

**SUBSTANCE ABUSE TREATMENT SERVICES FOR WOMEN:
A REVIEW OF POLICY INITIATIVES AND RECENT RESEARCH**

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ABSTRACT

This paper provides a review of (1) past policy initiatives that lead to the growth of “specialized” substance abuse treatment programs and services for women; (2) findings from national epidemiological surveys and from admissions to the national treatment system on gender differences in substance use disorders and the characteristics of treatment admissions; (3) research on gender differences in treatment utilization, treatment needs, and outcomes, including longitudinal studies of outcomes; (4) research on the organizational characteristics of substance abuse treatment providers to women, the types of treatment services provided in these programs, and changes that have occurred in services provision; (5) research on gender and treatment outcomes, including the development of evidence-based treatment practices and the extent to which they have been, or have the potential to be, adapted to address women’s treatment needs; and (6) recent policy initiatives across several service delivery systems and their implications for the provision of substance abuse treatment for women. In conclusion, we provide recommendations for future policy initiatives and considerations based on this review of the literature.

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The past two decades have witnessed tremendous changes within the field of substance abuse treatment stemming from new policies and associated funding initiatives. Further, the field has been challenged by policymakers to improve the overall quality of treatment, such as through the dissemination of evidence-based treatment practices. Within this context, there has been increased recognition of the role of gender in influencing the course of substance use and treatment participation and the concurrent development of a substantial body of research on gender-related issues related to substance abuse and its treatment. Providers are also under increasing pressure to demonstrate the effectiveness of their treatment, with growing emphasis on performance monitoring and performance-based contracting. Moreover, recent policy changes outside the addiction treatment arena, such as the emphasis on cost containment within health services, changes in eligibility and requirements for receipt of public assistance, and efforts to better coordinate service delivery across multiple systems, have had implications for the delivery of substance abuse treatment services to women.

This paper provides a review of: (1) past policy initiatives that lead to the growth of “specialized” treatment programs and services for women; (2) findings from national epidemiological surveys and from admissions to the national treatment system on gender differences in substance use disorders and characteristics of treatment admissions; (3) research on gender differences in treatment utilization, treatment needs,

and outcomes, including longitudinal studies of outcomes; (4) research on the organizational characteristics of substance abuse treatment providers to women and the types of treatment services provided in these programs; (5) research on gender and treatment outcomes, including the development of evidence-based treatment practices and the extent to which they have been, or have the potential to be, adapted to address women's treatment needs; and (6) recent policy initiatives across several service delivery systems and their implications for the provision of substance abuse treatment for women. In conclusion, we provide recommendations for future policy initiatives and considerations for future research based on this review of the literature.

POLICY INITIATIVES REGARDING SUBSTANCE ABUSE TREATMENT FOR WOMEN

Considerable research has shown that the course of drug use initiation, the biological effects of these substances, and the progression to addiction differs for men and women (Lynch, Roth, & Carroll, 2002). Spurred by the recognition that there were fundamental gender differences in the patterns of drug use and addiction, the National Institute on Drug Abuse (NIDA) launched the first demonstration program designed specifically to treat women with drug abuse problems in 1973-74 (Reed & Leibson, 1981). Research on the characteristics of participants in these programs established that the clinical profiles of women who were treated in these "specialized" treatment programs differed from that of women in traditional mixed-gender programs, as well as differing within gender by ethnicity (Moise, Kovach, Reed, & Bellows, 1982). These early studies laid the foundation for developing "innovative programming designed with knowledge of women's help-seeking patterns and common problem areas" (Reed, 1985, p. 41).

In the 1980s, public attention focused increasingly on reports of cocaine/crack use among women, especially among those who were pregnant or had young children, with much of the media coverage during this time featuring sensational depictions of drug-using mothers (Mahan, 1996). The heightened concern about the public health and economic consequences of maternal substance abuse led to several social policy initiatives (Frohna, Lantz, & Pollack, 1999). One response was to increase funding for special treatment services designed specifically for women with substance abuse problems (Schmidt & Weisner, 1995; Breitbart, Chavkin & Wise, 1994). In 1984, the Federal government amended block grant legislation to require that each state set aside 5 percent of its block grant allocation to provide new or expanded substance abuse treatment services for women. States were encouraged to spend set-aside funds to develop women-only treatment units, special ancillary services for women, and services for pregnant women.

By 1988, amid vivid media depictions of the problems of drug-exposed infants and the broader focus on the national “War on Drugs,” Congress doubled the women’s set-aside to 10 percent as part of the Anti-Drug Abuse Act (Chavkin et al., 1998). In 1990, the General Accounting Office (GAO) called for an urgent national response to the thousands of drug-exposed infants born each year in the United States (General Accounting Office, 1990). Subsequently, Congress enacted legislation that funded demonstration grants for prenatal and infant care services through the Medicaid program. New treatment models for substance-using pregnant and postpartum women were developed, implemented, and evaluated by the Substance Abuse and Mental Health Services Administration (SAMHSA) through the Center for Substance Abuse

Prevention (Eisen et al., 2000) and the Center for Substance Abuse Treatment's (CSAT) Residential Women and Children/Pregnant and Postpartum Women Demonstration Program (Center for Substance Abuse Treatment, 2001). NIDA also launched 20 demonstration projects aimed to improve treatment for pregnant and parenting women in its "Perinatal-20" initiative (Rahdert, 1996; Nunes-Dinis, 1993). NIDA also sponsored the National Pregnancy and Health Survey in 1992, which established a baseline of epidemiological data on the prevalence of alcohol and drug use among pregnant women at the time of delivery (National Institute on Drug Abuse, 1996).

Since these initial policy initiatives, some analyses have indicated that use of the "women's set-aside" has been unevenly implemented across states, and may even be declining in priority, as other treatment needs assume priority (Chavkin & Breitbart, 1997; Chavkin, Wise, & Elman, 1998). One policy analysis suggested that the focus on women's treatment as a priority for funding tends to wane when more control over the distribution of funding is assumed at the state or local level, compared with national initiatives (Drug Strategies, 1998).

In California, federal block grant funding was used in the early 1990's to develop the Options for Recovery Project, which was a collaborative project of California state agencies, sponsored by the Department of Alcohol and Drug Programs (Brindis, Berkowitz, Clayson, & Lamb, 1997). In addition to providing alcohol and drug abuse treatment to pregnant, postpartum, and parenting women with substance use problems, comprehensive case management was provided through interagency linkages across public, private, and community based organizations. An evaluation of the project

determined that women who were younger, had completed high school, who were mandated to treatment through the criminal justice system, who had at least two prior admissions to treatment during their participation in the project, and who participated in intensive day treatment (rather than other modalities) were more likely to complete treatment (Brindis, Clayson, & Berkowitz, 1997). Participants decreased their involvement with child protective services and increased reunification with children. Despite these positive benefits of program participation, only a minority of participants actually completed treatment (25%); program participation was hindered by the number and complexity of problems experienced by participants and their lack of resources.

The Options for Recovery Program was the basis for the present Perinatal Services Network within California. This network includes 317 programs that receive state or federal perinatal funds and provide services to pregnant and parenting women (Werner et al., 2007).

