely to have used multiple drugs. Male subjects and those who had a substance abuse treatment history were more likely to have used marijuana. As with our findings for multiple drug use, participants who were in outpatient treatment were less likely to have used marijuana.

We believe that our findings are of value to substance abuse treatment providers in *rural* and *very rural* areas. Providers can use these results for assessing specific drug abuse treatment needs in rural locations. For example, a better understanding of the effects of "rurality," not only on drug use patterns and on substance abuse problem recognition, but also on the heterogeneity of rural populations (Edwards, 1997; Oetting, et al., 1997), will enable providers and policymakers to improve currently existing substance abuse treatment programs and/or to develop new programs. Our study shows that further research is needed to define specific needs so they may be implemented in new treatment approaches. In particular, "successful treatment" may need to be redefined. Completion of repeated treatment episodes does not fit the bill. When funding dollars are to be awarded, policymakers need to notice, and be willing to act on, the fact that one treatment approach may be too narrow.

Limitations associated with this study include its size. Because the sample for this study was not randomly selected, and data were collected only in one State (Kentucky), generalizability is limited. However, we wish to point out that firm adherence to the research protocol greatly reduced—if not eliminated—any chance for bias. We feel confident that our findings can be applied to other rural places. The data presented here were self-reported. Subjects consented to the study and were assured strictest confidentiality; thus we were not able to validate the self-reported data. As a group, drug users who are admitted to substance abuse treatment in rural facilities may not be representative of all substance abuse treatment seekers.

In conclusion, our findings indicate that being from very rural areas may have some sheltering properties, as indicated by lower current drug use and the generally older age at drug use initiation.

Although no differences were found in alcohol use among subjects from both *rural* and *very rural* areas, alcohol is the most commonly used substance both currently and over a lifetime.

Cocaine use, on the other hand, was three times higher in *rural* areas than in *very rural* areas. While not markedly different in both areas, illegal drug use remains at unacceptably high levels. More than a decade ago, Leukefeld and colleagues (1992) reported similar findings. Subsequently, little has changed. However, participants in this study recognized they had substance abuse problems and were considerably bothered by those problems. Interestingly, participants were more bothered by their drug-related problems than by their alcohol-related problems. This difference is another indication that, despite the fact that it is the most used substance in both rural areas, alcohol is thought to be less problematic. These findings are important because they contribute to the very limited body of literature on substance abuse differences among rural populations. With a better understanding of the effects of "rurality" on different drug use patterns and on substance abuse problem recognition, providers and policymakers will be able to use data to improve currently existing substance abuse treatment programs and/or to develop new programs.

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Making the Addiction Severity Index User Friendly: An Electronic Display of Client Outcomes Using Shareware*

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Area of focus: Addiction Severity Index (ASI) Microsoft® Access software for calculating and displaying the ASI over multiple time periods, clients, and settings.

Abstract

Rural and frontier alcohol and other drug abuse clinicians need assistance in calculating and displaying the multimeasure Addiction Severity Index (ASI) over multiple time periods and for multiple clients and multiple settings. Clinicians and program managers need to be able to report:

- Individual client ASI outcomes
- Clinician's clients' ASI outcomes (aggregates all clients of a clinician for a given time period)

*Funding for this project was provided by the Substance Abuse and Mental Health Services Administration through a data information grant to the West Virginia Department of Health and Human Resources.

- Reporting unit ASI outcomes (aggregates all clients assigned to a given organizational unit or area)
- Total program ASI outcomes (aggregates all clients in a designated program)

In addition, clinicians and program managers need to be able to summarize ASI program results periodically in terms of the quantities and percentages of clients who show improvement, maintenance, and regression. The current version of the ASI Microsoft® Access software program developed for the Bureau for Behavioral Health and Health Facilities, West Virginia Department of Health and Human Resources, meets all of these requirements, provides a user-friendly format, and is recommended for all ASI users. The program was developed at the Southern Highlands Community Mental Health Center in Princeton, West Virginia, and has undergone beta testing at the Appalachian Community Mental Health Center in Elkins, West Virginia. The ASI Access program is shareware and is available upon request. The current Access Database uses only Interview Severity Ratings and, as the addendum reveals, the ASI Access Database will be modified to include ASI Composite Scores because these measures offer greater reliability and validity.

