

Substance Abuse in Rural Pennsylvania: Present and Future



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Executive Summary

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The focus of this project was to study the current status and trends in substance use and treatment in rural Pennsylvania to better understand present needs for prevention and treatment programs, and to make recommendations regarding future needs. To do so, the research team reviewed current trends in alcohol and drug use in rural areas of the state, reviewed literature on the cost effectiveness of drug and alcohol treatment, reviewed model science-based treatment and prevention programs, and surveyed rural treatment providers and rural Single County Authority (SCA) members across the state. The team also created a treatment center directory for all rural drug and alcohol facilities across Pennsylvania.

From their review of current trends in alcohol and drug use in rural areas, the researchers found data indicating that tobacco use is higher in rural areas, and that alcohol and drug use may be higher among rural teens when compared to urban teens. Recent data also show high school seniors in Pennsylvania drink, smoke, and use other drugs more than their counterparts across the country. Perhaps most alarming is the rate of binge drinking reported among these students, a behavior typically highest among those in rural areas. The data also show that rural communities are worried about methamphetamine and heroin use and that the use of OxyContin and other pharmaceuticals has increased and appears to be somewhat more concentrated in rural areas.

In terms of cost effectiveness of treatment, the researchers found that even brief outpatient treatments appear to significantly decrease costs to the individual and to society as a whole. Compared to many other types of health care interventions, alcohol and drug abuse treatments are significantly less expensive than most medical procedures.

The researchers also found that there are a large number of both treatment and prevention intervention methods currently in existence, which are science-based and widely considered to be effective. However, it is important to note that, to date, almost none of these interventions have been researched in rural areas, including Pennsylvania. This is one area where the state could be collecting data to determine how best to use these methods in rural settings.

The survey of SCAs and treatment centers in rural Pennsylvania also yielded interesting results. The SCA survey indicated that barriers exist to substance abuse prevention and treatment programs in rural areas and there was uncertainty among respondents about the prevention and treatment services in their communities and the adequacy of funding for the services. The survey of treatment centers helped the researchers to create a profile of providers in rural Pennsylvania and found that the retention and recruitment of treatment center personnel will depend highly on continuing education and training and adequate compensation.

Introduction

The focus of this project was to study the current status and trends in substance use and treatment in rural Pennsylvania to better understand present needs for prevention and treatment programs, and to make recommendations regarding future needs. The Center for Rural Pennsylvania's 2004 attitudinal survey of rural Pennsylvanians shows that drug and alcohol (D&A) abuse is one of the issues rated most highly among rural Pennsylvania residents as needing higher priority in the years ahead. Sixty-four percent of respondents to this survey indicated D&A abuse required greater attention in the future. In response to another question, 49 percent of respondents said a future priority for the state should be "strengthening programs to deal with drug and alcohol abuse" (Willits et al., 2004). In general, people in rural areas, when compared to urban populations, have been found to experience higher poverty rates, more geographic barriers, greater isolation, fewer telephone and transportation options; are less likely to possess health insurance or information about entitlement programs; and have fewer employment opportunities (American Psychological Association, 2002). These variables suggest that many significant barriers to treatment are already present in rural areas. Moreover, substance abuse should not be viewed as an urban plight. Drug and alcohol problems are widespread across all areas of the nation and state. Given that more than 70 percent of Pennsylvania's counties are designated as rural, according to the Center for Rural Pennsylvania's definition that is based on population density, creating and maintaining a network of accessible, affordable, well staffed and successful D&A prevention and treatment programs should be a priority (Harwood, 2000). Data from the American Psychological Association (APA, 2002) indicate that across the U.S., more than half of all rural counties are not served by a psychologist, psychiatrist or social worker. In Pennsylvania, the *State Health Improvement Plan Special Report and Plan to Improve Rural Health Status* notes that 16 of the 22 mental health professional shortage areas in Pennsylvania are in rural counties (Pennsylvania Department of Health, 2000).

There are substantial gaps in the research on substance abuse treatment and prevention in rural areas. Empirical inquiries that have been published are subject to methodological issues, such as inconsistent definitions of rural, inadequate generalizations of results from urban to rural areas, and sampling methods that do not accurately represent rural areas. All of these methodological shortcomings serve to render comparisons to rural Pennsylvania questionable (D'Onofrio, 1997).

Barriers faced by rural communities

Despite variability across rural communities, some of the barriers that rural residents face in finding and participating in treatment for substance abuse appear, for the most part, to be universal. Booth et al. (2001) have identified five barriers to treatment that rural residents face:

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- Low population density may result in a lack of treatment centers, funding, and specialists;
- The distance rural clients must travel may be considerable;
- A lack of trained professionals may result in decreased availability of treatment and potentially inadequate or substandard treatment;
- Rural clients' reluctance to disclose personal information and find treatment in a small community for privacy reasons; and
- Conflict between enrollment in a treatment program and finding and maintaining employment.