GENDER DIFFERENCES IN PREVALENCE OF SUBSTANCE USE DISORDERS AND ADMISSIONS TO TREATMENT

Data from national prevalence surveys show that a greater proportion of men in the general population have a history of alcohol use disorders (either abuse or dependence); however, the gender difference is less with regard to drug use disorders (Kandal, 2000). For example, in the National Epidemiological Survey on Alcohol and Related Conditions (NESARC), approximately twice as many males as females report any lifetime drug use disorder (14% vs. 7%, respectively); however, 2.5% of males compared with 1.5% of females report a lifetime amphetamine use disorder. The same distinction obtains for past-year disorders, with approximately twice as many males as

females reporting a past-year alcohol use disorder (or combined alcohol/drug use disorder), but a relatively smaller gap between males and females with past-year amphetamine-use disorders. In addition, women are more likely to engage in non-medical use of prescription drugs, particularly narcotic analgesics and tranquilizers; women are twice as likely as men to report past-year abuse of these substances (Simoni-Wastila & Strickler, 2004).

Data on admissions to the national treatment system are reported into the Treatment Episodes Data System (TEDS) and provide valuable information on the extent to which women participate in the treatment system. These data show that the overall proportion of men to women within the treatment system has remained fairly constant over the past ten years (1995-2005) at 2:1, with women making up approximately one-third of all treatment admissions (Office of Applied Studies, 2006b). When comparable data are examined by state, women make up a slightly greater proportion of overall treatment admissions in California at 35.5% (Werner et al., 2007).

Nationally, the type of primary substance reported by individuals upon their admission to treatment closely mirrors the pattern found within the general population. A greater proportion of males than females report alcohol as their primary substance (44% vs. 33%), whereas higher proportions of females report cocaine or crack (17% vs. 12%) and amphetamines (12% vs. 6%) as their primary substance. Among California treatment admissions, a much greater proportion of women report methamphetamine as their primary substance (44%) and a smaller proportion report alcohol (17%) compared with the national rates (California Department of Alcohol and Drug Programs, 2007).

The sources of referral into treatment further reveal the differential pathways through which women and men access substance abuse treatment. Nationally, a much higher proportion of men than women are referred into treatment through the criminal justice system (40% vs. 28%), whereas about twice as many women as men access treatment by referral from other community agencies (e.g., welfare, child welfare; 15% vs. 6%). Other studies have shown that women are more likely than men to enter treatment via the mental health and child welfare systems whereas men are more likely to enter treatment through the criminal justice system (Schmidt & Weisner, 1995).

Among California treatment admissions, a greater proportion of women access treatment by referral from the criminal justice system than from other sources (39%), perhaps as a result of the Substance Abuse and Crime Prevention Act (SACPA; also known as Prop 36). Although the implementation of SACPA may have increased court-ordered referrals into treatment for women, women comprise about 27% of all SACPA participants (Integrated Substance Abuse Programs, 2007).

Similarly, there are differences between men and women in their sources of payment for treatment, with a greater proportion of men reporting self-pay (26% vs. 18%) and a relatively greater proportion of women being dependent upon public insurance to pay for treatment (26% vs. 12%). These differences in source of referral and method of payment suggest that the pathways to treatment for men and women are strongly differentiated based on their economic and employment status, which may serve as barriers or facilitators of treatment utilization. Moreover, the greater reliance of women upon public insurance to pay for treatment suggests that their ability to access

treatment may be vulnerable to changes in eligibility for or reductions in public insurance.

GENDER DIFFERENCES IN TREATMENT UTILIZATION, TREATMENT NEEDS, AND OUTCOMES

Besides the differential pathways into treatment, there are also gender differences in the processes related to treatment initiation, including the social influences that may support or inhibit treatment entry (Anglin, Hser, & Booth, 1987; Weisner & Schmidt, 1992). Clinical studies of individuals in treatment studies provide more in-depth information on the factors that facilitate treatment participation for men and women. Using data from the national Drug Abuse Treatment Outcome Studies, Grella and Joshi (1999) examined the factors associated with having a history of substance abuse treatment among individuals who were sampled from residential, outpatient, hospital, and methadone maintenance programs. More severe drug use history and greater involvement in criminal behavior were related to prior treatment history for both men and women. Prior drug treatment among men was associated with factors related to family opposition to their drug use and support for their treatment participation. Treatment history among men was also associated with having been referred to treatment by their family, an employer, or the criminal justice system, whereas for women it was associated with referral by a social worker. Hence, the social institutions that facilitate treatment utilization differ for men and women. In addition, treatment entry among women was associated with a diagnosis of antisocial personality disorder, having engaged in sex work, and self-initiation into treatment, indicating that their treatment participation may be triggered by their greater “deviance.”

Research from clinical studies on the characteristics of individuals upon their admission to substance abuse treatment has consistently shown gender differences in clinical profiles and treatment needs. Past research has also shown that women tend to enter treatment after fewer years of substance use, but that they present to treatment with a more severe clinical profile and more problems related to mental health, family and interpersonal relationships, employment, and physical health. In particular, women tend to report greater psychological distress and mental health problems, particularly mood and anxiety disorders; more family-related needs, particularly issues related to parenting; exposure to childhood and adult trauma and victimization and associated problems; and more problems related to lack of employment and vocational skills (Brady, Grice, Dustan, & Randall, 1993; Chatham et al., 1999; McKay et al., 2003; Wechsberg, Craddock, & Hubbard, 1998; Stewart et al., 2003).

Treatment processes and outcomes appear to be influenced by gender in complex ways (Green, 2006). Among patients treated in an HMO setting, Green et al. (2002) found that although time in treatment and rates of treatment completion did not differ by gender, different participant characteristics were related to treatment retention and completion for males and females. Similarly, an extensive review of the literature by Greenfield and colleagues (2007a) found that gender is not a significant predictor of treatment retention, completion, or outcome, but that there is evidence for gender-specific predictors of outcomes. In an experimental study of participants in therapeutic community programs, Messina, Wish and Nemes (2000) found that for both men and women treatment completion was the strongest predictor of improved drug use, employment, and criminal justice outcomes, although women particularly benefited from

longer time in treatment. Studies have shown few gender differences in rates of post-treatment relapse to alcohol use, although the evidence is mixed in regard to relapse to drug use. There are gender differences, however, in the situations that are associated with relapse to substance use (Walitzer & Dearing, 2006). Lastly, some research has shown that women tend to engage more than men in self-help participation following treatment (Humphreys, Mavis, & Stofflemayr, 1991) and in successive treatment episodes (Hser et al., 2004), both of which may influence the course of recovery following treatment.

It is also important to note that women with substance use disorders are not homogeneous and that there are important differences within gender by age, ethnicity, sexual orientation, culture and religious orientation, and parental status. In one study of women opiate users who were seeking methadone treatment, 4 clusters were identified that were characterized by different areas of problem severity: unemployment, medical illness, psychiatric distress, and higher functioning (McMahon & Luthar, 2000). African American women were overrepresented in the group defined primarily by poor vocational-education history, whereas white women were over-represented in the group that had high psychiatric distress as well as the higher-functioning group.