Introduction

Rural and frontier alcohol and other drug abuse (AODA) programs face many challenges. Funding methods are shifting as Medicaid expenditures grow and Federal funds to States and local governments are concurrently cut. Rural areas suffer from a lack of healthcare resources (existing resources are often underfunded and understaffed) and an absence of integrated healthcare systems. New service systems are developing with a shift from provider-centered to client-centered services. Pressures are increasing for assessment of client and program outcomes and effectiveness. Demands are also increasing for more organized and efficient services, all resulting in a thrust toward managed care (Broskowski, 1991; Feldman, 1992; Woodward, 1992; Wagenfeld, Murray, Mohatt, & DeBruyn, 1994; Van Hook & Ford, 1995; Minden & Hassol, 1996; Manderscheid & Henderson, 1997; "Study Finds Mental Health Spending Cut," 1998; Heflinger & Northrup, 2000; Dorfman & Smith, 2002). Service settings grow more complex when a client has a dual diagnosis—mental health and substance abuse or mental health and developmental disabilities (Alterman, McLellan, & Shifman, 1993; Solomon, Zimberg, & Schollar, 1993; Woody, McLellan, Luborsky, & O'Brien, 1995; NASDDDS & HSRI, n.d.).

Coping with these constraints and opportunities in a rural or frontier service setting requires a focus on client outcome and program accountability. Albrecht (1992) stated that in the customer-value paradigm, "the primary focus of measurement is on outcomes" The basic question is, "How do we know whether we have succeeded in meeting the demands for both person-centered outcomes and increased accountability?" (Schalock, 1999). This paper focuses on how to enable the effective use of the widely known Addiction Severity Index (ASI) by rural and frontier AODA clinicians and program managers within a developing managed care environment.

Research Description

This project attacked a root problem in the use of outcome instruments: the inability to conveniently summarize and display client outcomes (Sorensen, Brackman, Sayers, Akers, Bell, & Elzey, 2000). The Microsoft® Access called the "Access Client Outcome Software" suite was designed to incorporate seven outcome

instruments used in the West Virginia behavioral health system:

- Adult MH/SA Functional Assessment Instrument—Consumer/Staff, Version 5, Office of Behavioral Health Services, 3/97
- Child and Adolescent Functional Assessment Scale (CAFAS) (Subscales) ages 7–18, Version 5, Office of Behavioral Health Services, 3/97
- Preschool and Early Childhood Functional Assessment Scales (PECFAS) (Subscales) ages 4–7, Version 5, Office of Behavioral Health Services, 3/97
- Brief Psychiatric Rating Scale–Anchored (BPRS–A), Version 5, Office of Behavioral Health Services, 3/97
- WV Brief Psychiatric Rating Scale for Children (BPRS–C), Version 5, Office of Behavioral Health Services, 3/97
- Addiction Severity Index (ASI), Version 5, Office of Behavioral Health Services, 3/97
- Adaptive Behavior Scale—Residential and Community (ABS–RC:2), Version 5, Office of Behavioral Health Services, 3/97

In this paper, only the software for reporting ASI outcomes is illustrated, but the entire suite of programs is available from the Bureau for Behavioral Health and Health Facilities, West Virginia Department of Health and Human Resources, State of West Virginia, Charleston, West Virginia. The software was developed to be in the public domain and is available upon request.

Purpose

The project objective was to develop user-friendly software using Microsoft® Access programming that will display and print the results of client outcome instruments used in the West Virginia behavioral health system. The software was expected to display progression, regression, or no change status for the domains of an instrument for up to three time periods (to display three time periods requires four data points). The input form would employ a table-driven design so that outcome data could be extracted easily from any of the existing behavioral health information systems. In addition, clinicians and program managers needed to be able to summarize ASI program results periodically in terms of the quantities and percentages of clients who show improvement, maintenance, and regression or the "Access Client Outcome Software."

Barriers/Problems Encountered and Solutions

The original project was started in 1999, and the software development was completed in November 2000. As the project approached the beta testing phase, the State governorship changed parties in the November 2000 election. This event, in turn, led to changes in the West Virginia Department of Health and Human Resources as well as in the Bureau for Behavioral Health and Health Facilities. The beta testing phase was not resumed until fall 2003 and after several changes in the leadership of the Bureau for Behavioral Health and Health Facilities. The current leadership now believes that the software could be a valuable resource for clinicians and program managers and, as a result, has funded the beta testing that was concluded by March 2004.

Methods

Addiction Severity Index

The ASI is a semistructured interview designed to assess patient problems in seven content areas of substance-abusing patients: medical status, employment and support, drug use, alcohol use, legal status, family/social status, and psychiatric status (McLellan, Luborsky, O'Brien, & Woody,

1980; McLellan et al., 1992). In 1 hour, a skilled interviewer can gather information from a client on recent (past 30 days) and lifetime problems in all seven areas. The ASI collects information on problems in personal and social functioning common among substance abusers, not just information on problems with drugs and alcohol. It has been used with psychiatrically ill, homeless, pregnant, and prisoner populations, but its primary use has been with adults seeking treatment for substance abuse problems.