Operating hours of treatment facilities and client work schedules are typically the same, so if the distance between the two are great, conflicts may exist. In addition, Campbell et al. (2002) discuss the difficulty in attracting and funding mental health providers and services in isolated areas and note that there is less likelihood of medical insurance coverage for rural residents and a lack of information available about various entitlement programs. According to the federal government's Substance Abuse and Mental Health Services Administration's (SAMHSA) website, flawed views of rural America also represent a significant barrier for these communities, and this inaccurate picture results in an underestimation of how much funding and services are really needed to effectively run treatment programs.

Goals and Objectives

This research pulled data from a number of resources to understand the current treatment system in Pennsylvania and predict how to best prepare for the future.

The project, conducted in 2004 and 2005, included an extensive review of current and predicted trends in alcohol and drug use, a literature review of cost effectiveness data and reviews of model treatment and prevention programs. The research also entailed two surveys: one of SCA members and one of rural alcohol and drug treatment center staff (clinicians and directors) to find out more about their current and future concerns.

Results

Substance abuse rates and trends in rural Pennsylvania

To understand substance abuse trends in rural Pennsylvania, the researchers examined the results of several national and state surveys, and reports from law enforcement.

There are countless numbers of substance abuse surveys administered at the national, state and local levels throughout the country. The findings reviewed here come from the Monitoring for the Future Study, the Pennsylvania Youth Survey (PAYS), the National Survey on Drug Use and Health (NSDUH), and the Drug Enforcement Administration (DEA).

The conclusions reached below are a general ranking of the dangers represented by various drugs being used. Several variables were considered in this ranking, including the degree of use both nationwide and in Pennsylvania, changing trends in use, the toxicity and addictive liability of the drug in question, and the degree to which it represents a greater concern for rural communities both nationwide and within Pennsylvania.

1. Alcohol represents a major public health concern because of its widespread use and the social and health related consequences of that use. Continued vigilance regarding alcohol abuse in Pennsylvania is especially warranted as it is the most commonly used drug among the state's youth and use levels are above those seen nationally. Moreover, alcohol use and associated problems should be of particular focus in rural areas where use rates are highest on some measures, such as binge drinking.
2. Like alcohol, tobacco products remain a substantial problem because of their degree of use. While both cigarette and smokeless tobacco use have shown recent declines, the decreases appear to be slowing (cigarettes) or have stopped (smokeless tobacco). Cigarette smoking in Pennsylvania is the second most common drug used by youths and their use is above the national average across most age groups. Given that both cigarette smoking and the use of smokeless tobacco products show higher levels of use in rural communities, the use of tobacco products within rural regions remains a point of considerable concern.
3. Heroin use has been relatively low and stable across population densities for the last few years. However, it is viewed by law enforcement as the number one drug threat in Pennsylvania. Heroin appears to be readily available throughout the state and has recently become responsible for a growing number of treatment admissions in the state. Once an urban problem, heroin can now be found causing problems in many communities across the state.
4. Methamphetamine has shown some recent declines in use nationally, but its spread across Pennsylvania is of growing concern. Production is greatest in rural regions of the state and many believe its spread from rural regions, especially the Northwestern corner of the state, is imminent. Methamphetamine is of grave concern both because of its harmful effects on the user and the dangers associated with its production.
5. Cocaine and crack cocaine use remain relatively stable and lower than in the later part of the last decade, though some data suggest their use may be increasing among the state's youth. However, it now appears that rural communities are more susceptible than ever to the problems posed by cocaine and crack cocaine. Law enforcement has designated cocaine as a drug of major concern because of its availability and extent of use. The degree of threat posed by cocaine and crack is magnified by the violence associated with the cocaine and crack trade.
6. Nationwide OxyContin and other diverted pharmaceu-

tics have shown recent increases in use. Use of diverted pharmaceuticals in Pennsylvania is also high and shows similar rates to those observed nationally. The use of these drugs appears somewhat more concentrated in rural areas and the number of treatment admissions for their use has been rising in Pennsylvania, where law enforcement views it as moderately to highly available.

7. Recent data show high school seniors in Pennsylvania drink, smoke, and use other drugs more than their counterparts across the country. They are also more willing to try alcohol and drugs, and drive under the influence of alcohol or marijuana than 12th graders nationally. Perhaps most alarming is the rate of binge drinking reported among these students, a behavior typically highest among those in rural areas.
8. Marijuana use is widespread, though it has shown recent decreases in Pennsylvania and nationwide. In Pennsylvania, marijuana use ranks third among the drugs used by adolescents, yet statewide use appears to be below the national average on most measures. While readily available, though perhaps less in rural areas, marijuana is viewed by law enforcement as less of a threat than cocaine and heroin.
9. Inhalants are emerging as a class of drugs. They are the one of the few drugs showing the clearest evidence of increased use in recent years. Moreover, leading indicators of continued use, such as perceived risk, suggest this trend may continue. Use of inhalants currently ranks fifth in prevalence among Pennsylvania's youth. Moreover, inhalant use among rural communities is as high as in urban areas.
10. The threat posed by "club drugs," like ecstasy and GHB, is serious, but less than the dangers associated with heroin, cocaine, marijuana, diverted pharmaceuticals, and methamphetamine, according to the DEA. The rate of ecstasy use has been declining and its use does not appear to pose a greater threat to rural communities than to other regions across the state.