Although this review focuses on gender as the central construct for understanding the course of substance use and treatment participation, there is also the need to develop effective interventions for sub-groups of women that address their specific service needs and available resources. In particular, interventions need to address health disparities among women associated with environmental risks and available resources. Previous studies have shown that experiences of socio-economic

disadvantage, exposure to community violence, criminal justice system interactions, and access to resources among women vary by ethnicity and influence perceptions of treatment needs and coping behaviors (Amaro et al., 2005, 2007).

GENDER DIFFERENCES IN LONGITUDINAL TREATMENT OUTCOMES

Although most studies of treatment outcomes are limited to 6- or 12-month follow-up intervals, a growing body of work is examining gender differences in longitudinal outcomes following treatment. This approach is consistent with the prevailing conceptualization of addiction as a chronic, relapsing disorder that necessitates a continuing care approach (McLellan et al., 2000; McLellan, 2002). One study identified a set of risk and protective factors that were associated with outcomes over a 12-month follow-up of women who received outpatient and residential treatment; these included social support, daily stressors, life satisfaction, partner abuse, substance abuse by self and significant others, psychiatric history, chronic medical conditions, childbirth history, childcare responsibilities, and treatment engagement (Comfort & Kaltenbach, 2000; Comfort et al., 2003).

In a longitudinal study of a Chicago-based sample, men and women did not differ in the prevalence of substance use reported at a 24-month follow-up, but there was more persistent use of alcohol and marijuana among men and use of cocaine among women (Grella et al., 2003). Moreover, women were more likely to return to treatment over time, whereas men were more likely to become incarcerated. For women, living with a substance user following treatment predicted a greater likelihood of their own substance use at 24 months, but this relationship was not significant among men.

At a 36-month assessment conducted with the same cohort, there were no differences between men and women in the proportion who reported any alcohol or drug use, however, there were persistent gender differences in several areas of psychosocial functioning, including greater psychological distress among women and greater criminal justice involvement among men (Grella, Scott, & Foss, 2005). Women continued to have lower rates of employment and to report more interpersonal problems than men, but they had greater increases in self-help participation. The most recent study of this cohort examined transitions across various recovery statuses (e.g., abstinent, using, treatment) for up to 6 years. Women were one-third less likely than men to transition from recovery to using over this time. Moreover, self-help participation was a stronger predictor of transitioning from using to recovery (or, conversely, of remaining in recovery) for women (Grella, Scott, Foss, & Dennis, in press). In contrast, external mandate was a much more powerful factor influencing treatment re-entry among men; there was a 12-fold greater likelihood of moving from *using* to *treatment* for men who were mandated to treatment compared with women. Another transition-based analysis conducted with a sample of individuals who received treatment for cocaine use over a 6-month period, showed that men were twice as likely to transition across statuses (either from using to abstinent or vice versa) as women, controlling for level of treatment received over the interval (Gallop et al., 2007).

Similar findings have been obtained in a longitudinal study of individuals who sought help for alcohol problems that showed women were more likely than men to participate in self-help groups and to have greater reductions in drinking associated with their self-help participation over an 8-year follow-up period (Timko, Finney, & Moos,

2005; Timko et al., 2002). More recently, these findings have endured over a 16-year follow-up period (Moos, Moos, & Timko, 2006). Another longitudinal follow-up study compared outcomes following treatment among older adults (aged 55 and over) sampled from a managed care provider. At the 5-year follow-up point, women had higher rates of abstinence compared with men, and older women had better outcomes compared with younger women (Satre et al., 2004). At the 7-year follow-up point, older women were about twice as likely as older men to be abstinent, however, duration in the index treatment episode was the strongest predictor of outcomes for both (Satre et al. 2007). Findings from these longitudinal studies suggest that the dynamics of recovery differ for men and women over the life course. Women appear to have better outcomes over time, related to longer initial treatment participation and ongoing self-help participation. Continuing care interventions need to build upon these findings regarding the role of gender over the course of treatment and recovery in order to develop more tailored interventions for both men and women.

ORGANIZATIONAL CHARACTERISTICS OF SUBSTANCE ABUSE TREATMENT PROVIDERS TO WOMEN

Data collected from an annual national survey of treatment providers, the National Survey of Substance Abuse Treatment Services (N-SSATS) shows that in 2005, 41% (N = 4,747) of all treatment programs (among those that accepted women as clients) provided either a “special” treatment program or services specifically for women (Office Applied Studies, 2006a). Among these programs, 41% provided domestic violence services, 17% provided services for pregnant or postpartum women, 18% provided childcare, and 9% provided residential beds for clients’ children. Moreover, a

greater proportion of programs that provided women's specific services, compared with those that did not, also provided other comprehensive services typically needed by women; these included housing assistance (65% vs. 46%), employment counseling (47% vs. 26%), and assistance with social services (66% vs. 47%). Facilities providing a special program or service for women were more likely to be operated by private, non-profit organizations (61% vs. 53%) and less likely to be operated by private for-profit groups (24% vs. 32%).

Within California, 81% (N = 1,407) of publicly funded or licensed alcohol and drug treatment facilities in 2005 accepted women as participants; of these, 43% (N = 599) provided a specific program or dedicated services for women, which is slightly higher than the national rate. In addition, about one-quarter (24%; N = 343) of the programs that accept women as participants provided services specifically for pregnant and postpartum women, and these programs were more likely to accept payment through Medicaid as compared with programs that do not provide these services (Werner et al., 2007).

The proliferation of gender-specific programs in the past two decades has enabled the development of a rich body of research on the organizational characteristics of these treatment programs, the type of treatment provided within them, and the clinical profile and service needs of women who are treated in these programs. An early study conducted in the 1980s of 53 alcohol-treatment facilities in California showed that facilities in which there were higher proportions of women clients provided more services overall, and in particular services for children, childcare, and aftercare services (Beckman & Kocel, 1982). Subsequent studies have shown that treatment

facilities that provide services to women only, or in which there is a higher concentration of women, typically provide a wider range of services designed to meet women's specific treatment needs (Uziel-Miller & Lyons, 2000; Grella et al., 1999). Moreover, traditional treatment models, such as the therapeutic community, have been modified to take into consideration the specific needs of women and to adopt "empowerment" and supportive approaches to treatment, rather than confrontational approaches (Brown et al., 1996; Stevens & Arbiter, 1995). Such approaches are particularly important given the generally higher levels of psychological distress, trauma-exposure, and prevalence of co-occurring mood and anxiety disorders that characterize women with substance use disorders, which may necessitate a longer and more intensive treatment process (Brown, Melchior, Panter, Slaughter, & Huba, 2000; Brown, Melchior, Waite-O'Brien, & Huba, 2002) and to address the needs of pregnant and parenting women (Howell & Chasnoff, 1999).