The ASI has been used extensively for treatment planning and outcome evaluation. Reliability studies have been done (namely, test-retest, split-half, and internal consistency), and measures of validity have been derived (namely, content, criterion [predictive, concurrent, "postdictive"], and construct). The instrument is in the public domain because its development was supported by grants from the Veterans Administration and the National Institute on Drug Abuse. There are no costs and only minimal charges for photocopying and mailing the ASI, and it can be acquired from A. Thomas McLellan, Ph.D., Treatment Research Institute, 600 Public Ledger Building, 150 S. Independence Mall West, Philadelphia, PA 19106 (phone 215–399–0980, fax 215–399–0987, or e-mail tmclellan@tresearch.org).

Dynamic Assessment of Client Progression or Regression

Accountability for client outcomes is now another responsibility of AODA service providers. Assessment of client outcomes must be comprehensive, dynamic, user friendly, and relatively inexpensive. Simple gain scores (viz., time 1 – time 2) are subject to extensive criticism. The results have to be interpreted with caution since those with higher initial scores can be expected to improve at a higher rate than those with lower scores. Relating the actual gain to a potential gain is more defensible. The analysis uses the form

$$\frac{[\textit{Older Score}] - [\textit{Newer Score}]}{[\textit{Ideal}] - [\textit{Older Score}]} \times 100 = \%$$

If the ideal is not specified, then the following form relates the change to the initial base:

$$\frac{[\textit{Older Score}] - [\textit{Newer Score}]}{[\textit{Maximum Score} + 1] - [\textit{Older Score}]} \times 100$$

In this analysis, the denominator includes (Maximum Score + 1) and shifts from the older score (for progression) to the newer score (for regression) to keep the progression and regression percentages parallel, to weight more dramatic changes with higher percentages, and to avoid a potential division by zero.

The percentage is a dynamic expression of change and is anchored to the beginning level of performance (which may be shifting over time also). For example, if a 5-point scale were used, with 5 = highly dysfunctional and 1 = highly functional, and a client *progressed* from a score of 3 to a score of 1, then the change of 2 would be:

$$\frac{[\textit{Older Score}] - [\textit{Newer Score}]}{(5 + 1) - [\textit{Older Score}]} \times 100 =$$

$$\frac{[3] - [1]}{[6] - [3]} \times 100 = \frac{2}{3} = 0.67 \times 100 = 67\%$$

showing a 67% progression (or improvement).

Likewise, if a 5-point scale were used, with 5 = highly dysfunctional and 1 = highly functional, and a client *regressed* from a score of 1 to a score of 3, the change of 2 would be:

$$\frac{[\textit{Older Score}] - [\textit{Newer Score}]}{(5 + 1) - [\textit{Newer Score}]} \times 100 =$$

$$\frac{[1] - [3]}{[6] - [3]} \times 100 = \frac{-2}{3} = -0.67 \times 100 = -67\%$$

showing a 67% regression. If the client regressed from a score of 1 to a score of 4, then the computations would be:

$$\frac{[1] - [4]}{[6] - [4]} \times 100 = \frac{-3}{2} \times 100 =$$

$$-1.50 \times 100 = -150\%$$

revealing a 150% regression. Note that a shift of 3 points (150 percent) is weighted more heavily than a shift of 2 points (67 percent).

Report Interpretations

In general, in all calculations used by this program ("Access Client Outcome Software"), the *denominator* has the greatest influence on the equation. The purpose is to represent a scale score change to a more severe level as more significant than a change to a less severe level. Consequently, a less dramatic change will result in a less dramatic score, namely, percentage change. The following analysis will address each of the client outcome software programs written in Access specifically and will provide illustrative examples with sample outcomes and sample computations.

The same principles and descriptions of ASI outcomes apply to all levels of reporting. Using the Access Client Outcome software, reports may be generated for

- Individual client ASI outcomes
- Clinician's clients' ASI outcomes (aggregates all clients of a clinician for a given time period)
- Reporting unit ASI outcomes (aggregates all clients assigned to a given organizational unit or area)
- Total program ASI outcomes (aggregates all clients in a designated program)

Scoring the Addiction Severity Index

The ASI instrument is separated into seven categories and scored on a scale of 0–9. Categories are medical problems, employment and support problems, alcohol problems, drug problems, legal problems, family and social problems, and psychological problems. For this instrument, a lower score (severity scores only) means improvement, whereas a higher score indicates decline. This means that zero is the best possible score and nine is the worst possible score. For this example, only three categories of scores are shown in detail; all categories, however, follow the same pattern.