When trying to make predictions regarding trends in rural drug use in Pennsylvania there are several factors to be taken into account. The first is that there is no single study that provides data directly examining rural versus urban differences in use across regions of Pennsylvania. Perhaps the most relevant data that exists comes from the PAYS study and it does not allow for direct comparisons of use across population densities. Furthermore, this study is limited to adolescents and fails to consider differences that may occur across life spans. In addition, there is little consistency between the definitions of various populations between the available sources of information. Thus the conclusions of this report, stated earlier, regarding trends in rural substance use are based on projections from a variety of sources and assessments made by law enforcement. Acquisition of data that directly addresses rural versus urban drug use differences in Pennsylvania will greatly improve the ability to predict trends in the future.

Review of literature on cost effectiveness

Attempting to prove whether or not alcohol and substance abuse treatment is a solid investment is typically measured in one of three ways.

First, some studies concentrate on cost effectiveness. Outcome measures are typically not defined by dollars and cents but by significant improvement on variables such as alcohol and drug use, legal problems, employment status, mental health status or physical and medical problems. It is assumed that improvement on these outcome variables is associated with decreased costs to society, but these changes are not directly quantified. If two (or more) treatment approaches result in similar positive client outcomes, this would suggest that providers could safely opt to whichever treatment intervention is cheapest to deliver.

The second body of literature, referred to as cost benefit studies, uses outcomes that are translated into monetary scales. These studies often focus on outcome measures, such as reductions in crime and victimization, productivity in the workplace, criminal justice expenditures, or in benefit programs such as welfare or disability.

The last branch of research is a type of cost benefit study, but the emphasis is placed on outcome measures that estimate savings in the area of health care expenses. This research is generally labeled as a “cost offset” study.

No matter which approach is taken, most studies require at least one year’s worth of data for comparisons and standardized follow-up of clients.

Each of the approaches described above requires data about the cost of treatment. Treatment costs include the expense of delivering the services by qualified staff and providers, and the cost of services that are reimbursed by health insurers. A national sample of providers shows wages and salaries for treatment personnel to account for about half of the total costs of treatment, and administrative and maintenance expenses to account for about one quarter of the costs (CSAT, 2001). These primary budget expenditures are generally far higher than costs for facility rental or purchase and depreciation (estimated at 5 percent), utilities (4 percent), or medical and laboratory costs (3 percent). It is important to keep in mind that for the majority of treatment programs in Pennsylvania, as well as in other areas, the most common type of staff expenditure is for counselors, including certified addiction counselors (CACs). In general, these staff members are paid on a significantly lower scale than other types of health professionals, such as nurses, physicians, or psychologists (who comprise only about 5 percent of the personnel expenditures in substance abuse treatment). This suggests that there may be a limit to how low expenditures can go, given that the lower-paid CACs are the current workhorses of most treatment centers.

When compiling studies and publishing research literature for this report, no studies were located that used Pennsylvania as a study population, and only several projects (with data collected in other areas of the U.S.) made any comparisons between rural and urban populations. This

would be a large scale, expensive, and time-consuming enterprise for Pennsylvania. But, later savings and improvements in the treatment delivery system would offset the costs of such a project. In the meantime, it should be noted that when cost analysis has been performed at either single sites or throughout entire states (California, Oregon), using cost effectiveness, cost benefit, or cost offset approaches, the results are quite encouraging. No matter how it is measured, treatment appears to be a wise investment.

One of the most widely noted projects is known as CALDATA (Gerstein, Johnson, Harwood, Fountain, Suter, & Malloy, 1994), a large-scale study that took place across the entire state of California. The study is especially notable because the clients who participated in the research were randomly chosen. This significantly decreases the possibility of over sampling persons who are motivated, doing well and remaining in treatment. The study took place in 16 countries, involved 97 different treatment centers, and enrolled 1,850 clients, some of whom were followed for up to two years. The California system of alcohol and substance abuse treatment is the largest in the nation. Authors estimated the cost of treating the approximately 150,000 clients seen in 1992 at \$209 million. But, benefits to the taxpaying public totaled over \$1.5 billion in savings. One day of treatment pays for itself, primarily through reductions in crime. Depending on the type of treatment (outpatient, residential, and specialty opiate specific treatments were studied) the benefits of treatment outweighed the cost by a 4:1 ratio (residential), to as high as 2:1 (methadone for opiate users). Benefits following treatment extended across the two-year period. Keep in mind that all of these studies calculate costs/benefits generally over one to two years; thus, lifetime savings would be even more impressive estimates. Overall, CALDATA research noted an average \$7 return for every \$1 dollar spent on treatment.