There are also differences in the characteristics of women who receive treatment in gender-specific and mixed-gender programs. In an early study, women treated in women-only residential programs were more likely to have been sexually abused as children, to be lesbians and to have dependent children, compared to women in mixed-gender residential programs (Copeland & Hall, 1992). In one study, women who were treated in women-only residential programs had more severe problems before treatment entry but were twice as likely to complete treatment as women in mixed-gender treatment programs (Grella, 1999). A study that used national data from DATOS found that pregnant and parenting women who were treated in residential programs in which there were higher proportions of other such women had longer stays in treatment and

that longer stays, in turn, were positively associated with post-treatment abstinence (Grella, Joshi & Hser, 2000). These programs also provided more comprehensive services, including those that specifically addressed family, parenting, and mental health needs. A recent study conducted in California compared women treated in women-only and mixed-gender programs, including both residential and outpatient programs. Women in women-only programs had greater problem severity in a number of domains including alcohol, drug, family, medical, and psychiatric (Niv & Hser, 2007). Moreover, they utilized more treatment services and had better drug and legal outcomes at follow-up compared to women in mixed-gender programs.

Surveys of treatment programs that receive a majority of their funding from private (i.e. non-governmental) sources have shown similar findings to surveys of publicly funded providers. Private-sector programs with a “majority female caseload” were more likely than those in which women were a minority to provide child care, to have more family involvement in treatment, to provide treatment for psychiatric disorders, to employ counselors with Masters’ level degrees, to receive more referrals from mental health sources and fewer workplace referrals, and to accept payment through public insurance (Tinney et al., 2004). Another survey of outpatient substance abuse treatment programs examined the organizational factors related to the provision of women’s health services, such as gynecological exams, reproductive services, and prenatal services. Programs providing these services were more likely to receive funding earmarked for women’s treatment, to be methadone providers, to have a greater proportion of staff who were specifically trained in women’s treatment issues,

and to be private not-for-profit units and public units, rather than for-profit (Campbell & Alexander, 2005).

Despite the greater availability of services that directly address women's treatment needs in women-only programs, there remain gaps in the provision of needed services to women. As seen in one study of women who were referred into a women-specific program by the child welfare system, fewer than half of the women who indicated they had specific treatment needs for child care, family counseling, job training, housing assistance, and benefits assistance actually received these services while in treatment (Smith & Marsh, 2002). In a study using N-SSATS data, the proportion of programs that provided services typically associated with women's treatment needs (i.e., child care, domestic violence counseling, family counseling, prenatal and postnatal care) gradually increased from 1987 to 1998; programs that served women exclusively, or that had a majority of women clients, were more likely to provide these services than programs in which women were the minority of clients (Grella & Greenwell, 2004). The largest proportion of women-specific facilities were among residential/therapeutic community programs (approximately 20%); hence women also comprised a greater proportion of clients treated within residential programs (approximately 35%) compared with other modalities. Therefore, the vast majority of women received treatment in mixed-gender outpatient programs, which had the lowest rates of providing women's specific services.

Moreover, a recent panel study compared the provision of services relevant to women's treatment needs (e.g., prenatal care, child care, single-sex therapy, same-sex therapists, staff trained in women's treatment) in outpatient treatment programs in 1995

and 2005 (Campbell et al., 2007). The study found that there were significant declines over this period in the provision of single-sex therapy and the percentage of staff trained to work with women in outpatient programs. Furthermore, private for-profit treatment units, which became more prevalent over the study period, were less likely than other units to provide the range of services defined by women's treatment needs. There were also significant declines in the provision of same-gender group therapy in methadone programs from 1995 to 2000, and declines in same-gender individual and group therapy in non-methadone outpatient programs from 1995 to 2005, although same-gender group therapy was more prevalent among methadone than drug-free outpatient programs (Alexander et al., in press). Hence, the availability of services targeted to women's needs have become more prevalent within the treatment system, largely due to increases in funding for these services, yet their provision is neither universal nor comprehensive throughout the broader treatment system.

TREATMENT OUTCOMES IN WOMEN-SPECIFIC SERVICES/PROGRAMS

Several early studies, predating the expansion of gender-specific programming, examined the outcomes of women who received treatment in women-only versus mixed-gender programs. An experimental study conducted in Sweden demonstrated reduced alcohol use and better social adjustment for women treated in women-only programs compared to those in mixed-gender programs (Dahlgren & Willander, 1989). In contrast, in a non-experimental study conducted in Australia there were no outcome differences in drug use, severity of depression, self-esteem or social support network between women in women-only and mixed-gender programs (Copeland et al., 1993).

In the ensuing years, capitalizing on data from the various demonstrations projects that enabled the expansion of services dedicated to women (as previously described) a growing body of research has accumulated regarding the outcomes of women and their children who are treated in gender-specific programs (McMurtrie et al., 1999; Porowski, Burgdorf, & Herrell, 2004; Burgdorf et al., 2004). Several studies have shown that women who are treated in programs that provide gender-specific services are retained longer in treatment and have better outcomes, as compared to women in traditional mixed-gender programs or programs that do not provide gender-specific treatment services. Brady and Ashley (2005) showed that women in women-only residential programs stayed in treatment an average of 83 days compared to 22 in mixed-gender programs. Similarly, using data from three national studies, Greenfield and colleagues (2004) found that women were retained longer in gender-specific residential programs.

A body of research has demonstrated that women have higher rates of treatment completion and better outcomes (1) in residential treatment programs have live-in accommodations for children (Szuster et al., 1996; Wobie et al., 1997; Stevens & Patton, 1998; Hughes et al., 1995); (2) in outpatient treatment that includes the provision of family therapy (Zlotnick et al., 1996), individual counseling (Volpicelli et al., 2000), and family services (Wingfield & Klempner, 2000); and (3) when treatment includes comprehensive supportive services, such as case management, pregnancy-related services, parenting training/classes, childcare, vocational training, and aftercare (Weisdorf et al., 1999; Strantz & Welch, 1995; Lanehart et al., 1996; Howell, Heiser & Harrington, 1999; Camp & Finkelstein, 1997). In addition, women in substance abuse

treatment who receive more health and social services report better outcomes and greater satisfaction with treatment (Sanders, Trinh & Sherman, 1998), particularly when services are matched with their needs (Smith & Marsh, 2002). In another study, providing women with transportation, outreach, and enhanced treatment services was associated with receipt of a greater number of services, which in turn was related to lower post-treatment drug use (Marsh, D'Aunno, & Smith, 2000). Claus and colleagues (2007) showed that women who were treated in specialized residential treatment programs for women in Washington were more likely than those in standard, mixed-gender programs to participate in continuing care following their discharge.

The proliferation of research on women's specific treatment has allowed for several reviews that examine the common elements associated with improved outcomes for women in substance abuse treatment. A meta-analysis of 34 treatment outcome studies showed that women who received substance abuse treatment in women-only programs, compared to mixed-gender programs, or in mixed-gender programs that provided specialized services for women, compared to those that did not, had better treatment outcomes in several domains (Orwin, Francisco, & Bernichon, 2001). In a systematic review of program factors related to successful treatment outcomes among women in 35 studies, 5 factors were identified: (1) single- versus mixed-gender programs; (2) treatment intensity; (3) provision of child care; (4) case management; and (5) supportive staff and the provision of individual counseling (Sun, 2006). Similarly, a systematic review of 38 studies of substance abuse treatment for women, most of which were non-experimental designs, identified 6 elements that were associated with better outcomes regarding treatment completion, length of stay,

decreased use of substances, reduced mental health symptoms, improved birth outcomes, employment, self-reported health status, and HIV risk reduction (Ashley, Marsden, & Brady, 2003). These elements were: child care, prenatal care, women-only program, supplemental services and workshops that address women-focused topics, mental health services, and comprehensive programming.