Regression Formula

$$\frac{[\textit{Older Score}] - [\textit{Newer Score}]}{10 - [\textit{Newer Score}]} \times 100$$

Progression Formula

$$\frac{[\textit{Older Score}] - [\textit{Newer Score}]}{10 - [\textit{Older Score}]} \times 100$$

Table 1 is a set of illustrative scores.

Clinical Interpretation of Illustrative Scale Scores

Medical, Alcohol, and Family/Social scales are illustrated. Medical problems seem to increase during time periods A and B but return to an improved state in time period C (percent change –12.5%, –14.28%, and +28.571%). Alcohol consumption appears high initially (level of 8) but was reduced

Table 1. Illustrative Addiction Severity Index Scores

Category	Time Period	Older Score	Newer Score	Percent Change
Medical	A	1	2	–12.5%
	B	2	3	–14.285%
	C	3	1	+28.571%
Alcohol	A	8	6	+100%
	B	6	6	0%
	C	6	5	+25%
Family/Social	A	2	4	– 33.333%
	B	4	3	+16.666%
	C	3	6	– 75%

during time period A (down to a 6), maintained at that level during time period B, and again was reduced in time period C (down to a 5). *Alcohol is still a major issue.* The Family/Social scale regressed initially (–33%), improved (+16%) in time period B, but has regressed in the most recent time period C by moving from a 3 to a 6 (–75%).

Computations

The regression formula can be illustrated using the Medical category for time period A, over which the client's condition regressed from 1 to 2. Specifically:

$$\frac{(1-2)}{(10-2)} = \frac{-1}{8} = -.125$$

When the –.125 is multiplied by 100, the percentage change equals –12.5 percent.

The progression formula can be illustrated using the Medical category for time period C, over which the client's condition progressed from 3 to 1. Specifically:

$$\frac{(3-1)}{(10-3)} = \frac{2}{7} = .28571$$

When the .28571 is multiplied by 100, the percentage change equals +28.571 percent.

Graphics

The complete results for a client summary ASI are displayed in figure 1.

Using Access Client Outcome Software

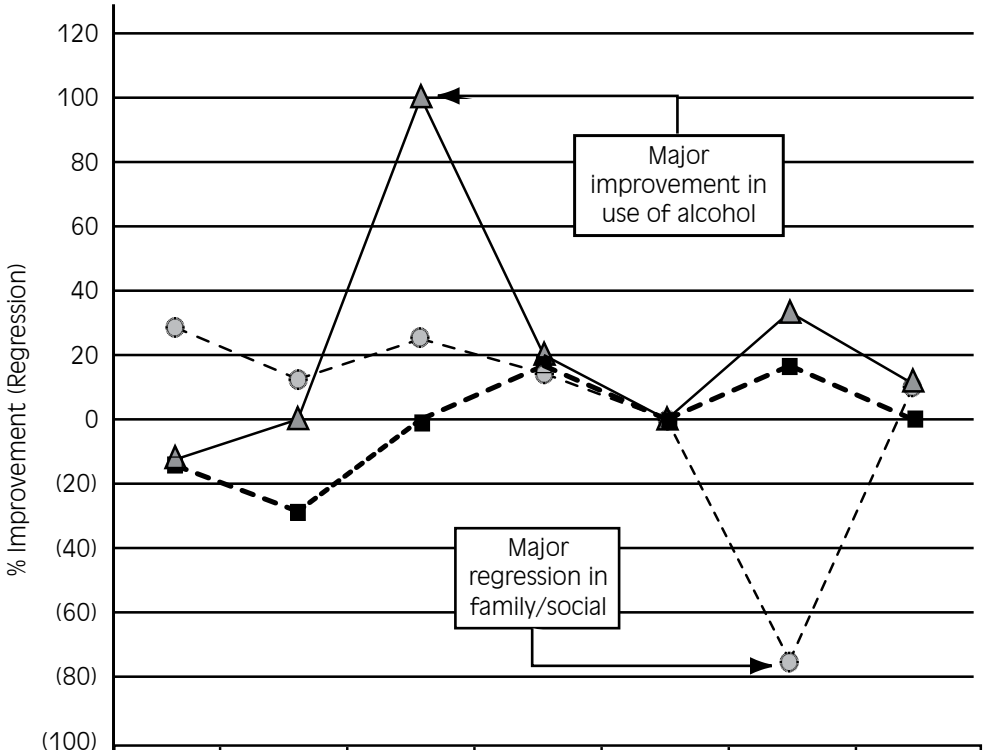
Setting Up Text Documents

The Access programs that have been designed for the user's organization interpret data from text documents (*.txt). The user's organizational personnel must generate these text documents. If the data are not set up properly, the Import Text Wizard within Access will generate inaccurate fields and the programs will not work or will produce inaccurate information.