One recent comprehensive review of the substance abuse treatment cost effectiveness literature (Harwood, Malhotra, Villarivera, Liu, Chong, & Gilani, 2002) included 58 studies. The authors concluded that there is not a very strong body of evidence, employing good scientific methods and rigorous study designs, indicating that receiving some or any treatment is better (and preferable) than receiving none, but that the economic benefits significantly outweigh the costs of providing treatment. Investment returns on \$1 of treatment generally ranged from \$4 to \$14, depending on the level of care and type of alcohol/drug problem studied.

The second task of Harwood et al. was to explore the cost effectiveness issue – are some treatments better than others and also cheaper to deliver? The alcohol and substance abuse treatment system throughout the U.S. is based on a levels-of-care model that was designed by the American Society of Addiction Medicine (ASAM, 2004). ASAM provides two sets of guidelines, one for adults and one for adolescents, and five broad levels of care for each group. Within these broad levels of service is a range of specific

levels of care. This model, which is used as the standard in Pennsylvania, emphasizes using outpatient services whenever possible, and limiting residential and inpatient stays to shorter durations. Most data suggest that outpatient treatment, and in one study even the more costly outpatient detoxification services (Hayashida, 1989), are effective and cheaper than inpatient stays. Pennsylvania's Intensive Outpatient Programs (IOPs) have not been studied. However, this program also advocates effective treatment for less money than an inpatient treatment episode. For many clients, it is also preferable because they can remain at home or work during the evenings rather than living in a hospital or residential facility.

One final question explored by Harwood and colleagues was treatments for special populations. The research found that women benefited from treatment as much as men, with cost benefits slightly lower due to women's lower crime rates both during and after treatment. Veterans, treated at the Department of Veterans Affairs system, have been extensively studied, and this research led to changing most 28-day programs to 21 days. The longer stay did not create enough additional improvement to warrant the costs. The study of clients with dual diagnoses has played a major role in the development of case management services and Mentally Ill Substance Abuser (MISA) programs. Both of these approaches are used in Pennsylvania and appear to result in reduced hospitalizations (cost reduction). For those with the most severe problems, residential therapeutic community (TC) placements may also be useful in symptom improvement and reducing high expense health costs such as emergency room visits. Lastly, the authors reviewed prisoners/offenders receiving treatment in jail or prison, and drug court data. These two approaches were both found to be highly cost effective and to result in lower rates of substance relapse and lower rates of criminal recidivism. Pennsylvania currently has fewer than a dozen drug courts, and may want to expand this option given the promising data in this area. Overall these findings suggest that special populations also benefit from treatment, and while data are lacking in this area, it would be hypothesized that rural clients also experience significant clinical and cost effective gains in treatment.

Model treatment and prevention programs

Model treatments

There are numerous treatment and prevention programs that are being widely used and have been studied. For example, three treatments for alcohol problems, funded by the federal government, are used in Project MATCH. The efficacy of these three psychological approaches to treatment has been studied in great depth since the late 1980's. Each of the approaches has been shown to have sustained effects over one year or longer in an impressive range of patient populations, including males and females, ethnic minorities, outpatient versus aftercare treatment, clients

with additional mental health problems or cognitive deficits, and clients with additional health problems such as HIV. However, no studies have directly addressed the variable of urban versus rural populations, and it is worth noting that most of the large multi-site trials displaying the effectiveness and utility of the Project MATCH manuals and treatments were conducted in larger urban areas. However, the nine data collection sites were dispersed across the nation, suggesting that the effectiveness of the interventions was not limited to any particular geographic region.

Approaches developed primarily for the treatment of cocaine (and now methamphetamine) addiction include Cognitive-Behavioral Therapy (Carroll, 1998) and Community Reinforcement (also referred to as Contingency Management; Higgins et al., 1991, 1994). Both of these interventions have been studied in depth by the National Institute of Drug Abuse and have been found to be effective strategies. As with Project MATCH, the majority of projects were centered in more urban areas and rural centers have not been a focus.

Relapse Prevention (Marlatt & Gordon, 1985) is an approach that can, and has, been used with all types of alcohol and drug problems, as well as with gambling disorders and smoking cessation. It has been shown to be effective in medical settings and outpatient clinics both in the U.S. and beyond. The intervention rests on the assumption that relapses can occur almost automatically, without conscious intent, unless the client is trained to look for warning signals and employ strategies to help avoid or cope with situations, emotions, and even locations where alcohol or drug use may be likely to occur.

Harm Reduction (Denning, 2000; Marlatt, 1998) is a more controversial approach because it recognizes that some clients may not initially be ready or capable of complete abstinence. However, the argument for Harm Reduction is that even decreases in use can lead to improved quality of life, better public health and reduced crime, and many clients who begin in this modality eventually move towards abstinence.

Drug therapies, particularly Methadone Maintenance, have also been widely studied and shown to be effective in a variety of settings. These pharmacotherapies may also include counseling sessions, groups, or other medical care in order to stabilize patients with opiate dependence. This treatment is provided in specialized centers, and few of these are easily available or accessible to rural clients.