These comprehensive reviews also identified several methodological shortcomings to the extant body of research on women's treatment programs. These included a limited range of treatment outcomes examined, lack of experimental studies with randomized assignment to conditions, lack of standardized measures, lack of consistent definitions for treatment factors and outcomes, small sample sizes, lack of thorough program description, lack of thorough statistical analyses, small effect sizes, and limited follow-up periods.

Several exceptions to the findings regarding superior outcomes for women treated in gender-specific programs should be noted. Kaskutas and colleagues found no beneficial effects of treatment in an experimental study that randomly assigned women to women-only versus mixed-gender day treatment programs (Kaskutas et al., 2005). Bride (2001) compared the rates of treatment completion and retention among participants in several mixed-gender programs before and after the programs changed their structure to single-gender. There were no differences in the rates of retention and completion among either males or males who were treated in mixed- versus single-gender programs. The author notes, however, that solely changing the client composition of the programs may not have impacted on the type of treatment provided or treatment processes in order to fully address women's treatment needs. Similarly,

some have argued that traditional therapeutic community (TC) programs, even if gender-specific, may be clinically inappropriate if their emphasis on confrontation is not modified to accommodate the greater likelihood of trauma and abuse history among women, particularly among women in the criminal justice system where TC programs have been widely adopted (Eliason, 2006). Further, it is assumed that the therapeutic dynamics within women's specific programs differ from those in mixed-gender programs (Hodgins, el-Guebaly & Addington, 1997), yet many studies examine only time in treatment or types of services received, rather than the therapeutic or clinical aspects of women's specific treatment that may be related to outcomes.

An important consideration with regard to the adoption of gender-specific services is the generally higher cost of these services, due to the longer duration of treatment and inclusion of services that increase costs, such as medical services, services for children, mental health services, housing, etc. (Burgdorf, Layne, Roberts, Miles & Herrell, 2004). Yet several studies have shown that despite the generally higher costs of gender-specific treatment for women, these costs are offset by the improved outcomes they yielded. Cost-benefits analyses have shown favorable results in residential versus outpatient treatment for women (Daley et al., 2000); in specialized versus standard residential programs for women (French et al., 2002); in a multidisciplinary, comprehensive treatment program for pregnant women versus standard care (Svikis et al., 1997). Moreover, a cost outcome study of the Women, Co-Occurring Disorders and Violence study showed that there was no added cost to of trauma-integrated treatment (Domino et al., 2005).

ADOPTION OF EVIDENCE-BASED TREATMENT APPROACHES FOR WOMEN SUBSTANCE ABUSERS

In 1998, the Institute of Medicine released an influential report entitled *Bridging the Gap Between Practice and Research* (Lamb, Greenlick, & McCarty, 1998), which called for improving the effectiveness of substance abuse treatment by increasing the collaboration between researchers and community providers. This report ushered in a greater emphasis on incorporating treatment approaches that have received empirical support from scientific research on treatment effectiveness and outcomes as well as scientifically guided approaches to dissemination of these approaches (e.g., technology transfer). Several treatment approaches have emerged as the primary evidence-based treatment practices within the field of addictions treatment and have been codified within NIDA's *Principles of Effective Drug Abuse Treatment* (1999). These include both pharmacological and behavioral treatment approaches.

Pharmacotherapeutic treatment approaches, mostly opiate replacement therapies, have addressed the differential use of medications in the treatment of pregnant women (Johnson et al., 2001; Kaltenbach, Berghella, & Finnegan, 1998; Fischer et al., 2000), given considerations of prenatal exposure and the need to adjust dosing appropriately. Other evidence suggests that there are gender differences in dose-response to medications used to treat substance abuse (Pettinati, Dundon, & Lipkin, 2004; Pettinati et al., 2007), with poorer outcomes observed among women than men.

Behavioral treatment approaches that have amassed empirical support include: cognitive behavioral therapy, motivational interventions, and contingency management.

Yet most behavioral therapies have been developed generically and have not examined how they can be specifically tailored to women's treatment. Several of the predominant evidence-based treatment approaches that have been endorsed within the field have either been modified, or have the potential to be adapted, to address the specific treatment needs of women. These are briefly discussed below.

Cognitive behavioral therapy/relapse prevention. Cognitive behavioral therapies used structured protocols for teaching skills for relapse prevention. These approaches focus on teaching clients to recognize "cues" or "triggers" for substance use and strategies for avoiding relapse in those situations. Research has shown that different factors are associated with relapse to substance use following treatment for men and women. For males, these include living alone, positive affect, and social pressures, whereas for females, relapse has been associated with not living with one's children, being depressed, having a stressful marriage, and being pressured to use by their sexual partners (Rubin, Stout, & Longabaugh, 1996; Saunders, Baily, Phillips, & Allsop, 1993; Walitzer & Dearing, 2006; Zywiak et al., 2006).

A recent behavioral therapy trial conducted by Greenfield and colleagues (Greenfield et al., 2007b) aims to parcel out the effects of a women's specific group therapy that uses cognitive behavioral techniques. The trial compares the outcomes of women who engage in an all-women's group that focuses on psychoeducation on the specific antecedents and consequences of alcohol and drug use among women as compared to women who receive standard group counseling. Results from a pilot study showed promising outcomes, but at present it is unclear if the group dynamics, such as the level of comfort and support and nature of interaction in the all-women's group,

versus the content of discussion regarding women's specific cues and triggers, or both processes, underlie the superior outcomes. Similarly, another recent pilot study testing a women's specific group counseling intervention, using a workbook-based psychoeducation approach, has shown promising results regarding retention and satisfaction, but has not yet been tested in an experimental trial (Najavits et al., 2007).

Motivational interventions. Motivational interventions use therapeutic strategies to increase the individual's awareness of their substance abuse problems and to engage their commitment to behavior change. This approach can build upon the issues that are central to motivating women to address their substance abuse problems, particularly related to their identity, self-esteem, health, and relationships with children, other family members, and friends. Yet few studies have actually looked at gender differences in motivational approaches (Vasilaki, Hosier, & Cox, 2006). In most instances where motivational interventions have been developed specifically for women they have aimed to increased motivation for treatment among pregnant substance-abusing women, particularly since many pregnant women decline to enter into treatment (Haller, Miles, & Dawson, 2003). In one example, a brief motivational intervention was used to address alcohol use among pregnant women in primary health care settings; information on the health effects of alcohol use during pregnancy was provided, with the aim of motivating women based on their desire to protect the health of their child (Handmaker, Miller, & Manicke, 1999).