In the source data files, all the information pertaining to an individual client must appear in a single row. The information must appear in the following order for import to the software's database:

- Case Manager ID
- Case Manager Name (first and last name, preferably with the last name appearing first)
- Program Reporting Unit
- Client ID

Figure 1. Client Summary ASI



	Medical	Emp/Sup	Alcohol	Drugs	Legal	Fam/Soc	Psych
TP C: 7/8/98 to 7/29/99	28.6	12.5	25.0	14.3	0.0	-75.0	10.0
TP B: 6/5/98 to 7/8/98	-14.3	-28.6	0.0	16.7	0.0	16.7	0.0
TP A: 5/5/98 to 6/5/98	-12.5	0.0	100.0	20.0	0.0	33.3	11.1

- Client Last Name
- Client First Name
- Oldest Test Date
- Raw Score for Symptom 1 (Oldest Test Date)
- Raw Score for Symptom 2 (Oldest Test Date)
- [Continue list of scores for other symptoms as needed]
- Second Oldest Test Date
- Raw Score for Symptom 1 (Second Oldest Test Date)
- Raw Score for Symptom 2 (Second Oldest Test Date)
- [Continue list of scores for other symptoms as needed]
- Third Oldest Test Date
- Raw Score for Symptom 1 (Third Oldest Test Date)
- Raw Score for Symptom 2 (Third Oldest Test Date)
- [Continue list of scores for other symptoms as needed]
- Most Recent Test Date
- Raw Score for Symptom 1 (Newest Test Date)
- Raw Score for Symptom 2 (Newest Test Date)
- [Continue list of scores for other symptoms as needed]

Basic Program Operation

Once the data have been imported into the custom Access software, the program is ready to run. First, the user clicks the Run Program control button on the welcoming screen, which takes the user to the program's main menu (figure 2). The main menu provides the user access to all of the program's outputs. The main menu will look similar to figure 2 (details vary depending on the instrument). The screen illustrated in figure 2 is for functional assessments, but the operations for any of the various programs, including the ASI, are identical. The callout boxes on the figure describe various operations. (The Southern Highlands Community Mental Health Center in Princeton, West Virginia was the software developmental site for this example.)

Problems

Discharged Clients Report

The Discharged Clients Report compares the most recent score for each symptom against the oldest corresponding score, for each client in the database. Each client is then classified as having improved, regressed, provided insufficient data, or made no change for each symptom. A client is classified as having insufficient data if there is only one score recorded for a symptom (as showing improvement or regression demands a comparison of two scores). The report function then totals the number of clients who fit into each category and graphs the data. The user can print a copy of the report with or without the graph by using the print buttons on the top, left-hand side of the screen.

A client does not need to have been tested in the most recent time period to be included in the report. The program automatically sorts through all the scores and determines which are the oldest and most recent scores.

The Discharged Clients Report does not distinguish between ongoing clients and discharged clients. The report function classifies and counts every client who is entered into the database. Therefore, if active and discharged clients are entered in the same database, all the clients will be considered as if they have been discharged. Therefore, only clients who have truly been discharged should be entered into the reporting database to produce a report that shows only clients who have been discharged. The report is titled "Discharged Clients Report" because reporting the status of discharged patients is the practical function of the report. A report showing the same results for active clients may be processed using a database containing only active clients.