The pros and cons of using any of these science-based treatments in rural settings should be considered.

1. Training and research are needed for practitioners to learn the interventions and to carry out the treatments faithfully and as intended (sometimes known as "treatment adherence" research). This can be costly in terms of both time and money. However, it would provide the state, researchers, and treatment center staff with quantifiable results about how, and if, their programs are working.
2. Barriers, such as transportation and stigma, may play a

larger role in treating clients in rural areas. Approaches that attempt to remove barriers, either through providing transport or other material supports or providing community education about treatment for alcohol and drug problems as a gift given to family and friends (rather than weakness or stigma) can be compared to groups of clients who receive “treatment as usual.”

3. Many of the large scale studies reviewed offer individual treatment sessions, which can be too costly to implement in many centers. Individual sessions may work better than group sessions, although smaller centers may find it difficult to provide such a wide array of approaches due to limited resources and staff. However, this question has not been researched extensively. Rural centers that adapted a program, turning it into a group format, could collect outcome data to see if these more efficient group sessions translate into behavior change. In this case, the cost outlay is not too expensive given that many centers do have chart data that would include drug testing results for participating clients and could review those data to gauge program effectiveness.

Prevention programs

The Substance Abuse and Mental Health Services Administration (SAMHSA) published several monographs regarding substance abuse prevention programs (USDHHS/SAMHSA, 2002) and has created a website providing information about model programs and the criteria used to define these programs.

All SAMHSA prevention programs that have been implemented in rural settings were reviewed. A few of these appeared to have possibilities for rural Pennsylvania communities. One program, Across Ages, is a school and community-based drug prevention program aimed at youth 9 to 13 years. The goal is to strengthen bonds between adults and youth and create opportunities for positive community involvement. The program pairs older adult mentors (age 55 and above) with young adolescents. Given that Pennsylvania has a significant aging population, a program like this might be quite feasible and desirable. One warning from the creators of the program was that adolescents should only be paired with adults they do not already know well.

All StarsTM is a school- or community-based program intended to delay and prevent high-risk behaviors in middle school-age adolescents, including substance use, violence, and premature sexual activity. The emphasis is on fostering development of positive personal characteristics. All Stars includes nine to 13 lessons during its first year, and seven to eight booster lessons in its second year. The program is based on strong research that has identified the critical factors that lead young people to begin experimenting with substances and participating in other high-risk behaviors. Given the positive outcomes found with this program, it would appear to be a good alternative to DARE. However, it may be cost and time intensive to implement an interven-

tion at the school or community level over several years.

Creating Lasting Family Connections offers a family strengthening, substance abuse, and violence prevention model. Program results, documented with children 11 to 15 years, showed significant increases in children’s resistance to the onset of substance use and reductions in use of alcohol and other drugs. The program seems to focus on resiliency issues, and includes the entire family rather than just the individual child. However, it may be more difficult to recruit and retain families, when compared to interventions that reach children in school settings. The plus for rural communities would be that family oriented prevention may ultimately foster more large scale changes, including less use of more expensive services, such as drug and alcohol treatment.

Another program that focuses on the family would appear to be far less costly to implement. Family Matters is a home-based program designed to prevent tobacco and alcohol use in early adolescence. The program is delivered through four booklets. These are mailed to the home and then health educators make follow-up telephone calls to parents. The booklets include readings and activities designed to help families explore general family characteristics and family tobacco- and alcohol-use attitudes and characteristics that can influence adolescent substance use.

Although rural communities appear to use computers and the internet less frequently, those numbers are likely to increase in the future. One step up in terms of sophistication and technology is the Parenting Wisely intervention. This is a self-administered, computer-based program teaching parents and 9- to 18-year-old children skills to combat risk factors for substance use and abuse. The interactive and nonjudgmental CD-ROM format accelerates learning, and parents can use new skills immediately. The program has shown positive results regarding avoidance or reductions in alcohol use among participants.

One model program, developed in Pennsylvania, was aimed at a very specific population and may not be ideal for the general population or rural areas where privacy issues may be a significant concern. Trauma Focused Cognitive Behavior Therapy (TF-CBT) is designed to help children, youth, and their parents overcome negative effects of traumatic life events including child sexual or physical abuse; traumatic loss/death of a loved one; domestic, school, or community violence; and exposure to disasters. It integrates cognitive and behavioral interventions with traditional child abuse therapies. The focus is on enhancing children’s interpersonal trust and empowerment and targeting any Posttraumatic Stress Disorder (PTSD) symptoms as well. Significant reductions in alcohol and substance use were seen as a byproduct of the intervention.

In summary, there are a large number of both treatment and prevention intervention methods which are science-based and considered to be effective. However, it is important to note that, to date, almost none of these interventions have been researched in rural areas, including Pennsylvania.

This is one key area where the state could be collecting data to determine how best to use the methods in rural settings.