Contingency management. Contingency management approaches employ a schedule of rewards to strengthen the practice of desired behaviors (e.g., abstinence). These rewards may be small gifts, cash, or vouchers, which can be accumulated based

on the duration of abstinence attained, as well as reversed upon a relapse. These approaches have been successfully used in smoking reduction programs for pregnant women who are in treatment for drug abuse (Donatelle et al., 2004) and to increase attendance among pregnant women in methadone maintenance treatment (Jones, Haug, Stitzer, & Svikis, 2000; Jones, Haug, Silverman, Stitzer, & Svikis, 2001; Svikis, Lee, Haug, & Stitzer, 1997). One creative approach to applying contingency management to reduce smoking among women in substance abuse treatment utilized a community outreach program that solicited donations of personal hygiene or household items from local merchants and businesses. The donated items were used to stock an on-site “store” from which women could choose their “prizes” upon attaining certain thresholds of abstinence (Amass & Kamien, 2004).

Other studies have examined the effects of combining brief motivational interventions with behavioral incentives within the context of case management services. In a non-experimental study conducted with women seeking prenatal care, the addition of case management was associated with less drug use and fewer psychosocial needs among pregnant women, although there were few differences in attendance at counseling sessions over a 4-week period regardless of whether participants received motivational interventions and behavioral incentives with or without case management (Jones et al., 2004).

Trauma-specific interventions. In recent years clinical research has accumulated showing that patients in substance abuse treatment who have co-occurring post-traumatic stress disorder (PTSD), who are more likely to be women, are more impaired at admission to treatment and show less improvement over time in measures of

substance use and psychosocial functioning (Najavits et al., 2007). Similarly, exposure to childhood abuse and trauma among women has been associated with less improvement following substance abuse treatment regarding substance use and psychological status (Sacks, McKendrick, & Banks, 2007).

In response to this growing understanding of the high prevalence of childhood and adult trauma exposure and/or PTSD among women entering into substance abuse treatment, several interventions have been developed to integrate treatment for trauma exposure and PTSD within the context of substance abuse treatment (McHugo et al., 2005). The Women, Co-Occurring Disorders and Violence Study, sponsored by CSAT, has provided a rich evidence basis for the inclusion of trauma-specific services within the context of substance abuse treatment. This multi-site, quasi-experimental initiative tested the effectiveness of a menu of trauma-related interventions that were integrated in substance abuse treatment, in comparison with treatment-as-usual. The outcome evaluation showed that women who received trauma-informed treatment had better outcomes compared with those who received standard treatment (Morrissey et al., 2005).

Examples of several trauma-specific interventions include: *Seeking Safety*, which integrates cognitive behavioral strategies with group psychotherapy to address both PTSD and substance abuse disorders (Najavits, 2002; Najavits, Weiss, Shaw, & Muenz, 1998); *Beyond Trauma*, which employs “relational theory” to build upon the importance of relationships in women’s emotional well-being (Covington, 2003); and the *Trauma Recovery and Empowerment Model*, which uses group therapy to promote

recovery skills and social functioning (Fallot & Harris, 2002). Many of these protocols are currently undergoing empirical studies in the field to validate their effectiveness.

INFLUENCE OF SERVICE DELIVERY SYSTEMS ON THE PROVISION OF SUBSTANCE ABUSE TREATMENT TO WOMEN

Policy initiatives in the health care, criminal justice, welfare, and child welfare systems enacted in the past two decades have had major implications for the provision of substance abuse treatment services for women. These are briefly summarized below.

Health services. Increasingly, substance abuse treatment providers are operating in a managed care environment that places a premium on cost containment and gives policymakers a choice of options for financing treatment. Under these options, the package of services and length of treatment provided to individuals vary (Weisner, McCarty, & Schmidt, 1999; Shepard, Larson, & Hoffmann, 1999). Health providers may also limit the amount of coverage for prescription medications used to treat substance dependence, including naltrexone and disulfiram for alcohol dependence and buprenorphine for opiate dependence (Horgan et al, 2007).

Within this context, specialized approaches to behavioral health care may be subsumed under more generic health-care services (Schreter, 1993; Blanch & Levin, 1998). As a consequence, because the broader range and more intensive nature of services targeted to women's needs typically result in higher costs, specialized treatment services for women are vulnerable to budget cuts. Moreover, because women with substance abuse problems frequently have multiple co-occurring problems, including physical and mental health problems, treatment providers under pressure for

cost savings may ignore or exclude patients with these complicated problems that typically require more resources (Reed & Mowbray, 1999).

Few studies have been conducted on the effects of cost containment initiatives on substance abuse treatment participation and outcomes among women. In one study, infant outcomes were compared among participants in a drug treatment program that changed from fee-for-service to managed care (Jansson, Svikis, Velez, Fitzgerald, & Jones, 2007). Although the two groups had similar birth outcomes, the group treated under managed care had more fetal and infant deaths, decreased immunization rates, and a higher rate of social services interventions. The study findings are limited by its non-experimental design, however, they are suggestive of poorer outcomes for prenatally exposed children whose mothers are treated under a managed care plan.

Yet since the primary care sector remains one of the predominant sources where individuals with alcohol or drug problems receive treatment (or a referral to treatment), interactions with health care providers provide an important opportunity for screening and referral. In one study, individuals screened for substance use disorders in a hospital emergency department were successfully referred to treatment and other services, including for women's health services such as breast cancer screenings and gynecological exams (Bernstein, Bernstein, & Levenson, & 1997).

Criminal Justice System. There has been an influx of women with substance abuse problems into the criminal justice system in the past 20 years, due to changes in sentencing and criminal justice policies that have increased incarceration rates for drug users. In California, which has the second largest population of women inmates (following Texas), from 1986 – 2006 the number of women inmates increased 3.3 times

from 3,564 to 11,758 (California Department of Corrections & Rehabilitation [CDCR], 2007). In contrast, although males make up a far greater share of the inmate population, the rate of increase in the number of incarcerated males during this same time was 2.9 times. Moreover, a greater proportion of women in California prisons have been convicted of property-related crimes (35% vs. 20%) and drug-related crimes (30% vs. 20%), compared with men (CDCR, 2007). The proportion of women incarcerated for a drug-related crime increased from 21.8% in 1986 to 29.7% in 2006; males incarcerated for a drug-related crime increased from 13.5% to 19.9% over this same time period. The same trend has occurred at the national level; since 1995 the total number of female prisoners in the U.S. has grown by 53%, as compared to 32% for males (Harrison & Beck, 2005). Moreover, 31.5% of female inmates nationally (as of 2002) were incarcerated for drug-related crimes, compared with 20.7% of males

This growing population of incarcerated women has a different profile of criminal behavior and criminal justice involvement, substance abuse and mental health problems, family relationships and responsibilities, and other related areas of service needs, as compared with males in the criminal justice system (Langan & Pelissier, 2001; Lewis 2006; Messina et al., 2006). Substance-abusing women offenders typically have service needs across a wide spectrum (Alemagno, 2001; Haywood, Kravitz, Goldman, & Freeman, 2000). These include a greater likelihood of psychiatric disorders, particularly mood and anxiety disorders (Jordan, Schlenger, Fairbank, & Caddell, 1996, Pelissier & O'Neil, 2000; Teplin, Abram, & McClelland, 1996), compared with male offenders, as well as compared with women in the general population. In addition, some studies have shown that psychiatric disorders are higher among

incarcerated women who are stimulant users, including methamphetamine (Vik & Ross, 2003; Vik, 2007) and cocaine (Velasquez et al., 2007), which are the predominant substances reported among female offenders in the California correctional system.