Findings and Conclusions

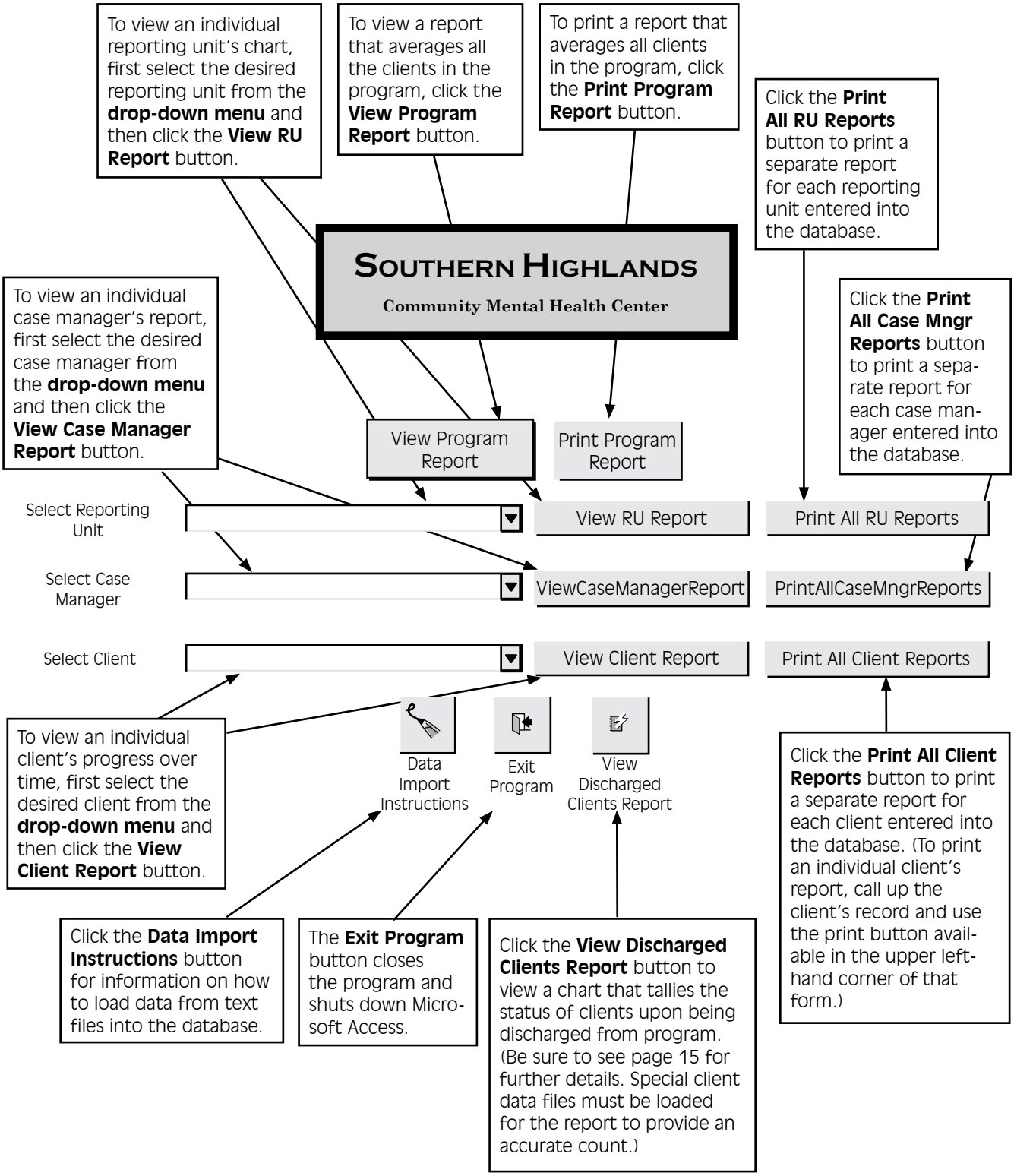
Developmental Site

The developmental site, the Southern Highlands Community Mental Health Center in Princeton, West Virginia, tested the ASI program (along with others in the developed software suite) with positive results from the viewpoints of clinicians, program managers, and information systems staff. Staff responded positively to the visual displays that enabled clinicians (and clients) to review past results and set new goals in light of past progress (or maintenance or regression).

Beta Testing

The results of the beta test at a site different from the developmental site, the Appalachian Community Mental Health Center in Elkins, West Virginia, are now being reviewed, but the initial findings are promising. Information systems required to meet the new Health Insurance Portability and Accountability Act legislation have slowed the progress of the beta testing.

Figure 2. Client Outcome Software Main Menu



Conversion to Access 2002

The current version of the ASI program is written in Access 97 and can be run only on Access 97. A contract is under negotiation to update the ASI program software to Access 2002. Microsoft has made substantial changes and improvements in recent versions of Access and, as is so often the case, the newer versions cannot process programs produced under older versions, unless converted properly.

Tests of Statistical Significance

One additional feature to be added to the software suite is a test of statistical significance. After calculating the changes, the results will be subjected to a nonparametric statistical test to determine if the changes are significant.

Addition of Composite Scores in the Revision of the ASI Database

While clinicians in the demonstration site indicated a preference for the Interview Severity Ratings in the qualitative interview phase of the database design, scores that are better suited for comparison over time are (1) the ASI Composite Scores and (2) analysis of specific item variables according to the literature (Carise, 2004; McLellan, Kushner, Metzger, Peters, Smith, et al., 1992; McLellan et al., 1985). With new funding to update a suite of client outcome databases, the ASI Composite Scores will be added so a clinician (or other user) may use the interview severity ratings, composite scores, or both.