Effective treatment and prevention strategies for rural Pennsylvania

Overall, the trend in treatment strategies in rural Pennsylvania is toward collaborative efforts between governmental and private organizations to provide integrated treatment and prevention strategies. For example, Zielinsky (1995) proposed an Intensive Outpatient Vocational Rehabilitation Program (IOVRP) for residents of Fayette County. IOVRP, which was designed to holistically address the intertwined issues of acquiring gainful employment and recovery from substance abuse, is especially promising because it is vocationally based. To address barriers to treatment such as transportation, decreased funding, and availability of services, the designers of IOVRP formed a collaboration with the Fayette County Drug and Alcohol Commission, Goodwill Industries, and the Office of Vocational Rehabilitation to provide individual and group therapy, psychoeducation, and vocational training, at a centralized location.

Another program that exemplifies the collaborative and integrated movement of substance abuse treatment in rural Pennsylvania was conducted by Pinter (1995) in Northumberland County. Pinter proposed Project SWAP (Seniors With Addiction Problems) as an interagency effort to: promote effective identification and treatment of seniors with additional problems living in Northumberland County, conduct outreach substance abuse education to isolated and stay-at-home seniors, and foster a concise and effective referral system among collaborating agencies. Staff members of the local Area Agency on Aging were trained to make referrals to the Northumberland County Single Authority for drug and alcohol treatment that was provided in-home to avoid the stigma that accompanies going to a psychological clinic. Prior to the implementation of Project SWAP, virtually none of the elderly in Northumberland County were identified as potential substance abusers. The results of this study indicate a substantial increase in referral and treatment of elderly substance abusers.

There have also been prevention strategies that have received support for use in rural Pennsylvania. For example, Thompson (1997) describes a Community Outreach Project that was implemented by the Tussey Mountain School District in Bedford County. In this published program evaluation, the local school district served as the facilitator for an interagency collaborative that was gathered to provide educational and prevention services to identified youth. The school district used data gathered from the Primary Prevention Awareness, Attitudes, and Usage Scales, which was administered to 7th to 12th grade students. Upon review of the various intervention services available to students, the school district was able to identify many successful programs including a Community/School Drug

and Alcohol Advisory Council, a Student Assistance Program, and a Comprehensive K-12 Tobacco, Alcohol, and Other Drugs Curriculum.

To summarize, there have been a handful of studies produced on effective treatment and prevention strategies for rural Pennsylvania, but there are some problems inherent in predicting trends from such scant research. Anecdotal support, generally in the form of case studies or simple evaluation studies of program effectiveness, lack the methodological and analytic rigor that is used to characterize interventions as effective or not.

Single County Authority (SCA) survey

To receive state and federal substance abuse treatment and prevention funds, counties in Pennsylvania are required to establish SCAs, which are responsible for program planning and administration of funded grants and contracts. The SCA system is governed by the Bureau of Drug and Alcohol Programs (BDAP). Some of the state's 67 counties have merged to share administrative costs and resources, referred to as jointers, resulting in the establishment of 49 SCAs.

SCAs are the primary contractor/or grantee for state and federal allocated funds from BDAP. BDAP allocates funds to the SCAs through two mechanisms. The first is based on county population data and constitutes the majority of state and federal funding provided to the counties. The second is through requests for applications (RFAs) in which BDAP identifies critical populations or important service needs across the state, and through grants, attempts to address these issues. In most counties D&A education, prevention, intervention, and treatment services are provided by independent facilities under contracts with the SCAs (BDAP, 2004).

Because the SCAs are the county's extension of the state's D&A programs, they represent the intersection between the state's objectives and goals and the local service needs of each county. Therefore, the research team surveyed SCA members from Pennsylvania's rural counties to garner information about the D&A service needs of these communities and the extent to which the state's D&A programs address the needs.

The researchers mailed surveys to 33 SCAs that have authority in rural counties of Pennsylvania. The SCAs, in turn, distributed the surveys to their members. Of the 33 rural SCAs that received the surveys, 19 different SCAs (57.6 percent) responded. Eighty-two individual surveys were received from SCA members with the number of respondents from each SCA ranging from one to 11. The mean number of surveys received from responding SCAs was 2.75. Respondents were from SCAs across all geographical regions of the state.

Two major themes stand out from the review of the SCA survey: first, barriers exist to substance abuse prevention and treatment in rural areas. For example:

- Close to half of the respondents did not believe there were a sufficient number of continuing education pro-

grams directed toward prevention and treatment issues in rural communities;

- About 32 percent of respondents believe that BDAP does not show sufficient commitment to rural substance abuse issues;
- About 44 percent of respondents believe that BDAP funding is inadequate for prevention needs;
- About 57 percent of respondents believe BDAP funding is inadequate for treatment needs;
- 39 percent of respondents believe that state funding for D&A prevention and treatment is biased against rural counties;
- About 51 percent maintain the quantity of substance abuse treatment is below that seen in urban areas;
- About 48 percent believe that funding for D&A services goes mostly to urban areas;
- Almost 49 percent disagreed with the statement that D&A dependence was considered a healthcare priority by their local governments;
- About 57 percent do not believe that treatment and prevention programs developed for urban populations translate readily to rural communities;
- 44 percent believed their rural location represented a barrier to finding qualified treatment employees in their communities; and
- Respondents ranked the following as impediments to D&A treatment within their communities - stigma and financial burden (26 percent), rural culture (20 percent), lack of access to available services (17 percent), and inadequate healthcare (15 percent).