Yet women offenders face substantial barriers to obtaining mental health services, both in the community and in correctional settings. In one study, women offenders were more likely to receive services for mental health needs within prison than in the community preceding incarceration (Blitz, Wolff, & Paap, 2006). The lack of access to integrated treatment for female offenders with co-occurring disorders may be particularly detrimental, since offenders with co-occurring mental health and substance abuse disorders have higher rates of recidivism as compared to offenders with only substance use disorders (Messina et al., 2004). Substance-abusing women offenders have higher rates of co-occurring mental disorders compared with males, particularly affective and anxiety disorders (Pelissier & Jones, 2005); such women are especially at risk for recidivism following their return to the community (Sacks, 2004).

Several studies have documented rates of physical and sexual abuse histories among incarcerated women that exceed those of women in the general population (Browne, Miller, & Maguin, 1999; Owen & Bloom, 1995; Singer, Bussey, Song, & Lunghofer, 1995). Surveys of inmates in state and federal correctional facilities have shown that from one quarter to one half of women inmates had histories of childhood physical or sexual abuse (General Accounting Office, 1999; Harlow, 1999). Childhood experiences of abuse have been linked to later problems in psychosocial functioning among women offenders, particularly substance abuse (El-Bassel, Ivanoff, Schilling, Gilbert, & Chen, 1995), high-risk sexual behaviors (Mullings, Marquart, & Brewer, 2000),

and personality disorders, posttraumatic stress disorder (PTSD), and other forms of psychopathology (Jordan, Schlenger, Caddell, & Fairbank, 1997; Zlotnick, 1997). There is also a strong association between PTSD, prostitution, and drug use among female offenders, which puts them at elevated risk for HIV infection (Hutton et al., 2001). In a recent study with substance-abusing female offenders, exposure to a greater number of adverse childhood events increased the likelihood of having a variety of physical and mental health problems as adults (Messina & Grella, 2006). Histories of childhood abuse and traumatic exposure among women offenders are also associated with adolescent conduct problems and later adult psychological distress, as well as with specific types of criminal behavior (Grella, Stein, & Greenwell, 2005).

The complex treatment needs of substance-abusing female offenders impacts their successful re-integration to the community upon their parole. In a study of female offenders in prison-based substance abuse treatment, who then entered into community treatment upon their parole, greater treatment needs were associated with unstable housing prior to incarceration, a history of sexual or physical abuse, mental health problems, alcohol or drug dependence, and first arrest prior to age 19 (Grella & Greenwell, 2007). Further, more mental health problems and earlier age at first arrest predicted non-completion of community treatment following their parole. African American and Hispanic ethnicity were both associated with lower treatment needs (compared with whites) and a lower likelihood of treatment completion. Other studies have shown that female offenders who need substance abuse treatment and receive it, and who are employed and have stable living arrangements while on parole, are more likely to be successful compared with others (Schram et al., 2006).

Welfare. Legislation enacted in 1996, generally referred to as “welfare reform” instituted Temporary Assistance for Needy Families (TANF), a state block grant program that established federally mandated work requirements and a maximum 5-year limit to cash aid for clients, as well as new expectations for local and state welfare systems. Studies have shown the greater impairments associated with either substance abuse or psychiatric disorders among mothers who are welfare recipients, suggesting that such mothers face additional barriers to attaining economic self-sufficiency (Jayakody, Danziger, & Pollack, 2000). An analysis of welfare recipients in California showed that educational level, work history, and family size were consistently associated with transitions from welfare to work and back again, although substance abuse problems were not (Schmidt, Zabkiewicz, Jacobs, & Wiley, 2007). Moreover, most of the jobs obtained by welfare recipients, regardless of drug-use status, were short-term and poorly paid.

Child Welfare. Greater awareness of the association between parental substance abuse and child abuse and neglect has made it imperative that the two systems interact and coordinate services for parents who are simultaneously involved with both systems (Azzi-Lessing & Olsen, 1996; U.S. Department of Health and Human Services, 1999; Young, Gardner, & Dennis, 1998). Substance abuse treatment providers and child welfare agencies are increasingly called upon to collaborate by jointly providing services and in making determinations of parental fitness and recommendations for child placement outcomes (McAlpine, Marshall, & Doran, 2001; Peterson, Gable, & Saldana, 1996). However, historically these two service delivery systems have had differing orientations, goals, and organizational cultures (Karoll, &

Poertner, 2002), which have led to fragmentation and lack of coordination of services and case planning (Finkelstein, 1993; Reed & Karpilow, 2002). Moreover, coordination of services across systems is further impeded when women fear that they may jeopardize custody of their children if they enter substance abuse treatment or when they are reluctant to admit to substance abuse problems in child welfare assessments (Finkelstein, 1994; Jessup, Humphreys, Brindis, & Lee, 2003).

The mandate of the child welfare system is to protect children who have been abused or neglected, or who are at risk of abuse and neglect. With a primary focus on the welfare of the child, the child welfare system has the goal of making a determination of permanent placement as soon as possible, as mandated by the Adoption and Safe Families Act (ASFA) of 1997. ASFA established requirements and associated timelines that parents must meet in order to avoid having their parental rights terminated. These may include having regular contact with children and participating in substance abuse treatment and parenting education classes. If these requirements are not met, parental rights can be terminated and children permanently placed with an adopted family or a legal guardian, or placed in long-term foster care. The combined effects of ASFA, which has increased the speed of termination of parental rights proceedings, and the growing number of children who have been placed into out-of-home care because of parental substance abuse (General Accounting Office, 1994), have led to a greater demand for access to substance abuse treatment than can be currently accommodated within the treatment system (O'Flynn, 1999). Moreover, the imperative to place children into permanent placements as quickly as possible, as enacted in ASFA has changed the context in which placement decisions are made and may limit the influence of

mothers' treatment participation on placement outcomes (Green, Rockhill, & Furrer, 2006). One recent study of children of substance-abusing mothers in the child welfare system showed that following the implementation of ASFA, children spent less time in foster care, were placed into permanent settings more quickly, and were more likely to be adopted than to remain in long-term foster care (Rockhill, Green, & Furrer, 2007).

Given the predominant focus upon abstinence and recovery within substance abuse treatment, the parenting or family-related treatment needs of clients have not been salient within the treatment process, particularly in programs that have not focused specifically on the treatment of women (Metsch et al., 1995). Mothers entering into treatment are more likely than fathers to be concerned about losing custody of their children and to indicate that their treatment participation may affect their custody status (Grella & Joshi, 1999). Several studies have shown that most women entering into substance abuse treatment are mothers of dependent children and about half or more have had contact with child welfare (Conners et al., 2004a; Grella, Scott, Foss, Joshi, & Hser, 2003). Furthermore, usually fewer than half are living with all of their children at the time of treatment admission and up to one third have lost their parental rights to at least one child (Knight & Wallace, 2003; Schilling, Mares, & El-Bassel, 2004; Tracy & Martin, 2007). Additionally, for women whose children have been placed into foster care, or who have previously lost parental rights to a child, dealing with their feelings of grief, shame, and loss may be a critical part of the recovery process (Kovalesky & Flagler, 1997). The children of mothers in substance abuse treatment typically have an accumulation of risk factors related to the effects of maternal substance abuse, co-occurring mental disorders, poverty and homelessness, and the poor coping and

parenting behaviors that are often exhibited by mothers with substance use problems (Conners et al., 2004b; Suchman & Luthar, 2000).