Recommendations

Meeting the Needs of AODA Clinicians and Managers

Rural and frontier AODA clinicians need assistance in calculating and displaying the multimeasure Addiction Severity Index over multiple time periods and for multiple clients and multiple settings. Clinicians and program managers need to be able to report:

- Individual client ASI outcomes
- Clinician's clients' ASI outcomes (aggregates all clients of a clinician for a given time period)
- Reporting unit ASI outcomes (aggregates all clients assigned to a given organizational unit or area)
- Total program ASI outcomes (aggregates all clients in a designated program)

In addition, clinicians and program managers need to be able to summarize ASI program results periodically in terms of client improvement, maintenance, and regression.

The current version of the ASI software program, Access Client Outcome Software, meets all of these requirements, provides a user-friendly format, and is recommended for all ASI users. The software is accompanied by a user manual. It can be operated with a laptop computer or within a full workstation computer or computer network and can be easily adapted to a local environment.

Software Availability

The ASI Access program developed for the Bureau for Behavioral Health and Health Facilities, West Virginia Department of Health and Human Resources, is shareware and is available upon request.

Additional Resources

The reader may be interested in the following relevant Web sites:

- The ASI-MV is an interactive, audio/video CD-ROM program that allows for client

self-administration of the widely used Addiction Severity Index.

- The Treatment Research Institute Web site is a nonprofit research group founded and directed by A. Thomas McLellan, the lead researcher and developer of the ASI. The following materials (and many others) are available at **http://www.tresearch.org/resources/instruments.htm.**
  - Addiction Severity Index—5th Edition
  - Addiction Severity Index—5th Edition (Spanish)
  - Addiction Severity Index—5th Edition (for use with Native Americans)
  - Addiction Severity Index Lite
  - Addiction Severity Index—5th Edition Clinical Training Version
  - Addiction Severity Index—Lite: Clinical Trials Network Version—Part 1
  - Addiction Severity Index—Lite: Clinical Trials Network Version—Part 2
  - Treatment Services Review—14 Day
  - Treatment Services Review—30 Day

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Addendum

With a useful review by and suggestions from Deni Carise, Ph.D., Treatment Research Institute (**dcarise@tresearch.org**), the authors intend to update the ASI Database to include ASI Composite Scores. Improved reliability and validity are available for the ASI Composite Scores. The recent financing by the Bureau of Behavioral Health and Health Facilities, West Virginia Department of Health and Human Resources, Charleston, West Virginia of an update of several outcome databases (including this ASI Database) will enable the software to be updated to Access 2002–2003 versions and to add ASI Composite Scores. An early review of the client database submissions by West Virginia treatment providers has identified preexisting data elements for ASI Composite Scores. It is not clear without further research if the scores are computed or if the scores need to be computed. In any event, the revised ASI Database could include an option for the computation of the scores if not computed. This additional feature, as an aside, may widen the application of the software to users who do not have a ready capability to calculate ASI Composite Scores. The computation of ASI Composite Scores can be accomplished without any user (or license) fees (Carise, 2004). When the ASI Database is updated, a new manuscript describing all of its features will be created.

Resources on Rural Substance Abuse Issues

National Rural Alcohol & Drug Abuse Network, Inc. (NRADAN)

Contact information:
P.O. Box 40
Tony, WI 54563-0040
Phone: (715) 532–9030
Fax: (715) 532–9030

Description:
NRADAN is a private, nonprofit foundation that promotes networking between rural programs, and professionals along with providing liaisons to key Federal and State government agencies and private resources.

The National Rural Health Association (NRHA)

Contact information:
521 East 63rd Street
Kansas City, MI 64410-3329
Phone: (816) 756–3140
Fax: (816) 756–3144
Web Site: **http://www.ruralhealthweb.org**

Description:
NRHA is a national nonprofit membership organization with more than 10,000 members that provides leadership on rural health issues. The association's mission is to improve the health and well-being of rural Americans and to provide leadership on rural health issues through advocacy, communications, education, research, and leadership.

Rural Assistance Center (RAC)

Contact information:
P.O. Box 9037
Grand Forks, ND 58202
Phone: (800) 270–1898
Fax: (800) 270–1913
E-mail: info@raconline.org
Web Site: **http://www.raconline.org**

Description:
RAC helps rural communities and other rural stakeholders access the full range of available programs, funding, and research that can enable them to provide quality health and human services to rural residents.

Substance Abuse Facility Locator

Contact information:
Web Site: **http://findtreatment.samhsa.gov**

Description:
A searchable database that provides assistance with locating drug and alcohol abuse treatment programs (including in rural areas).