The second major theme from the survey was the uncertainty of the respondents regarding key questions related to prevention and treatment services within their counties and the adequacy of funding for those programs. Most notably:

- 44 percent of respondents were unsure of whether funding and programs from BDAP have changed to meet changing public needs;
- 42 percent were unsure about BDAP's commitment to issues specific to rural communities;
- 35 percent were unsure if the funding provided by BDAP is adequate to meet their prevention needs;
- 24 percent were unsure if BDAP funding for treatment is inadequate;
- About 46 percent were unsure if BDAP funding based on county size was equitable;
- 46 percent were unsure if the allocation of state funds for D&A prevention and treatment were biased against rural counties;
- 59 percent were unsure if RFAs have been effective in directing funds towards critical populations that are found in rural communities; and
- BDAP has designated several goals to fulfill its mission in developing a statewide plan for addressing D&A dependence and abuse, and many respondents were unsure as to whether they are meeting these goals.

Other key observations

- When asked about changes in the numbers of clients treated over the last two years for specific drugs, most SCA respondents reported an increase in clients treated for methamphetamine (59 percent), cocaine (64 percent), oxycontin (79 percent), heroin (78 percent), prescription drugs (56 percent), and polydrug/multiple substance (62 percent).
- 83 percent of respondents believed that D&A abuse and dependence will increase in their community in the next two years while 2 percent believed it would decrease and 13 percent said they were unsure.

Treatment center survey results

According to the National Survey of Substance Abuse Treatment Services (N-SSATS), on a typical day in 2004, there were approximately 38,000 clients enrolled in substance abuse treatment in Pennsylvania. This included both public and private facilities across the state. About 72 percent of the centers were private non-profits, 25 percent were private for-profit facilities, and the remainder included Veterans Affairs and state and local government facilities, for a total of 465 centers. The majority of facilities are clustered in larger, more urban areas, as can be seen in Figure 1. For the 48 rural counties in Pennsylvania, the number of available centers ranged from zero in Snyder county to 13 in Mercer County. The primary treatment modality offered is outpatient (78 percent), followed by residential and inpatient services. About 50 percent of clients in Pennsylvania are being treated for both alcohol and drug problems, suggesting that, throughout the state, polydrug use has become the most common reason for seeking treatment.

The number of clients served in rural counties over a one-year period (2004) was also quite variable, with a low of 10 clients in Forest County to a high of 1,708 total admissions in Washington County.

To learn more about staffing and experiences of rural centers and the resources available to staff to meet the needs of their communities, the researchers surveyed rural treatment personnel. The survey was mailed to all known treatment centers (for the year 2005) in 21 of the 48 rural Pennsylvania counties. The counties were chosen to reflect all the rural regions across the state.

A packet of 15 surveys (to allow for differences in staff size and lost or misplaced surveys) was mailed to the director of each treatment program, along with a cover letter explaining the project and asking the director to complete the survey and to share it with treatment staff members. Surveys were returned from 29 of the 80 centers, for a response rate of 35 percent.

Data from the surveys were analyzed in one large group (n=95) as there were no significant variations by county regarding the demographics of treatment staff, and analyzing by individual centers might compromise the confidentiality of the participants.

In general, the rural Pennsylvania providers who responded to the survey tended to have the following characteristics: female; white; college educated; not doctors, psychologists or social workers; credentialed in addiction counseling; in the field for six years or less; at their current center for three years or less; attempt to deliver a very wide array of services and treatments; committed and hard working despite lack of funding and other resources; and familiar with and use evidence-based treatments.

This group also tended to have lower salaries, statewide, compared to other health service professions, such as nursing, occupational therapy, and other professions based in hospitals or local health clinics.

Policy Considerations

Based on the review of trends, research literature and survey data, the researchers offered the following considerations:

1. Statewide data for both rural and urban areas on outcomes assessment and cost-effectiveness are needed. The data should include alcohol and drug use measures and at least one-year of follow-up. Undertaking this project, and comparing rural versus urban areas would make Pennsylvania a model state in terms of its approach to alcohol and substance abuse treatment and prevention.
2. Pennsylvania, beginning with BDAP, should consider viewing rural as a demographic variable, such as gender and ethnicity. Statistical comparisons of rural versus metropolitan areas or rural versus urban clients are lacking in the research literature and in statewide reports. It would be important to look across age groups as well. For example, a focus on adolescents and young adults may aid in later prevention efforts, but Pennsylvania also has an aging population. Therefore, it will be critical to collect data across life spans. Community specific data may also assist BDAP and the state in forming initiatives to target specific problem areas or special populations.
3. The use of evidence-based, empirically supported “model” treatments and prevention programs should continue to be encouraged. However, both SCA members and rural treatment staff reiterated in their survey responses that it is often not all clear how well and how easily many model programs - generally developed in more urbanized areas - translate to rural settings. It also unclear, based on the data collected through this research, if practitioners truly adhere to these generally manual-based treatments.
4. Accessibility and transportation to alcohol and drug abuse services or prevention programs appear to be major impediments for clients. Rural centers need both funding and creativity to deal adequately with these issues.