Although participation in substance abuse treatment may be made a condition of or considered as a factor in the determination of a woman's parental rights, there is little understanding of whether and how participation in substance abuse treatment affects the outcomes of both parents and children within the child welfare system (Hohman & Butt, 2001). An examination of administrative data from the substance abuse treatment system in a California county over a 3-year period, showed that women in substance abuse treatment who were also involved with Child Protective Services (CPS) were younger, had more children, had been arrested less often, and were more likely to be mandated to treatment than women who were not involved with CPS (Shillington, Hohman, & Jones, 2002). Moreover, women involved with CPS, including those who were pregnant, were more likely to have unsatisfactory discharges from treatment than those who were not (Hohman, Shillington, & Baxter, 2003; Shillington, Hohman, & Jones, 2002). Another study using state administrative data showed that women who were pregnant or who had custody of minor children were less likely than others to complete substance abuse treatment, although women who had children in foster care were more likely to do so (Scott-Lennox, Rose, Bohlig, & Lennox, 2000).

One study compared the pre-treatment characteristics of mothers in the California Treatment Outcome Study (CalTOP) who were involved and not involved in the child welfare system (Grella, Hser, & Huang, 2006). Mothers who were involved with child welfare were younger, had more children, and had more employment problems. They were more likely to be referred by the criminal justice system or other

service providers, to have a history of physical abuse (lifetime), and to be treated in outpatient programs. They had lower levels of alcohol severity, but did not differ with regard to psychiatric severity or criminal involvement. Primary users of methamphetamine were disproportionately represented among this group and had a distinct profile from primary alcohol- and opiate-users. These findings suggest that mothers involved with child welfare enter substance abuse treatment through different avenues and present a clinical profile of treatment needs related to exposure to physical abuse, economic instability, and criminal justice involvement.

Findings on the effects of participation in substance abuse treatment on child welfare outcomes are mixed. Completion of substance abuse treatment has been shown to increase the rate of reunification of mothers with children, independent of whether they reported ongoing drug use or demonstrated risks for poor parenting behaviors (Smith, 2003). Yet in another study using case records, compliance with court-ordered substance abuse treatment did not affect either the likelihood of subsequent reports of abuse of children or duration of child welfare services received (Rittner & Dozier, 2000). One study showed that there was a relatively low rate of treatment completion (less than one quarter) among parents referred to substance abuse treatment from child welfare, and that treatment non-completion was strongly associated with continued substance abuse and eventual loss of parental rights (Gregoire & Schultz, 2001).

Other studies have shown that mothers who are able to retain their children with them while in residential drug treatment, or who retain custody of their infants while in intensive day treatment, have higher rates of treatment retention, particularly among

those who are involved with child welfare (Chen et al., 2004), or who are mandated to treatment (Nishimoto & Roberts, 2001). Similarly, in a study utilizing records from the child welfare system in Illinois, less than one quarter of participants referred to substance abuse treatment completed the treatment episode; completion was higher among participants who were older, had outstanding legal issues, were employed, and were alcohol (versus heroin) users (Choi & Ryan, 2006). Furthermore, the nature of treatment participation may influence child welfare outcomes. In a study using child welfare data from Oregon, women who entered into substance abuse treatment more quickly (following initial placement of child into out-of-home care), who spent more time in treatment, or who completed at least one treatment episode, were more likely to reunify with their children than other mothers, and their children spent fewer days in foster care (Green, Rockhill, & Furrer, 2007).

Lastly, in a recent study using data from a large national probability sample of children and their caregivers who were involved with the child welfare system, parents or other caregivers who had indicators of substance abuse problems were matched with a comparison sample on the basis of whether they had received substance abuse treatment services. Caregivers who had received treatment were nearly twice as likely to have another child abuse report within 18 months compared with those who had not been in treatment (Barth, Gibbons, & Guo, 2006). The authors surmised that substance abuse treatment participation may be a marker for a high level of severity of problems in functioning and that treatment participation, in itself, may not be sufficient to impact the course of child welfare outcomes.

Conclusion and Recommendations

As is evident from the large volume of research reviewed in this report, there have been tremendous gains in recent years in our understanding of the influence of gender on the epidemiology of alcohol and drug use, the differential pathways into treatment, the clinical and service need profiles of treatment participants, and treatment retention and outcomes. Moreover, the growing area of health services research has yielded a rich body of research on the organizational characteristics of programs in which women receive substance abuse treatment, the types of services that are provided in these programs, changes in service provision over time, and the relationship of services received to treatment outcomes, including the cost effectiveness of treatment for women. The growing emphasis on evidence-based treatment approaches within the field of addiction treatment provides further opportunities to tailor treatment protocols to increase their effectiveness with women, particularly behavioral approaches that use cognitive behavioral therapies, motivational interventions, and contingency management.

It is clear that women with substance use disorders interact with multiple service systems, including mental health, health services, welfare, child welfare, and criminal justice. Each of these service systems has undergone important policy initiatives in recent years, often driven by changes in funding and efforts at cost containment. Interventions to screen, refer, and link women who are identified with substance abuse problems into treatment have been implemented across systems. But efforts at coordination and collaboration across service delivery systems are often impeded by administrative barriers regarding financing and eligibility, as well as different

imperatives, goals, staff training, and resources of the various systems. Yet it is apparent that cross-systems interactions will continue to increase and that the provision of substance abuse treatment to women will increasingly be a function of multiple service delivery systems.

Based on this review of current research and policy initiatives, we suggest the following recommendations:

- Improve the capability of providers across service delivery systems to screen, link, and refer women with substance abuse problems into treatment and other needed services.
- Facilitate cross-system communication, collaboration, and coordination regarding the treatment needs of women with substance abuse problems.
- Maintain a funding priority on providing treatment to women with substance abuse problems, underscoring the need for treatment for women's own health, well being, and social functioning, as well as the beneficial effects of women's recovery upon their children, other family members, and communities.
- Implement evidence-based treatment practices that have been adapted or tailored to specifically address the treatment needs of women; provide for training and supervision to increase the capacity of treatment staff to implement these treatment approaches; promote continued development of gender-specific evidence-based treatment.
- Develop and implement continuing care models that promote and sustain recovery for women over the life course, that address women's specific risk factors and that build upon the resources and strengths that have been

identified, including women's greater likelihood of participation in self-help and other social support following treatment.

- Promote public education regarding the treatment needs of women with substance abuse problems in ways that reduce stigma as a barrier to treatment participation and that promote the health and well being of women, their children, and families.

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