2-1-1 Resource Line

Contact information:
Web Site: **http://www.211.org**

Description:
2-1-1 is an easy to remember telephone number that, where available, connects people with important community services and referral agencies in their areas. This is a nationwide program with services varying State-by-State.

National Hotline Call Center for Alcohol and Drug Abuse

Contact information:
Phone: (800) 784–6776
Web Site: **http://www.addictioncareoptions.com**

Description:
The National Hotline Call Center for Alcohol and Drug Abuse provides accurate information about alcohol and drug abuse and offers alternatives and suggestions to anyone looking for answers and assistance. Staff is on duty 24 hours a day, 7 days a week. They provide in-depth information about court orders, family interventions, detoxification, treatment, rehab programs, insurance, and anything that is related to alcohol and drug abuse. Services are free of charge.

Selected Publications on Rural Substance Abuse Issues

Center for Substance Abuse Treatment. (1997). *Bringing Excellence to Substance Abuse Services in Rural & Frontier America: 1996 Award for Excellence Papers*. Technical Assistance Publication (TAP) number 20. Rockville, MD: Substance Abuse and Mental Health Services Administration. Available from SAMHSA's Publications Ordering Web page at **http://store.samhsa.gov**.

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Technical Assistance Publications (TAPs) include:

TAPs 1–9, 25* These TAPs have been archived and are no longer available.

TAP 10 *Rural Issues in Alcohol and Other Drug Abuse Treatment*

TAP 11 *Treatment for Alcohol and Other Drug Abuse: Opportunities for Coordination**

TAP 12 *Approval and Monitoring of Narcotic Treatment Programs: A Guide on the Roles of Federal and State Agencies**

TAP 13 *Confidentiality of Patient Records for Alcohol and Other Drug Treatment* **BKD156**

TAP 14 *Siting Drug and Alcohol Treatment Programs: Legal Challenges to the NIMBY Syndrome* **BKD175**

TAP 15 *Forecasting the Cost of Chemical Dependency Treatment Under Managed Care: The Washington State Study**

TAP 16 *Purchasing Managed Care Services for Alcohol and Other Drug Abuse Treatment: Essential Elements and Policy Issues**

TAP 17 *Treating Alcohol and Other Drug Abusers in Rural and Frontier Areas* **BKD174**

TAP 18 *Checklist for Monitoring Alcohol and Other Drug Confidentiality Compliance**

TAP 19 *Counselor's Manual for Relapse Prevention With Chemically Dependent Criminal Offenders* **(SMA) 06-4217**

TAP 20 *Bringing Excellence to Substance Abuse Services in Rural and Frontier America* **BKD220**

TAP 21 *Addiction Counseling Competencies: The Knowledge, Skills, and Attitudes of Professional Practice* **(SMA) 12-4171**

TAP 21-A *Competencies for Substance Abuse Treatment Clinical Supervisors* **(SMA) 12-4243**

TAP 22 *Contracting for Managed Substance Abuse and Mental Health Services: A Guide for Public Purchasers* **BKD252**

TAP 23 *Substance Abuse Treatment for Women Offenders: Guide to Promising Practices* **(SMA) 08-3929**

TAP 24 *Welfare Reform and Substance Abuse Treatment Confidentiality: General Guidance for Reconciling Need to Know and Privacy* **BKD336**

TAP 26 *Identifying Substance Abuse Among TANF-Eligible Families* **(SMA) 05-4089**

TAP 27 *Navigating the Pathways: Lessons and Promising Practices in Linking Alcohol and Drug Services With Child Welfare**

TAP 28 *The National Rural Alcohol and Drug Abuse Network Awards for Excellence 2004, Submitted and Award-Winning Papers* **(SMA) 12-4183**

TAP 29 *Integrating State Administrative Records To Manage Substance Abuse Treatment System Performance* **(SMA) 12-4268**

TAP 30 *Buprenorphine: A Guide for Nurses* **(SMA) 09-4376**

TAP 31 *Implementing Change in Substance Abuse Treatment Programs* **(SMA) 09-4377**

TAP 32 *Clinical Drug Testing in Primary Care* **(SMA) 12-4668**

*Archived but available in electronic format at http://kap.samhsa.gov.

TAPs may be ordered from SAMHSA's Publications Ordering Web page at http://store.samhsa.gov. Or, please call SAMHSA at 1-877-SAMHSA-7 (1-877-726-4727) (English and Español).

HHS Publication No. (SMA) 12-4183
First printed 2006
Revised 2010 and 2012