Options may include:

- Piggybacking on existing transportation within a community;

- Offering mobile therapy, similar to home or community visits provided by the Visiting Nurses Association, bloodmobiles or mobile crisis units;
- Widening the community net by educating physicians, clergy, and mental health providers about routine screenings and referrals;
- Offering bibliotherapy (readings and workbooks on addiction or prevention) to clients by delivering materials or videotapes/DVDs and other home study materials; and
- Using Internet resources where clients would “meet” online, attend support groups, and receive psychoeducation or therapy.

5. Confidentiality, stigma and stoicism are important issues in rural areas, based on the comments provided by both SCA and treatment center survey respondents. Public education and interventions may need to be designed to address specific cultural issues within each community, as a one-size-fits-all approach may not be successful.

Options include:

- Enlisting “community experts” who are in recovery from alcohol or drug problems, and willing to provide public health information and referrals on an informal basis;
- Using treatment centers and support groups, such as Alcoholics Anonymous, more often if they are housed with other types of medical offices, businesses, religious or spiritual centers, or even shopping malls (McLellan, O’Brien, Lewis, & Kleber, 2000);
- Presenting alcohol or substance use services to individuals in the community as a positive step for individuals and their families.

6. Attracting and retaining quality staff at treatment centers is critical. As some areas of the state have been designated as medical shortage areas, a similar approach could be advocated regarding the training and retention of drug and alcohol staff.

7. Continuing education is important for staff. Rural treatment directors indicated their desire to offer continuing education as incentives; however, they had no budget allocation to fund the idea. Survey respondents also felt that more continuing education information should be present.

8. More partnerships with universities would be beneficial. The state should encourage colleges and universities to become more involved in their community’s treatment and prevention system in positive ways. There is a substantial subset of college and university faculty who possess expertise in substance abuse issues, epidemiology, medical research, and the economics of cost effectiveness and healthcare utilization models. These experts should be encouraged to contribute to rural programs by aiding in study design, grant writing, data analysis and many other activities. Encouraging and perhaps providing a jump-start to long-term partnerships between these entities may prove useful and cost effective.

9. Consider expanding the buprenorphine (pharmacotherapy for opiate dependence) program in rural areas as access to other resources, such as methadone maintenance, is extremely limited. The state may consider funding research that looks specifically at this treatment, how best to recruit physicians in rural areas to join the program, and to employ standardized methods to assess the efficacy and cost effectiveness of the approach.

10. For opiate dependent clients who do not qualify for buprenorphine treatment, or do not have that option available in their area, referrals for methadone maintenance, methadone detoxification, or naltrexone often require traveling to another more urban county to receive treatment. If daily dosing is required, clients may spend up to two to four hours per day traveling for services. Transportation problems and the potential impact on a client's ability to find or maintain employment are key hurdles for rural people requiring opiate treatment services. It is not cost effective to provide a methadone or opiate specialty program in every county. However, conflicts could be reduced and clients would be more likely to remain in treatment if they are able to earn "take homes." This method allows clients to take home one or more doses of methadone or other pharmacotherapy contingent on the clients' number of abstinent/drug free days. Research on this method indicates it may keep clients in treatment longer, and reduces costs.

11. Study the impact of DUI/DWI programs in rural areas in terms of the rate of problem alcohol and drug use, recidivism, and public safety.

12. Community-based mutual support groups such as Alcoholics Anonymous are available in most rural communities, although there are generally fewer of these groups when compared with urban settings. Given that the national overall trend is toward treatments that are as brief as possible, with only the most severe problems requiring inpatient, residential or long term outpatient care, it becomes more critical to ensure that rural clients are hooked into ongoing community support systems. As these groups are also free, there is no cost to the state of Pennsylvania, the substance abuser or mental health systems in the community.

13. While it was beyond the scope of this research, it is important to note that alcohol and substance use are systematic problems involving a wide array of both risk and protective variables. The treatment and prevention systems, discussed in this paper, are only one key aspect. However, expansion of the drug court model, and the provision of adequate assessment and treatment services in jail or in prison facilities would also appear to be sound investments. The use of a community drug court system generally remands clients to the appropriate level of treatment services and gauges their progress, avoiding the high expenses associated with jail or prison stays. Simple environmental changes such as seatbelt usage, server training for bar employees, taxes on alcohol and cigarettes all seem to reduce usage, increase public safety, or even provide revenue (taxes). All of these aspects must be incorporated into any successful strategy targeting rural alcohol and drug problems.

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